

# POLICY BRIEFS FOR SUSTAINABLE DEVELOPMENT IN PAKISTAN



Sustainable Development Policy Institute (SDPI)  
Islamabad, Pakistan  
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## **25<sup>th</sup> Anniversary Silver Jubilee Publication**



# **Policy Briefs for Sustainable Development in Pakistan**

**Updated and Compiled By**

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Sustainable Development Policy Institute (**SDPI**)  
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**SDPI** Mission Statement is “*To catalyse the transition towards sustainable development, defined as the enhancement of peace, social justice and well-being, within and across generations.*”

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## Introduction to Second Edition (Revised & Updated)

In order to celebrate the 25th anniversary, SDPI management, in collaboration and with support of SDPI staff, has planned a number of activities from August, 2017 – July, 2018 (SDPI was established on August 4, 1992). One such activity is “Silver Jubilee Publications.” “Policy Briefs for Sustainable Development in Pakistan,” is the first publication of this series.

At SDPI, there are four main series of publication for research which include working papers, research reports, monographs and policy papers/policy briefs. This Silver Jubilee special publication comprises policy briefs on issues related to environment (including climate change & hazardous chemicals use), economy, trade and Governance, written during the last twenty five years by SDPI current and ex-researchers at SDPI. Earlier the first edition (out of print but soft copy accessible at SDPI website [www.sdpi.org](http://www.sdpi.org)) entitled, “Environment, Trade & Governance for Sustainable Development,” had only 31 policy briefs. It was published in 2012. Meanwhile, another 26 policy briefs were written including ones on new emerging issues i.e. “Climate Change” and “Hazardous Chemicals” and are included in this edition. Some of these policy briefs were written on the request of the government of Pakistan. Most of the policy briefs described in the sections on environment, economy, trade and governance, with further research work by the same or other SDPI researchers have been converted into full-fledged papers which are accessible at SDPI website [www.sdpi.org](http://www.sdpi.org)

I am very grateful to the members of SDPI research and support staff for their valuable contributions and assistance in many ways which made possible publication of the 1st. and 2nd editions of policy briefs written over the last 25 years.

I owe a debt of thanks and sincere appreciation to Dr. Abid Qaiyum Suleri, Executive Director and Dr. Vaqar Ahmed, Deputy Executive Director, SDPI for their all time encouragement and support. Special thanks to Dr. Vaqar Ahmed, Dr. Sajid Amin Javed and Mr. Shakeel Ahmad Ramay, for sparing time out of their very busy schedule to write introductions to different sections. I may not forget to express my gratitude to MIS colleagues Ms. Umm-e-Mariya Shah, Mr. Adnan Hassan and Mr. Umair Mehmood, for their very hard work and contributions to get this publication well on time, Mashallah.

I hope this publication would help in providing guidance and support towards sustainable development in our beloved country and further research on sustainable development issues, inshallah.

It's an immense pleasure to dedicate this publication to all SDPI ex- and current colleagues.

***Dr. Mahmood A. Khwaja,***

Senior Adviser, SDPI &

President, International Society of Doctors for Environment (ISDE)

July 14, 2017

## **From the Executive Director's Desk – First Edition**

I feel extremely privileged to be part of SDPI family and being able to celebrate SDPI's 20th anniversary. As the theme for 20th anniversary reflects, we are celebrating "20 years of bridging research policy gaps". This is easy said than done. In order to effectively harmonize the worlds of research, policies, and practices, SDPI team has been using various strategies, tools, and techniques.

One of our policy outreach tool is "policy brief". These peer reviewed solicited briefs on practical policy issues in the sphere of development. The briefs are written by SDPI regular or affiliated staff and are meant to provide "Clear Cut" policy outlines which would promote just and sustainable development.

The current volume is compilation of some of the selected policy briefs written during last 20 years, mainly on the issues of environment, trade, and governance. The rationale of combining, apparently, three vast and diversified sectors is very simple. Sustainable Development cannot be achieved following a linear approach. The issues of sustainable development cannot be resolved by using sectoral lens. The fact that sustainable development requires addressing of social, economic, and environmental aspect not only in given time and space but also for future generations and future times, requires a trans-disciplinary approach and we have tried to follow that approach in this volume.

The readers of this volume would be able to identify cross linkages and cross sectoral references among these stand alone policy briefs written over a period of two decades. This compilation would also help the them in assessing how the discussion on sustainable development (in South Asia in general and Pakistan in particular) evolved since the Earth Summit of 1992 (SDPI was founded in the same year on August 4). Here it is pertinent to mention that this volume may not help in addressing reader's queries on sustainable development in Pakistan. However, our aim is to enable the readers to formulate their questions better after going through these policy briefs. I would be a very satisfied person if some of the points raised through these policy briefs inspire the readers to think differently on issues of sustainable development.

My special gratitude to Ambassador Shafqat Kakakhel, Dr. Saba Gul Khattak, Dr. Mahmood A. Khwaja and Dr. Vaqar Ahmed for adding value to the compilations through their introductory notes.

Finally, I can't help thanking the efforts of Ms. Umm-e-Mariya Shah and Dr. Mahmood A. Khwaja, for compiling this volume as part of 20th anniversary celebrations.

Happy reading.

***Dr. Abid Qayum Suleri***

Executive Director,

Sustainable Development Policy Institute (SDPI)

Islamabad, Pakistan

*November 16, 2012*

## Foreword to First Edition

Since its establishment in 1992, the Sustainable Development Policy Institute (SDPI) has tirelessly pursued its mission "to catalyze Pakistan's transition towards sustainable development defined as the enhancement of peace, social justice and well-beings within and across generations". SDPI has made notable success in the role envisaged for it in the landmark National Conversation Strategy (1989-91) which has outlined the need for an independent, non-profit organization to secure a source of expertise for policy analysis and development, policy interventions and policy and program advisory services. Its research, advocacy advice and capacity building activities, despite financial constraints, have benefited from competent leadership provided by its former executive director, Dr. Tariq Banuri and his three able successors, Dr. Shah Rukh Rafi Khan, Dr. Saba Gul Khattak and the incumbent, Dr. Abid Qayyum Suleri and dozens of distinguished experts who have served as members of its research staff.

Policy briefs containing succinct critique of issues and sound advice to the government and civil society on a range of issues pertaining to sustainable development have been a key feature of SDPI's contribution to policy debate and development. The issues addressed include, but are not limited to the issues of trade, environment and social and economic development. The papers selected for the present compilation fall in three categories: environment, trade and issues addressing diverse topics. The environment segment comprises briefs on domestic developments such as the implementation of national environmental quality standards (NEQS), establishment of sustainable development boards, the first of their kind in South Asia, the outcome of the 1998 session of the Commission on Sustainable Development also known as Rio+5... conference and the implementation of UN Commission on Biological Diversity (UNCBD) signed and ratified by Pakistan in 1992 and 1994 respectively.

The trade section includes exceptionally candid analysis of the global trade discourse from GATT to the WTO series of negotiations and provides practical advice to the government delegations at the marathon and acrimonious negotiations for protecting Pakistan's vital interests.

The section captioned miscellaneous is strikingly rich and speaks to issues such as health care financing, household water treatment and budget transparency.

We hope that SDPI will continue to serve as a key institution in the dynamic development of Pakistan's public policy by providing advice on the sustainable development challenges of Pakistan now and on the future years and decades.

***Shafqat Kakakhel***

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*November 16, 2012*



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# **SECTION A:**

# **ENVIRONMENT**



# Introduction

**Dr. Mahmood A. Khwaja and Shakeel Ahmad. Ramay, SDPI**

June 23, 2017

Policy briefs included in this section on “Environment” has been divided into 3 sub-sections. Eight new policy briefs on emerging issues of increasingly global concerns are described under “Chemicals, Health and Environmental Impacts” and “Climate Change.”

At national level, SDPI efforts towards environmental protection and pollution control started with active participation and substantial contributions in the development and implementation of Pakistan National Conservation Strategy (NCS) and Pakistan Environment Protection Act. SDPI role has been significant and central with substantial contributions in developing national environmental quality standards (NEQS). Four policy briefs included in the section, “Sustainable Industrial Development,” specifically deal with implementation of NEQS across the country for industrial pollution control. Policy briefs on “*Environmental Legislation in Pakistan*,” “*Implementation of Convention on Biological Diversity in Pakistan*,” & “*Non-Biodegradable Chemicals in Detergents*,” were written on the requests of Ministry of Environment/Pakistan Environmental Protection Agency and “*Pesticide Policy*” on the request of Federal Minister of Finance. Policy brief on non-biodegradable chemicals in detergents was written to provide technical support to the government for a decision to ban the use of two categories of chemicals - the branched- and the linear- alky benzene sulphonlic acids (BAB & LAB).

“*The Self-monitoring and Reporting/SMART*” concept is entirely based on the honor system, emerged from a dialogue between the government and industrial representatives. The concept of “*Pollution Charge (PC)*”, based on the “Polluter Pays Principle” is a key element of the implementation of the NEQS program in the country and was developed in consultation with all stakeholders. An effective institutional arrangement is essential for the collection and disbursement of PC and in this regard a government initiative has been strongly recommended, to resolve the issue through negotiated settlement with all stakeholders. Policy brief on “*Financial Incentives to Industry*,” provides a short account of the decisions made by the “*Environment Standard Committee (ESD)*” which had equal representation of all stakeholders and was constituted by the Pakistan Environment Protection Council (PEPC). ESC also agreed to establish *Provincial Sustainable Developments Funds (PSDFs)* for the collection & disbursement of the proposed pollution charge and describes and discusses the system and arrangements for the same.

Pakistan signed and ratified the UN Convention on Biodiversity in 1992 and 1994, respectively. The progress made by Pakistan on the implementation of this convention, with special reference to articles 6, 8 and 10 has been synthesized and described in policy brief # 12.

The focus of discussion of the policy briefs entitled, “*High Level Segment of the 6<sup>th</sup> Session of the Commission on Sustainable Development (CSD)*”, is national, regional and international. In essence, the Pakistan National Conservation Strategy (PNCS) is Pakistan Agenda 21 which is considered a comprehensive multi-sector strategy designed to foster sustainable development in the country. A legally binding agreement (LBA) is a growing need for air pollution reduction and control in South Asia. (Policy Brief # 27)” The policy brief looks into and discusses the socioeconomic situation of the South Asian countries Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, the existing situation of air pollution in these countries, its resulting health impacts on the population of the region and responses, if any, of national governments to combat air pollution. The policy brief makes recommendations for policy actions, including a legally binding agreement for South Asia (LBA-SA), for strengthening the framework for air pollution reduction at regional and national levels in South Asia.

Policy brief # 18 on BAB & LAB recommends that the use of both BAB and LAB may not be banned in the country for the next two to three years and the issue re-visited for a decision after this transitional period. “*Pesticide Policy*” is another brief on chemicals, with focus on pesticides group of chemicals. It describes and discusses issues of pesticides advertisements, their storage and use, continued use of ineffective pesticides and marketing & use of the banned pesticides in the country. Policy briefs on extremely hazardous chemical, mercury strongly recommend mercury specific legislation in the country, regulating manufacturing and sale of chemicals added products in general and mercury/mercury compounds in particular, review and revision of curriculum (dentistry & dermatology) and ratification of Minamata Convention on Mercury by national governments, including Pakistan.

SDPI has produced a good number of reports and conducted studies on the climate change and has produced research material on almost all dimensions of climate change and its impacts. In the present compilation, five policy briefs on some of the emerging issues resulting from climate change are given under the sub-section, “Climate Change.”

Climatic factors, which are multiple in nature, have multiple dimensions. These factors impact planet and human society in the form floods, droughts, health of eco-system, economy, social fabrics, etc. However, these impacts are not fairly or evenly distributed among countries of planet, rather non/low-contributors are the most affected. Pakistan is one of those countries, who is struggling hard to combat the adversaries of climate change. It is vulnerable to almost all the factors of climate change due to its diverse geography and weak financial health. In 2010, the country witnessed one of the worst floods of human history, which displaced 22 million people and incurred US\$ 10 billion to the national economy. Since then there have been follow up multiple floods in the country, which played havoc with the national economy and lives of people. Prior to this series of floods, Pakistan had faced extended drought (1999-2003) in Balochistan, Sindh and the Punjab. Drought caused death of hundreds of thousands of animals due to lack water and fodder in Balochistan. It triggered migration of people and increased poverty especially in Balochistan putting household burden on female members and children.

Pakistan is also exposed to sea intrusion. Badin district has been severely impacted by sea intrusion from where hundreds of farmers have migrated due to loss of productive land. Fisheries sector has borne the brunt of sea intrusion. Climate change also has emerged as major health challenges for the country. In recent years, Pakistan had to face heat waves and dengue fever attacks along with other impacts on health. Heat waves caused several deaths in many areas of the country. Dengue fever compelled to invest heavily on preventive measures, which caused additional burden on national financial resources.

# A-1. Chemicals Health and Environmental Impacts

## **Poisonous Cosmetics: Regulating mercury containing skin whitening creams (SWCs) in Pakistan**

*Mahmood A. Khwaja and S. Waqar Ali*

### **Introduction**

The obsession for fair skin in the subcontinent is believed to have emerged with the introduction of the cast system according to which fair complexion was considered as the domain of the upper ruling class, whereas dark complexion was associated with the lower working class. (Islam KS et al. 2006). It is also suggested that the migration of Aryans, who were much fairer than the local population, may also have influenced the dark skinned population's desire for fair complexion.

The use of mercury (3<sup>rd</sup> most hazardous chemical) in various cosmetic products, particularly for its skin whitening effects, has been in practice since the nineteenth century (US NIH, 1996) and such products continue to be easily accessible in open markets and are most commonly used world around including many developing countries.

Presently, preference for a fair skin has also been intensified by the fairness cream industries through extensive electronic & print media campaigns. The most unfortunate exaggerations in some advertisements can even reach to the extent that they project fair skin as an essential prerequisite for success in both professional and personal matters.

Very few investigations on mercury added products and their use by consumers have been carried out in South Asia, including Pakistan. The present study is continuation of our earlier studies on mercury added products at SDPI (Khwaja et al. 2014, 2016), carried out in view of Minamata Convention on Mercury, already signed by 128 countries (including Pakistan) and ratified by 38 countries (Minamata Convention, UNEP). This policy brief focuses on the findings of our recently completed study, carried out to investigate the health threats and challenges, due to use of Skin Whitening Creams (SWCs) in some selected main cities of Pakistan. In the light of the findings, described and discussed in the following pages, we strongly recommend the following:

1. Development and implementation of mercury specific policy, legislation, national emissions & releases standards, minimum allowable Hg in products, licensing protocols for production/manufacturing/formulation.
2. Ratification of Minamata convention on mercury (2013) at the earliest time possible by Pakistan and other countries.
3. Awareness raising regarding toxicity and health hazards resulting from chemicals/chemicals added (including mercury) consumer products use, protection and control measures for workers.
4. By 2020 “Phase out” cosmetics (with Hg content above 1ppm), including SWCs, soaps & creams.

5. All the consumer products with added chemicals must be appropriately labeled by the manufacturers with all ingredients disclosure, clearly indicating the amount of chemicals and the manufacturer updated contacts/address.
6. Review & revision of MBBS/Dermatology curriculum.
7. Ban on all SWCs with mercury content above 1 ppm with immediate effect.

## Methodology

The study was carried out in two parts. First, the sampling and analyses for the determination of total mercury contents in SWCs sold and purchased by the consumers from the open market. In the second part, contacts were made, in person, with 50 dermatologists/skin specialists (male & female) in 29 hospitals and 14 private clinics of the selected cities (Peshawar, Islamabad & Rawalpindi) and through a questionnaire (**Annex 1**), their opinion/recommendations on SWCs related issues were sought (**Annex 2**). Samples of 20 SWCs (**Annex 3**) different brands were purchased from the retail shops in the open markets of the above referred selected main cities. For SWCs assay, acidic digestion of the homogenized SWCs samples was followed by total mercury content measurements by flow injection mercury system - FIMS-CVAAS (tti 2016). The results are described in Table 1.

**Table 1:** Studied SWCs and their Mercury content (ppm)

| <b>Sample ID</b> | <b>Hg Content (ppm)</b> | <b>Sampling City/Location</b> | <b>Date of purchase</b> |
|------------------|-------------------------|-------------------------------|-------------------------|
| KC-1             | 2.04                    | Karachi                       | 3-Jan-16                |
| KC-2             | 6610                    | Karachi                       | 3-Jan-16                |
| KC-3             | 7680                    | Karachi                       | 3-Jan-16                |
| KC-4             | 0.69                    | Karachi                       | 3-Jan-16                |
| KC-5             | 12000                   | Karachi                       | 3-Jan-16                |
| KC-6             | 26000                   | Karachi                       | 3-Jan-16                |
| KC-7             | 9900                    | Karachi                       | 3-Jan-16                |
| KC-8             | 0.39                    | Karachi                       | 3-Jan-16                |
| KC-9             | 26500                   | Karachi                       | 3-Jan-16                |
| KC-10            | <0.05                   | Karachi                       | 3-Jan-16                |
| KC-11            | 0.18                    | Karachi                       | 3-Jan-16                |
| HC-12            | 0.31                    | Haripur                       | 1-5 dec 2015            |
| HC-13            | 0.13                    | Haripur                       | 1-5 dec 2016            |
| HC-14            | 0.57                    | Haripur                       | 1-5 dec 2017            |
| IC-15            | 0.19                    | Islamabad                     | 6-Jan-16                |
| IC-16            | 11.4                    | Islamabad                     | 6-Jan-16                |
| IC-17            | 3.76                    | Islamabad                     | 6-Jan-16                |

|              |       |        |                |
|--------------|-------|--------|----------------|
| <b>LC-18</b> | 13900 | Lahore | 13-14 jan 2016 |
| <b>LC-19</b> | 7060  | Lahore | 13-14 jan 2017 |
| <b>LC-20</b> | 17300 | Lahore | 13-14 jan 2018 |

## Results and Discussion

Mercury content were found to be in the rang 0.13 (HC-13) - 26,500 ppm (KC-9). Mercury content of one sample (KC-10) seems to be less than 0.1ppm. Eight samples (KC-4, KC-8 & KC- 10-11, HC-12-14 & IC-15) showed (Table 1) mercury content less than 1ppm (requirement of Minamata Convention on Mercury). On the basis of the observed total mercury content in the studied 20 samples and the health risk due to mercury exposure from the same, the studied SWCs may be categorized in four major groups (Table 2) as most hazardous (Hg content > 10,000 ppm), highly hazardous (Hg content > 5000 ppm), moderately hazardous (Hg content < 5000 ppm ) and least hazardous ( Hg content < 1ppm ).

**Table 2:** Categorization of Studied Mercury Containing Hazardous SWCs

| <b>Levels of Hazardousness</b> |   |   |   |   |
|--------------------------------|---|---|---|---|
| <b>SN</b>                      | <b>Most Hazardous<br/>( Hg &gt;10000 ppm)</b> | <b>Highly Hazardous<br/>(Hg &gt;5000 ppm)</b> | <b>Moderately Hazardous<br/>(Hg &lt;5000 ppm)</b> | <b>Least Hazardous<br/>(Hg &lt;1 ppm)</b> |
| 1                              | KC-5  | KC-2  | KC-1  | KC-4                                      |
| 2                              | KC-6  | KC-3  | IC-16   | KC-8                                      |
| 3                              | KC-9  | KC-7  | IC-17   | KC-10                                     |
| 4                              | LC-18   | LC-19   |   | KC-11                                     |
| 5                              | LC-20   |   |   | HC-12                                     |
| 6                              |   |   |   | HC-13                                     |
| 7                              |   |   |   | HC-14                                     |
| 8                              |   |   |   | IC-15                                     |

SWCs users are exposed to alarmingly high levels of mercury in SWCs which may result in mercury being absorbed, inhaled or ingested, thus causing adverse impacts (to consumers health directly and children's indirectly) which are well known and well established. These include effects on neurological development, growing brain, nervous system, lungs and kidneys.

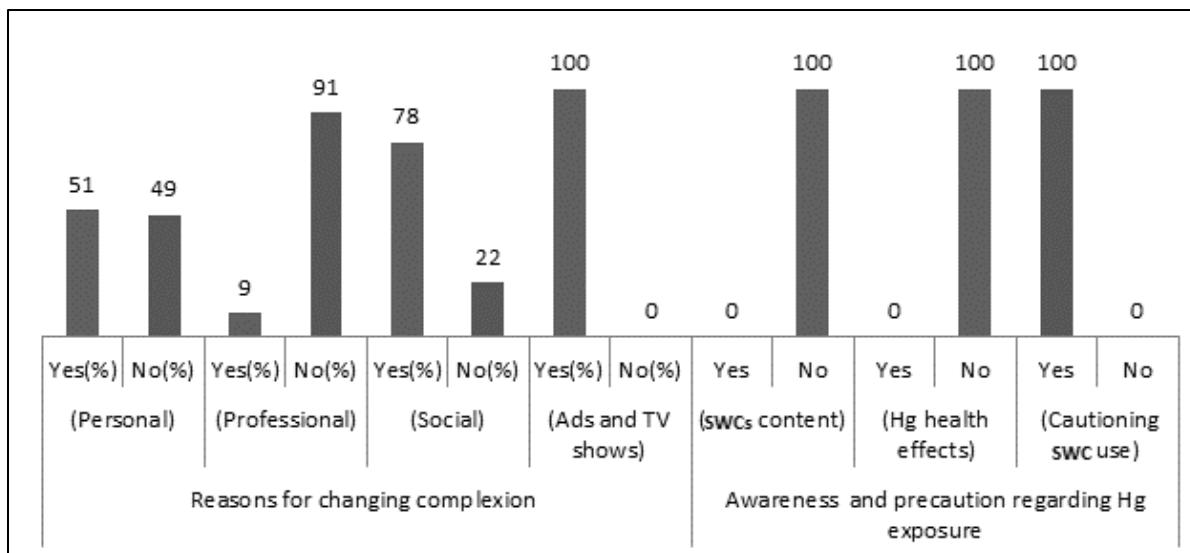
In Figures 1-A & 1-B overall findings are highlighted, of a few selected mercury related questions (Annex 1) put up to all the respondents (Annex 2) during survey/interviews of dermatologists/skin specialists in Peshawar, Islamabad and Rawalpindi.

Regarding reasons for changing complexion (figure 1-A), the majority of dermatologists (91%) interviewed in the 3 main cities, thought it was not due to "Professional" but social (78%) or personnel (51%). As a result, people use products such as SWCs to lighten their skin tone and thus put their health at significant risk. These social pressures for acquiring fair complexion are mostly directed through advertisements and TV shows that strongly suggest the viewers with exaggerated benefits of having a fair skin tone. When asked about number of visiting patients/week, 33% respondents were visited by

10 – 50 patients/week with request for change of complexion, 28% and 41% respectively received more than 50 and less than 10 such requests per week (Figure 1-B). There is consensus among all respondents (100%) that SWCs promoting advertisements and programs (including morning TV shows) should be banned immediately.

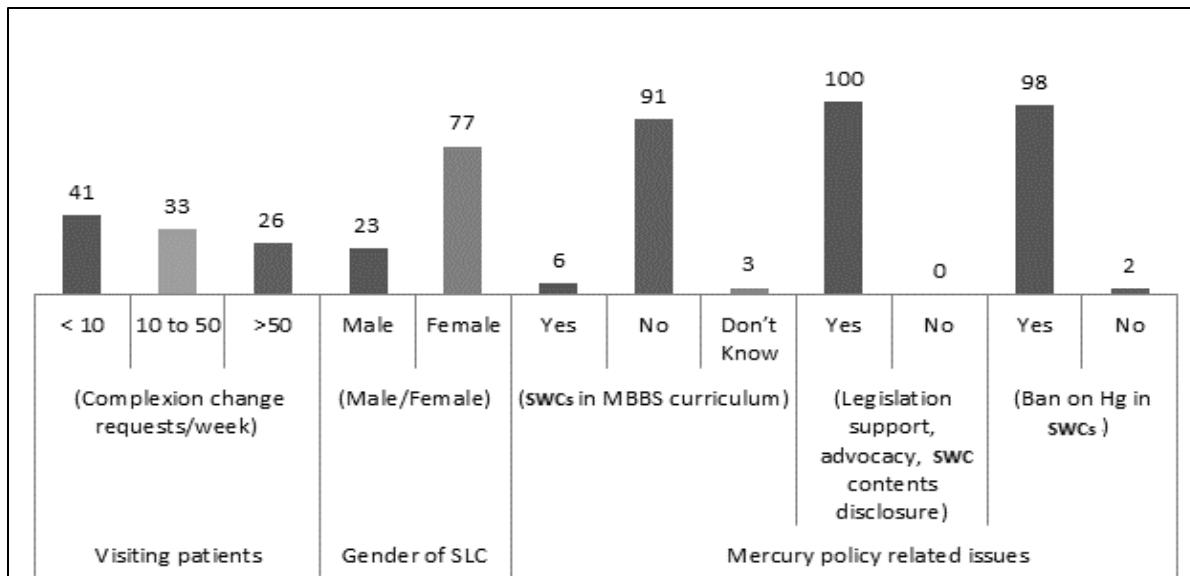
**Figure 1-A:**

Survey responses on complexion change, SWCs advertisements and awareness issues



**Figure 1-B:**

Survey responses on visiting skin patients, their gender, curriculum and policy issues



One of the reasons for the extensive use of SWCs in Pakistani population is the lack of awareness of the hazardous contents/ingredients of SWCs and their possible health risks among the public, as agreed by all respondents (100%). Since SWCs users are unaware of the contents of SWCs and their health impacts, the application of SWCs continues for self-medicated extended period of time. All the

dermatologists/skin specialists claimed that they very strongly caution their patients about the adverse health effects of these products such as SWCs containing high levels of toxic chemicals such as mercury (Figure 1-A).

To our surprise, the current study reveals that 23% of the patients received by dermatologists were male, the remaining 77% being females (Figure 1-B). This suggests that the use of SWC is not only common among the females population of the country but men are also conscious of their complexion and use SWCs to lighten their complexion. This trend among the male population may also be increasing due to the increased publicity/projection regarding SWCs through advertisements in print and electronic media. Majority of patients (45%) visiting skin care centers are of age between 25-40 years.

There's unanimous support (100%) of all dermatologists interviewed for *awareness raising, regulating the manufacturing and sale of SWCs* and display of information (full ingredients disclosure) regarding the ingredients and their amounts in the products, on the labels of SWCs products.. 91% support the *review and revision of current MBBS curriculum/syllabus* and to include mercury related information. (98%) support **ban on the manufacturing and sale of SWCs** with mercury content higher than 1ppm, as required under Minamata convention on mercury (Figure 1-B).

In addition to many types of health conditions/ailments commonly observed among the patients who have a history of SWCs use, including hypersensitivity and sometimes, dermatitis, skin abscess and even fungal infections & allergy. All visited dermatologists pointed out that SWCs users also develop conditions such as skin sensitivity, thinning, peeling & acne formation, hyperpigmentation, dark spots and freckles. Most of these skin conditions/ailments due to the use of SWCs have also been reported earlier by Faye O et al. (2005); Pitché P et al. (2005) and Ajose FAO (2005). However, these may also develop due to the presence of other skin lightening agents in the SWC products, beside mercury such as hydroquinone and steroids.

## Conclusion and recommendations

From the literature survey, results of analyses of 20 samples of SWCs and the opinions expressed by 50 dermatologists/skin specialists, it is very evident that with the continued use of mercury containing SWCs, the skin is affected, becomes unhealthy and ugly looking. Besides, mercury absorbed through the skin, causes adverse health problem to human health. Such SWC brands need not be used at all. There is dire need of public awareness raising (through social, print & electronic media), regarding the high level of hazardous mercury & other chemicals contents in SWCs and their effects both on the skin and to human health. People need to understand that "Healthy" skin is beauty not its "Complexion" and people should not hunt for SWCs which use lead to unhealthy and ugly skin.

At present, there does not seem to be an effective check and balance in place for the direly needed assessment of chemicals in consumer products, at Ministry of Health/health departments, Pakistan Medical & Dental Council (PMDC) and Pakistan National Accreditation Council (PNAC). Specific regulations need to be developed and implemented, especially regarding standards for chemicals content in consumer products, including cosmetics/SWCs. All products need to have proper labels (mandatory), clearly indicating the amount of the chemicals added to the products (full ingredients disclosure), with updated address/contacts of the manufacturers/suppliers. Consumer products,

containing excessive amount of chemicals be banned for sale/manufacturing. Environmental protection agencies may also be involved in view of environmental pollution caused by the chemicals use and resulting hazardous emissions/effluents /wastes. It is also recommended that Higher Education Commission (HEC) looks into MBBS syllabus/curriculum for the needed additional information for dermatology specialization, about chemicals in cosmetics (especially SWCs) and their adverse health effect.

WE strongly recommend ban on the production/use of skin lightening creams with total mercury content above one ppm as per the requirement of Minamata convention on Mercury.

*Detailed report is accessible at*

[http://sdpi.org/publications/publication\\_details-796-29.html](http://sdpi.org/publications/publication_details-796-29.html)

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## References:

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## Annex 1.

### Survey Performance/Questionnaire for Dermatologists & Skin Specialists in Islamabad, Rawalpindi and Peshawar

#### Skin Whitening Creams and Their Health Impacts



#### SDPI Survey Form

Date&Time 
 Private Clinic     General Hospital     Teaching Institution
Address Skin Specialist Professional Experience 

Note: SWC for Skin Whitening Cream

1. What number of patients do you receive with skin problems?  < 10 /week     10-50/week     >50 /week
2. Which part of the body skin is mostly affected?  Face only     Hands and Face     Others
3. How many patients with skin problems are due to skin whitening cream use?  < 10 /week     10-50/week     >50 /week
4. Which type of diseases do you often observe among SWC users?
5. How many patients visit you to treat their skin complexion?  < 10 /week     10-50/week     >50 /week
6. Do you generally recommend SWC?  Yes     No
7. Which creams do customers prefer the most for skin fairness?
8. For what reasons do you think people want to look fair?  Matrimonial     Job requirement     Advertisements  
 Self Satisfaction     Society Influence
9. Are patients aware of the toxic chemicals like mercury used in skin whitening creams?  Yes     No
10. Are patients aware of the hazardous effect of toxic chemicals like mercury used in skin whitening?  Yes     No
11. Do you caution your patients regarding the adverse effect Hg containing SWC?  Yes     No
12. Is SWC , their toxic chemicals contents and their health impacts included in the teaching curriculum?  Yes     No     Dont Know
13. Do you think proper legislation, awareness raising campaigns and proper content display on the container need to be taken as preventive measures against such SWCs.  Yes     No
14. Do you think such SWCs should be banned by the regulatory authority?  Yes     No
15. What alternatives would you suggest/use for skin fairness treatment?

Thank You.

Signature: 

Mailing Address: PO Box 2342, Islamabad, Pakistan    Telephone: + (92-51) 2277146, 2278134, 2278136, 2270674-6 Fax: +(92-51) 2278135

Street Address: House # 38, Main Embassy Road, G-6/3, Islamabad, Pakistan

URL: www.sdpi.org    e-mail: waqarali@sdpi.org

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## Annex 2: List of Dermatologists

| <b>SN</b> | <b>Specialist</b>          | <b>Address</b>   | <b>Contact</b>                              | <b>Email</b>   | <b>Pro<br/>Expi</b> |
|-----------|----------------------------|--|---|--|---------------------|
| 1         | Simeen Ber Rehman          | Aesthetic skin and laser clinic, 304 line 3-A, Near Maryam hospital, Peshawar road, Rawalpindi | 051-2532680<br>0331-5092732<br>0333-5564868 | <a href="mailto:simeenber@yahoo.com">simeenber@yahoo.com</a>                 | 25                  |
| 2         | Dr Moizza Tahir            | CMH, Rawalpindi  | 032-5063128                                 | <a href="mailto:drmoizzatahir@yahoo.com">drmoizzatahir@yahoo.com</a>         | 16                  |
| 3         | Maj Gen Zafar Iqbal Sheikh | MH, Rawalpindi   | 3345105554                                  |  | 34                  |
| 4         | Dr Syeda Farzana           | Maryam Memorial hospital Rawalpindi  | 3232669076                                  | <a href="mailto:drfarzana94@hotmail.com">drfarzana94@hotmail.com</a>         | 1                   |
| 5         | Dr Muneeza Hassan          | Capital hospital Islamabad   | 0333-5204321                                |  | 20                  |
| 6         | Dr Shireen Ansari          | Polyclinic hospital, Islamabad   |   | <a href="mailto:drshireenansari@hotmail.com">drshireenansari@hotmail.com</a> | 25                  |
| 7         | Dr Nigar Kanwal            | Polyclinic hospital, Islamabad   | 0345-5168310                                | <a href="mailto:imnigar@hotmail.com">imnigar@hotmail.com</a>                 | 11                  |
| 8         | Dr Koukab Gulzar           | KRL hospital G-9/1, Islamabad  | 0333-5733132                                | <a href="mailto:sarfhospital@hotmail.com">sarfhospital@hotmail.com</a>       | 16                  |
| 9         | Dr Robina Qureshi          | PIMS, Islamabad  | 0333-5500463                                | <a href="mailto:dr.robinquireshi@gmail.com">dr.robinquireshi@gmail.com</a>   |                     |
| 10        | Dr Nazeer Ahmad Sahito     | Capital hospital, Islamabad  | 0315-5232839                                |  | 23                  |
| 11        | Dr Rushqia Mukhtar         | PAEC Hospital, H-11/4 islamabad  | 051-8463417                                 | <a href="mailto:rushqia@yahoo.com">rushqia@yahoo.com</a>                     | 11                  |
| 12        | Dr Asif Kamal              | NESCOM Hospital  | 0333-5347648                                | <a href="mailto:skinasif@yahoo.com">skinasif@yahoo.com</a>                   | 8                   |
| 13        | Dr Sarah Naeem             | Kulsum memorial hospital   | 3345506007                                  | <a href="mailto:drsarahn@yahoo.com">drsarahn@yahoo.com</a>                   | 9                   |
| 14        | Dr Saman Waseem            | 2nd floor, Bangish Plaza, Block 13-V, Jinnah Super, Islamabad                                  | 0302-8866556                                | <a href="mailto:saman@dermabliss.pk">saman@dermabliss.pk</a>                 | 15                  |
| 15        | Dr Farzana                 | cosmetic laser and skin clinic   | 051-2280747                                 |  | 15                  |
| 16        | Dr. Nighat                 | skin and laser clinic Office 9, 1st floor, Fazal arcade, F-11 Markaz, Islamabad                | 051-2112662, 2550483                        |  | 12                  |

|    |                         |   |                              |  |    |
|----|-------------------------|---|------------------------------|--|----|
| 17 | Dr Samina Sohail        | 78, Nazimuddin Road, F-8/4, Islamabad   | 0300-8566676<br>0303-0509745 | <a href="mailto:dr.samina@live.com">dr.samina@live.com</a>                       | 16 |
| 18 | Dr Humma Abbas          | Skin Esthetics laser and skin clinic, 1138, Neelum Road, G-9/4, Islamabad     | 0334-1804387<br>051-2264813  | <a href="mailto:skinestheticsclinic@gmail.com">skinestheticsclinic@gmail.com</a> | 12 |
| 19 | Dr Fauzima Anwar Bhatti | Get Well medical center E-17, G-10 Markaz, Islamabad                          | 0300-5141089<br>051-2293717  | <a href="mailto:fauzima@yahoo.com">fauzima@yahoo.com</a>                         | 7  |
| 20 | Dr Kiren Shehryar       | Life Care Hospital G-10 markaz, Islamabad                                     | 0316-5188855<br>0345-7130047 | <a href="mailto:drkiren.sh@gmail.com">drkiren.sh@gmail.com</a>                   | 4  |
| 21 | Dr Shuana Sharif        | Medicare center Siddique Chowk, Rawalpindi                                    |                              | <a href="mailto:shawana.sharif@gmail.com">shawana.sharif@gmail.com</a>           | 10 |
| 22 | Dr Tasneem Elahi        | Healer's center, main kali tanki Stop, Rawalpindi                             | 0333-5100650                 | <a href="mailto:dr_tasneemshakir@hotmail.com">dr_tasneemshakir@hotmail.com</a>   | 30 |
| 23 | Dr Ahmad Imran          | Cantt General Hospital Rawalpindi   | 0333-5101989                 | <a href="mailto:draimran@yahoo.com">draimran@yahoo.com</a>                       | 21 |
| 24 | Dr. Aizaz Ahmad         | Cosmesurge international hospital, main Saidpur road, Rawalpindi              | 0321-8548304<br>0332-5419168 | <a href="mailto:cosmesurge.pk@hotmail.com">cosmesurge.pk@hotmail.com</a>         | 15 |
| 25 | Dr. Nadia               | Benazir Bhutto Hospital, Rawalpindi   |                              | <a href="mailto:nadia_doctor@hotmail.com">nadia_doctor@hotmail.com</a>           | 8  |
| 26 | Dr. Marvi Tahira        | Benazir Bhutto Hospital, Rawalpindi   | 0332-5817949                 |  | 21 |
| 27 | Dr. Tameez Uddin        | Skin clinic, Near alladin fun house, Sixth road, Rawalpindi                   |                              |  | 35 |
| 28 | Dr. Abdul Majid Khan    | Healthcare Hospital, Holyfamily Road, Rawalpindi                              | 0332-8888615<br>051-4942229  |  | 7  |
| 29 | Col. Dr. Sohail         | Madina Medical Center, Saidpur Road, Rawalpindi                               | 051-4414155<br>4418833       | <a href="mailto:mmcpk@hotmail.com">mmcpk@hotmail.com</a>                         | 31 |
| 30 | Dr Farid Ur Rehman      | Fauji Foundation Hospital, Rawalpindi   | 0300-9503167                 | <a href="mailto:dr_faridurrehman@yahoo.com">dr_faridurrehman@yahoo.com</a>       | 13 |
| 31 | Dr Muneeza Rizwan       | PAF Hospital AHQ, E-9 Islamabad   | 051-9505833                  | <a href="mailto:muneezar@yahoo.com">muneezar@yahoo.com</a>                       | 16 |
| 31 | Dr Uzma Waqar           | Quaid Azam International Hospital, Near Golra More, Peshawar road, Rawalpindi | 051-8449100                  |  | 16 |
| 33 | Dr. Nousheen Rizwan     | Quaid Azam International Hospital, Near Golra More, Peshawar Road, Rawalpindi | 03235010332                  | <a href="mailto:noshderm@yahoo.com">noshderm@yahoo.com</a>                       | 10 |

|    |                          |  |              |  |     |
|----|--------------------------|--|--------------|--|-----|
| 34 | Dr Syed Shahid Raza      | Quaid Azam international Hospital, Near Golra more, Peshawar road, Rawalpindi  | 0320-9066662 | <a href="mailto:Shahid.kazmi80@gmail.com">Shahid.kazmi80@gmail.com</a>   | 10  |
| 35 | Dr Yousaf Durrani        | Fouji Foundation Hospital, Hussain Abbas Shaheed Rd, Peshawar                  | 0300-8584125 | <a href="mailto:yousufdurrani@hotmail.com">yousufdurrani@hotmail.com</a> | 20  |
| 36 | Dr.Asher Ahmed Mashhood  | Combined Military hospital, Mall Rd, Peshawar Cantt                            | 0336-9679843 | <a href="mailto:Asher.mashhood@yahoo.com">Asher.mashhood@yahoo.com</a>   | 16  |
| 37 | Dr Sakina Sadiq Malik    | Combined Military Hospital, Mall Rd, Peshawar Cantt                            | 03215108737  |  | 6   |
| 38 | Dr Nuzhat Shaheen        | Lady Reading hospital, Ander Shehr, Grand Trunk Road, Peshawar                 | 091-9211430  | <a href="mailto:doctornzt@yahoo.com">doctornzt@yahoo.com</a>             | 2.5 |
| 39 | Dr Shad Mohd Wazir       | Khyber Girls Medical College, Hayatabad, Peshawar                              | 03218308266  | <a href="mailto:Shadm222@gmail.com">Shadm222@gmail.com</a>               | 25  |
| 40 | Ms Shazia                | Dean trade center, Peshawar Cantt  | 0306-8836951 |  | 15  |
| 41 | Dr Sadaf Rauf            | Khyber Teaching Hospital, University Town, Peshawar                            |              | <a href="mailto:Kr.sadaf@gmail.com">Kr.sadaf@gmail.com</a>               | 6   |
| 42 | Mr Sohail Yousaf         | Hayat Mohd skin care and medical clinic, SSUB plaza, Nasir Bagh road, Peshawar | 03339819211  | <a href="mailto:Sohail_usaf@yahoo.com">Sohail_usaf@yahoo.com</a>         | 20  |
| 43 | Mr Hajat Mohd            | Hayat Mohd skin care and medical clinic, SSUB plaza, Nasir Bagh road, Peshawar | 0302-5969602 | <a href="mailto:Hayatmohammad84@gmail.com">Hayatmohammad84@gmail.com</a> | 3   |
| 44 | Dr Fazal Wahid           | Skin clinic, SSUB plaza, Nasir Bagh road, Peshawar                             | 091-5852295  | <a href="mailto:Fazal.skincare@gmail.com">Fazal.skincare@gmail.com</a>   | 8   |
| 45 | Dr Mustafa Alam          | 104, Town Tower, Jahangirabad, University Road, Peshawar                       | 03139544896  | <a href="mailto:dermosurgeon@hotmail.com">dermosurgeon@hotmail.com</a>   | 10  |
| 46 | Dr Syed Mujahid Hussain  | Khattak medical center, dubgarri garden, Peshawar                              | 03469218323  |  | 20  |
| 47 | Dr Qammar Uddin Khan     | Combined Military hospital, Mall Rd, Peshawar Cantt                            | 0336-9679843 |  |     |
| 48 | Mollulusc Skin And Laser | Dean trade center, Peshawar Cantt  |              |  |     |
| 49 | Dr Mustafa Ahmad         | Laser light skin and cosmetics   |              |  |     |

|    |                     |   |                    |                    |  |
|----|---------------------|---|--------------------|--------------------|--|
| 50 | Dr Ashfaq Ahmad     | Kuwait teaching hospital,<br>Abdara Chowk University<br>Road Peshawar |                    |                    |  |
| 51 | Dr Zakeem Ahmad     | Khyber medical center,<br>Dabgari garden, Peshawar                    |                    |                    |  |
| 52 | Dr Meraj Khan       | Khyber medical center,<br>Dabgari garden, Peshawar                    | 0092<br>3339142459 | miraj.mk@gmail.com |  |
| 53 | Dr Shaukat Jamal    | Khyber medical center,<br>Dabgari garden, Peshawar                    |                    |                    |  |
| 54 | Dr Arshad Khan      | Khyber medical center,<br>Dabgari garden, Peshawar                    | 0092 91<br>2211241 |                    |  |
| 55 | Dr Azar Rashid      | Habib medical center, dabgari<br>garden, Peshawar                     | 051-2565316        |                    |  |
| 56 | Dr Inaam Ullah Khan | Habib medical center, dabgari<br>garden, Peshawar                     | 0092<br>3009320611 |                    |  |
| 57 | Dr. Irshad Hakim    | Khyber medical center,<br>Dabgari garden, Peshawar                    | 0092 91<br>2211241 |                    |  |

**Annex 3: List of SWCs studied**

| <b>SN</b> | <b>Brand</b>                             | <b>Manufacturer</b>              | <b>Date of production</b> | <b>Date of expiry</b> | <b>Sampling City/Location</b> | <b>Sample color</b> |
|-----------|--|----------------------------------|---------------------------|-----------------------|-------------------------------|---------------------|
| 1         | Arche Cream Pearl                        | NG                               | 22-Aug-15                 | NG                    | Gulistan e Jauhar Karachi     | Off white           |
| 2         | Brido Whitening Cream                    | CPHL Mingora, Swat-Pakistan.     | NG                        | NG                    | Gulistan e Jauhar Karachi     | Shiny Off White     |
| 3         | Faiza Beauty Cream                       | Poonia Brothers Pakistan         | 23-Nov-15                 | 23-Nov-18             | Gulistan e Jauhar Karachi     | Off white           |
| 4         | Golden Pearl Beauty Cream                | NG                               | 30-Nov-15                 | 31-Dec-17             | Gulistan e Jauhar Karachi     | Off white           |
| 5         | Lookfresh Whitening Cream                | CPHL Mingora, Swat-Pakistan.     | NG                        | NG                    | Gulistan e Jauhar Karachi     | Light green         |
| 6         | Parley Whitening Cream                   | Khyber Chemicals Pvt Ltd LHR Pak | 20-Sep-15                 | 19-Sep-18             | Gulistan e Jauhar Karachi     | Light green         |
| 7         | Samrah Whitening Cream                   | Poonia Brothers Pakistan         | 16-Dec-14                 | 16-Dec-17             | Gulistan e Jauhar Karachi     | Light brown         |
| 8         | Skin White Gold Beauty Cream             | Skincare Company Pakistan        | NG                        | NG                    | Gulistan e Jauhar Karachi     | Peach               |
| 9         | Stillman's Bleach Cream                  | Stillman Company Inc. USA        | Dec-15                    | Dec-18                | Gulistan e Jauhar Karachi     | Shiny White         |
| 10        | Kojic Acid Whitening Facewash            | The Vitamin Company, USA         | 1-May-17                  | May-17                | Gulistan e Jauhar Karachi     | Transparent         |
| 11        | Loreal Cream                             | 16, Place Vendome 70051 Paris    | Mar-15                    | Mar-18                | Gulistan e Jauhar Karachi     | Shiny White         |
| 12        | Skin White Cold Cream(With Honey)        | Skin Care Company Pakistan       | NG                        | NG                    | D stop GT Road Haripur        | Shiny White         |
| 13        | Skin White Whitening Cream               | Skincare Company Pakistan        | Apr-14                    | Apr-17                | D stop GT Road Haripur        | Shiny White         |
| 14        | Whitening Crème Bleach                   | Golden Girl Cosmetics USA        | Aug-15                    | Aug-18                | D stop GT Road Haripur        | Light Pink          |
| 15        | Yoko Whitening Cream                     | SIAM YOKO CO.Ltd Thailand        | Sep-15                    | Sep-20                | G10 Markaz ISB                | Off white           |
| 16        | BLESSO Whitening Cream                   | HCL London                       | NG                        | NG                    | G10 Markaz ISB                | Shiny White         |
| 17        | Yoko Whitening Cream (Ginseng And Pearl) | SIAM YOKO CO.Ltd                 | Aug-13                    | Aug-18                | G10 Markaz ISB                | Off white           |
| 18        | White Face Whitening Cream               | NG                               | NG                        | NG                    | Upper mall Scheme Lahore      | Apple White         |
| 19        | Pure White Beauty Whitening Cream        | Pure white Cosmetics pak         | July 1st, 2015            | July 1st, 2018        | Upper mall Scheme Lahore      | Off White           |
| 20        | Due Whitening Cream                      | Kreative Cosmetics .Ltd          | 1-Dec-14                  | 1-Dec-17              | Upper mall Scheme Lahore      | Parrot Green        |

NG: Not given/provided by the manufacturer

(PB # 56, 2017)

# Regulating Mercury Amalgam Use at Private Dental Clinics in Pakistan

*Mahmood A. Khwaja and S.Waqar Ali*

## Introduction

Mercury, one of the most hazardous chemicals, has become a growing issue of global concern because of its adverse environmental and health impacts (ATSDR 2011). Despite its toxic properties, mercury is widely used in dental amalgams for filling cavities caused by caries (SOU 2003). Dental amalgam is typically composed of approximately 50% mercury, 34.5% silver, 9% tin, 6% copper, and 0.5% zinc by weight (Alt Inc. 2005). The dentist's occupational exposure to mercury vapors occurs to a large extent during direct clinical work with preparation of dental amalgam restorative material, as well as during cutting, filling and polishing operations (Morton et al. 2004; Ely, 1997). It is estimated that in human, 60 per cent of Mercury exposure results from dental amalgam in the oral cavity via inhalation of mercury vapours and 40 per cent of mercury exposure is via ingestion (Spencer 2000). A person having dental mercury amalgam filling on the average absorbs about 3-17 micrograms of mercury (Weinberg 2010). Mercury poisoning may damage the nervous system, lungs, and kidneys. Exposure to mercury of vulnerable population (dental professionals, healthcare workers, children, pregnant women, and elderly) is of particular concern. The nervous system is most sensitive to mercury exposure (OPH 2008). Children are more at risk from mercury poisoning, which affects their neurological development and brain. According to the World Health Organization, dentists are among the health professionals with higher occupational exposure to mercury vapours (World Health Organization 1991; Morton et al. 2004).

Very few investigations on mercury amalgam use in the dentistry sector have been carried out in South Asia (including Pakistan) and there is little data reported on mercury contamination of indoor/outdoor air at dental healthcare sites, dental teaching institutions, hospitals & private dental clinics. In Pakistan, mercury emission and transfer are mainly from extraction and use of fuels, intentional use of mercury in industrial processes, and in others, such as dental mercury-amalgam fillings, medical equipment's, waste deposition/land fillings and waste water-treatment (MoE 2000). Studies on dental amalgam use and mercury contaminated waste disposal practices by dental professionals in Pakistan have been reported by Rubina et al. (2010) and Iqbal et al. (2011). SDPI studies indicated alarmingly high mercury levels in the air (indoor as well as outdoor) at 11 of the 34 visited dental sites (17 dental teaching institutions, 7 general hospitals & 10 dental clinics) in five main cities of Pakistan (Khwaja & Maryum 2014; Khwaja et al. 2014). Responses from dental professionals at 38 dental institutions in Pakistan showed general unawareness among dental professionals regarding mercury containing wastes and lack of awareness about health hazards of mercury exposure to human health (Khwaja & Sadaf 2014). A recent study carried out by Gul (2015) at Peshawar University, Pakistan on appropriate handling of mercury/mercury amalgam, environmentally unsound management of biological samples (RBCs, plasma, urine, hair & nails) of individuals with mercury dental amalgam (n=30) and controlled samples (n=30) have shown mercury concentration 6 – 8 times higher than the controlled samples (individuals without dental mercury amalgam).

In view of the earlier SDPI studies mentioned above, indicating high indoor air mercury levels within private dental clinics and lack of awareness among dental professionals regarding mercury related occupational health and safety issues, the present study was conducted to assess the status of mercury amalgam use in private dental clinics. In the light of the findings described and discussed in the following pages to safeguard public health and for the protection of environment, *it is strongly recommended that since mercury amalgam use cannot be banned immediately in the country, its use may be regularized and allowed subject to use of "Amalgam Separators," "Capsulated Mercury" and "Mechanized Mixing ban on use of mercury amalgam for children (below 12 years age) and pregnant women. A review/revision of the curriculum currently being taught at medical and dental colleges in the country should be conducted to ensure adequate training towards minimizing mercury exposure, and mercury amalgam use in dentistry.*

## **Methodology**

Over 90 private dental clinics were visited in Gilgit, Hunza, Peshawar, Rawalpindi & Islamabad and dental professionals/private clinics in-charge interviewed during June – July 2015. Dental professionals (qualified medical graduate) interviewed were 79% male and 21% female. A questionnaire based assessment was undertaken to evaluate the mercury/mercury amalgam related issues at private dental clinics (Annex 1). The focus areas were Hg amalgam toxicity, its waste management practices and safety measures practiced among the dental practitioners. The lists of private dental clinics of each visited is given in Annex II. Summarized results are shown in Table 1.

## **Results and Discussion**

According to an earlier SDPI study report, the levels of mercury in air at private dental clinics were observed to be lower as compared to general hospitals and dental teaching institutions (Khwaja et al. 2014). The highest levels were observed at some clinics in Islamabad, which was considered to be due to insufficient ventilation and improper waste disposal and proportionately larger number of visited patients, treated with mercury amalgam fillings at these clinics. All the visited private clinics were having higher concentrations of mercury vapours in indoor air than the permissible limits of 300 ng/m<sup>3</sup> of air (Khwaja et al. 2014)

In view of the very high mercury vapours in air at private dental clinics, i.e. 1800 – 333 ng/m<sup>3</sup> (Khwaja et al. 2014), this survey was carried out to know the extent of mercury dental amalgam use at private dental clinics and other related issues in five selected cities. Summarized data of responses to four priority questions (out of 15 questions/Annex I) is given in Table 1.

**Table 1:** Mercury Dental Amalgam Use at Private Dental Clinics in Peshawar, Islamabad, Rawalpindi & Gilgit-Baltistan (Hunza & Gilgit

| S. No | Dental Mercury (Hg) Amalgam Use:<br>Issues/Questions*         | Peshawar (%) |                       | Islamabad (%) |    | Rawalpindi (%) |    | Gilgit Baltistan (%) |    | Overall (%) |    |
|-------|---|--------------|-----------------------|---------------|----|----------------|----|----------------------|----|-------------|----|
|       |   | Yes          | No                    | Yes           | No | Yes            | No | Yes                  | No | Yes         | No |
| 1     | Continued use   | 58           | 42                    | 12            | 88 | 60             | 40 | 73                   | 27 | 51          | 49 |
| 2     | Alternatives (No Hg) preference for pregnant women & children | 45           | 34<br>(un-decided 21) | 97            | 03 | 68             | 22 | 27                   | 73 | 59          | 33 |
| 3     | Present BDS curriculum be revised                             | 61           | 39                    | 80            | 20 | 28             | 72 | 100                  | 0  | 67          | 33 |
| 4     | Ban on dental mercury amalgam use                             | 58           | 42                    | 84            | 16 | 60             | 40 | 55                   | 45 | 64          | 36 |

Dates of visit (2015): Peshawar June 15-17; Islamabad June 22 – 24; Rawalpindi June 29 – July 1; GB July 14-24; Private dental clinics visited = 94; \* For complete questions, please refer to Annex 1.

Dental mercury amalgam use seems to be lowest (12%) in Islamabad and highest in the cities of Gilgit-Baltistan (73%). At 97% of the visited dental clinics in Islamabad mercury amalgam use is preferred for pregnant women and children whereas the ratio is low in Gilgit-Baltistan, i.e. 27% (Table 1). 64% of all the dental professionals interviewed were of the view that mercury dental amalgam use should be immediately banned. Majority of respondents (67%) in the five cities supported review & revision of the present BDS curriculum/syllabus being offered at dental teaching institutions in the country.

## Recommendations

The earlier survey and monitoring data has shown higher level of mercury levels in air than the permissible limit at all private dental clinics visited sites (Khwaja et al. 2014). The follow up study (Khwaja & Sadaf 2014) also showed the unawareness regarding mercury handling, mishandling of the mercury/mercury amalgam, mercury containing waste, improper and inadequate ventilation system and lack of awareness about health hazards of mercury. In view of these studies and the findings of the present study, briefly described in the preceding pages, we strongly recommend the following to safeguard public health and for the protection of environment:

- Mercury specific legislation, including national emissions/releases standards, minimum mercury levels in products, including dental amalgam, and protocols for permits/licenses should be introduced for establishing and functioning of private dental clinics in the country.
- Non-mercury dental fillings should be offered and advised to patients by dentists.
- Capsulated mercury use and adaptation of mechanical mixing instead of motor and pestle for preparation of mercury amalgam be adopted.
- Following the best preventive approach - Waste Reduction at Source, mercury emissions/releases streams through an environmental waste audit, be identified within dental sites, so that accordingly, control measures for the same be designed and implemented at the earliest.
- Best in-house environmental practices (BEPs) and use of best environment-friendly technology be encouraged; standard operating procedures for mercury handling, transport & use and mercury

contaminated waste management be developed and implemented. An institutional mercury waste management plan be put in place at all mercury related sites and the same be periodically monitored and evaluated by the management.

- Minamata Convention on mercury (2013) be ratified by Pakistan and other countries at the earliest time possible.
- In the revised BDS curriculum the topics need to included are a brief on the need, objectives and the relevant provisions of “Minamata Convention on Mercury,” with reference to mercury in products (dental amalgam); health and environment; the toxicity and health hazards resulting from mercury/mercury amalgam use and protection and control measures for the same, minimization of mercury exposure and guidelines for environmentally sound mercury contaminated waste management; promotion of cost and clinically effective mercury free alternatives dental filling materials such as glass ionomers and resin composites.

**(Full report accessible at [www.sdpi.org](http://www.sdpi.org))**

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## Annexes

### Annex 1: SDPI Survey Form

|  |   |   |                            |                                    |                             |                                |                              |                            |
|--|---|---|----------------------------|------------------------------------|-----------------------------|--------------------------------|------------------------------|----------------------------|
|  | <b>SDPI Survey Form</b>   | <br><b>SDPI</b><br><small>Sustainable Development Policy Institute</small> |                            |                                    |                             |                                |                              |                            |
|  | Assessment of Health and Environmental Impacts of Mercury Amalgam Use in Private Clinics of Pakistan  |   |                            |                                    |                             |                                |                              |                            |
|  | <p>Dear sir/madam, kindly respond as soon as possible. This is a continuation of pure research mentioned as above, carried out by SDPI. All provided information would remain confidential and are only for the purpose of research work without any direct or indirect reference/identification of the dental professional and his/her clinic. Thanks for your time.</p> |   |                            |                                    |                             |                                |                              |                            |
| <p><b>1. General information:</b></p> <ul style="list-style-type: none"> <li>• Name of Unit/ Sector: <input type="text"/></li> <li>• Contact Person/In-charge: <input type="text"/></li> <li>• Year of Establishment: <input type="text"/></li> </ul> <p><b>2. Detailed information:</b></p> <ol style="list-style-type: none"> <li>1. Is mercury being used as amalgam for dental restoration and filling? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li>2. Since when is mercury being used as amalgam at your clinic? <input type="checkbox"/> &lt;5 yrs. <input type="checkbox"/> 5-10 yrs. <input type="checkbox"/> 10-20 yrs. <input type="checkbox"/> &gt;20 yrs.</li> <li>3. If stopped using as amalgam, how long has it been? <input type="checkbox"/> &lt;5 yrs. <input type="checkbox"/> 5-10 yrs. <input type="checkbox"/> 10-20 yrs. <input type="checkbox"/> &gt;20 yrs.</li> <li>4. What procedures are being used for mixing the filling paste? <input type="checkbox"/> Manual <input type="checkbox"/> Capsulated (Mechanical) <input type="checkbox"/> Other</li> <li>5. Is amalgam separator installed at your clinic? How many? <input type="checkbox"/> Yes <input type="checkbox"/> No      Quantity: <input type="text"/></li> <li>6. What is the final procedure of disposing the Hg contaminated waste? <input type="checkbox"/> Directly in sink <input type="checkbox"/> In separate container <input type="checkbox"/> Mixed with other garbage</li> <li>7. Is there ventilation system installed at your clinic? How many? <input type="checkbox"/> Yes <input type="checkbox"/> No      Quantity: <input type="text"/></li> <li>8. Is safety equipment used while handling Hg amalgam? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li>9. What are the working hours? <input type="checkbox"/> &lt;6 <input type="checkbox"/> 6-7 <input type="checkbox"/> 7-8 <input type="checkbox"/> &gt;8</li> <li>10. Do you use alternate Hg free dental fillings? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li>11. Are other alternatives preferred for children and pregnant women? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> <li>12. Are you aware of any dental professional /dental health worker having Hg related disease? How many? <input type="checkbox"/> Yes <input type="checkbox"/> No      Number: <input type="text"/></li> <li>13. Do you think the current BDS curriculum sufficiently addresses the health and environmental hazards from the use of mercury amalgam? <input type="checkbox"/> Yes <input type="checkbox"/> No</li> </ol> <p><b>3. Optional</b></p> <table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"><b>Details of Amalgam Separator</b></td> <td style="width: 50%; text-align: center;"><b>Mercury consumption detail:</b></td> </tr> <tr> <td>Name: <input type="text"/></td> <td>Hg use/month: <input type="text"/></td> </tr> <tr> <td>Price: <input type="text"/></td> <td>Supplier: <input type="text"/></td> </tr> <tr> <td>Outlet: <input type="text"/></td> <td>Cost: <input type="text"/></td> </tr> </table> <p style="text-align: center;">Note: The finding of this SDPI study will also be shared with you in due course of time. Inshallah.</p> | <b>Details of Amalgam Separator</b>   | <b>Mercury consumption detail:</b>  | Name: <input type="text"/> | Hg use/month: <input type="text"/> | Price: <input type="text"/> | Supplier: <input type="text"/> | Outlet: <input type="text"/> | Cost: <input type="text"/> |
| <b>Details of Amalgam Separator</b>  | <b>Mercury consumption detail:</b>  |   |                            |                                    |                             |                                |                              |                            |
| Name: <input type="text"/>   | Hg use/month: <input type="text"/>  |   |                            |                                    |                             |                                |                              |                            |
| Price: <input type="text"/>  | Supplier: <input type="text"/>  |   |                            |                                    |                             |                                |                              |                            |
| Outlet: <input type="text"/>   | Cost: <input type="text"/>  |   |                            |                                    |                             |                                |                              |                            |

**Annex 2:** List of visited private dental clinics in Peshawar, Islamabad, Rawalpindi, Gilgit & Hunza

### List of Peshawar Dental Clinic

| S # | Name Of Clinics                   | Contact Person                | Address  | Hg Use |
|-----|-----------------------------------|-------------------------------|--|--------|
| 1   | Lady Dental Hospital              | Dr. Tasneem Ilyas             | Orakzai Plaza, University Road Peshawar                                      | No     |
| 2   | Saheed Dental Clinic              | Dr. Akbar Khalil              | Chand Plaza, University Road Peshawar  | Yes    |
| 3   | Shah Dental Clinic                | Dr. S.Muffarih Shah           | Office 3, C-Block, 2nd Floor, Jawad Tower University Road Peshawar           | Yes    |
| 4   | Smile Dental Clinic               | Dr. Faisal Said               | Office 2, Block-A, Jawad Tower University Road                               | No     |
| 5   | Nasir Shan Clinic                 | Dr. Nasir Shah                | Opp, Iranian Consulate, Sifwat Ghayur Rd                                     | Yes    |
| 6   | Family Dental Clinic              | Dr. Haseeba                   | Al- Hadi Plaza, Nauthia Qadeem Peshawar                                      | Yes    |
| 7   | Shah Dental Clinic                | Dr. Israr Hussain             | Khyber Bazar Peshawar  | Yes    |
| 8   | A.N. Camphor                      | Dr. S.M.Usman                 | Khyber Bazar Peshawar  | Yes    |
| 9   | Smile Dental Clinic               | Dr. M.N.Afzal                 | Khyber Bazar Peshawar  | Yes    |
| 10  | Khattak Dental Clinic             | Dr. Farad Ali Khattak         | Khyber Bazar Peshawar  | Yes    |
| 11  | The Dental Clinic                 | Dr. Ishtiaq                   | Khyber Bazar Peshawar  | Yes    |
| 12  | Oral And Dental Surgeon           | Dr. Mumtaz Ul Islam           | Khyber Bazar Peshawar  | Yes    |
| 13  | Khyber Medical Plaza              | Dr. Abdul Islam               | 39-C-Dabgari Gaeden  | No     |
| 14  | Dr. Mubah And Associates          | Dr. Mubah Safdar              | Room 15, 1st Floor, Cantonment Commercial Plaza Near Khyber Medical Plaza    | No     |
| 15  | The Dental Care                   | Dr. Sajjad Ahmed              | TF-214, Dean Trade Center, Peshawar Cantt                                    | Yes    |
| 16  | S.S Dental Center                 | Proff. Dr. Shamim Akhtar      | Sarwar Center, Opp. Shelton Green, Saddar Road                               | Yes    |
| 17  | Fazal Ilahi Dental Associates     | Dr. Ilahi                     | Opp. GPO Saddar Road   | No     |
| 18  | Mohsin Dentistry                  | Dr. Mohsin Habib              | Where We Bought Cloths For Your Grand Daughter                               | Yes    |
| 19  | Rehman Dental Care                | Dr. Shakeel Ur Rehman Khattak | Near Allied Bank, Khyber Super Market, Near Qayum Stadium                    | Yes    |
| 20  | Al-Awal Dental Clinic             | Dr. Huma Erum                 | Al-Haj Tower University Road   | No     |
| 21  | Care Dental Clinic                | Dr. Sara Sajjad               | Malik Saad Plaza, D5, Phase 1, Hayatabad                                     | No     |
| 22  | Dr. Anis Ahmed And Associates     | Dr. Anis Ahmed                | Malik Saa Plaza, D5, Phase 1, Hayatabad                                      | No     |
| 23  | Saima And Associates              | Dr. Sonia Faisal              | Malik Saa Plaza, D5, Phase 1, Hayatabad                                      | No     |
| 24  | Peshawar Dental Diagnostic Center | Dr. Riaz                      | Flat# 207, 2nd Floor, Sheikh Yaseen Trade Center, University Road            | No     |
| 25  | Dental Care Center                | Dr. Nazir And Associates      | Office# 212, 2nd Floor, Sheikh Yaseen Trade Center, University Road Peshawar | No     |
| 26  | The Dentist                       | Dr. Khalil Rehman             | Flat#7 Noor Plaza, University Road   | Yes    |

## List of Rawalpindi Dental Clinic

| S # | Name Of Clinics                   | Contact Person               | Contact Number            | Address  | Hg Use  |
|-----|-----------------------------------|------------------------------|---------------------------|--|---------|
| 1   | Ayan Dental Clinic                | Dr. Shazya                   |                           | Opp. Shaheen Chemist Kali Tanki, Saidpur Road, Rawalpindi          | Yes     |
| 2   | The Dental Surgen                 | Dr. Sikandar Azam            | 051-4410970, 0321-5234234 | Main Kali Tanki Chowk Saidpur Road, Rawalpindi                     | No      |
| 3   | Specialist Dental Clinic          | Dr. Tahir Javed              | 051-4410332 0301-55877707 | Saidpur Road, Kali Tanki Rawalpindi                                | No      |
| 4   | Smile Dental Clinic               | Dr. Shafqat Elahi            | 0301-5556248 0321-5083098 | Opp. Rasheed Nursing Home, Main Kali Tanki Saidpur Road Rawalpindi | Yes     |
| 5   | Hassan Dental Clinic              | Dr. Nabiha                   | 051-4844081               | Near Aziz Nursing Home Main Saidpur Road Rawalpindi                | Yes     |
| 6   | Smile Dental Clinic               | Dr. Affan Riaz               | 051-4425667               | B-683, Al-Haider Market, Commercial Center, Rawalpindi             | Yes     |
| 7   | Usman Dental Clinic               | Dr. M Usman Qaiser           | 051-4571696, 0312-5001856 | BM-34, Shop#2, Near Nadra Ladies Office, Commercial Market         | Yes     |
| 8   | Alnoor Dental Clinic              | Brig. Dr. M Parvaiz Chaudhry |                           | Holy Family Stop, Saidpur Road Rawalpindi                          | Yes     |
| 9   | Medicare Dental Center            | Dr. S Hassan Naveed          | 051-4452906 0323-5140825  | Opp. Healers Center Saidpur Road Rawalpindi                        | Yes     |
| 10  | The Denatl Zone                   | Dr. Atif Iqbal               | 0321-51307365             | Opp. City Super Market , Siddique Chowk, Rawalpindi                | No      |
| 11  | Ali Denatl Clinic                 | Dr. M.Sajjad Abbasi          | 0306-5304240 03124413217  | PD. 90 F Near National Bank Pindora Rawalpindi                     | No      |
| 12  | 786 Denatl Clinic                 | Dr. Ayub Hassan              | 051-4847648 0300-5282632  | Shop 2, Aftab Plaza College Chowk Saidpur Road Rawalpindi          | Yes     |
| 13  | Shah Denatl Clinic                | A Lady Dentist               |                           | Holy Family Stop, Saidpur Road, Rawalpindi                         | Yes     |
| 14  | Waqar Dental Clinic               | Dr. M. Waqar Ch              | 0345-5887138              | Rawal Market, Near Habib Bank, Chirah Road Sadiqabad Rawalpindi    | Yes     |
| 15  | Nazir Dental Clinic               | Dr. Nazir Ahmad              | 0333-5185343              | Near Bilal Hospital Sadiqabad Rawalpindi                           | Yes     |
| 16  | Dr. Habib Ur Rehman Dental Clinic | Dr. Habib Ur Rehman          | 051-4425233 051-44832854  | P-1519/3 Asghar Mall Road, Opp. City Super Market Center           | No      |
| 17  | Fatima Dental Clinic              | Dr. M.Salman                 |                           | Near Aziz Nursing Home, Saidpur Road Rawalpindi.                   | No      |
| 18  | The Dental Clinic                 | Dr. Farrukh Said             | 051-9110833 051-4223995   | E-35/1 Holy Family Road Rawalpindi.                                | No      |
| 19  | Prime Dental Clinic               | Dr. Tariq Rehman             | 03215212704               | D-1023, Holy Family Stop Saidpur Road Rawalpindi.                  | Yes     |
| 20  | Dr. Waseem And Associates         | Dr. Jawaria                  | 0322-5153711 0300-5155711 | 4th-B Road, Near Kali Tanki ST Rawalpindi.                         | No      |
| 21  | Chaudhry Dental Clinic            | Dr. M. Idress Rana           | 051-5599552 0301-5107295  | Shop#1, J-329, Near Bambina Hotel, Committee Chowk Rawalpindi.     | Yes     |
| 22  | Dr. Haider And Associates         | Dr. M.Haider                 | 051-550555 0335-5512555   | 43 S- Bank Road Sadar, Rawalpindi.                                 | Yes     |
| 23  | AKHFC RWP                         | Dr. Mobeen Shahid            | 051-4454739               | 33/C Satellitetown, Near Chandni Chowk, Murree Road, Rawalpindi.   | No      |
| 24  | Dental Care Center                | Dr. Kazmi                    | 051-2555354 0321-5506085  | 2,Hally Business Center, Opp Kali Tanki Said Pur Road Rawalpindi.  | Pending |
| 25  | Noreen Dental Surgery             | Dr. Noreen Gull              | 051-2562392               | F/825, Shop#1, Opp Holy Family Hospital Gate#2, Rawalpindi.        | Pending |

## List of Gilgit - Hunza Dental Clinic

| <b>SN</b> | <b>Name Of Clinics</b>             | <b>Contact Person</b>                     | <b>Contact Number</b>      | <b>Email ID</b> | <b>Address</b>                                      | <b>Hg Use</b> |
|-----------|------------------------------------|---|----------------------------|-----------------|---|---------------|
| 1         | Maqbool Dental Clinic              | Dr. Maqbool Ahmed                         | 05811-53655<br>05811-53971 |                 | Karim Plaza, Gilgit City Bazar                      | No            |
| 2         | The Dental Clinic                  | Dr. Shams Ur Rehman                       |                            |                 | Airport Road, Gilgit                                | Yes           |
| 3         | Hassn Dental Clinic                | Dr. Sartaj Hussain                        | 0312-9708000               |                 | Col. Hassan Market, Gilgit City Bazar               | Yes           |
| 4         | The Dental Clinic                  | Dr. Shah Islam                            |                            |                 | Madina Market, Gilgit City Bazar                    | Yes           |
| 5         | Baber Dental Clinic                | Dr. Babar Khan                            | 35554136665                |                 | Jamat Khana Bazar, Gilgit City                      | Yes           |
| 6         | Ali Dental Clinic                  | Dr. Ali                                   |                            |                 | Hospital Road Chowk, Jamat Khana Bazar, Gilgit City | Yes           |
| 7         | Shah Zaman Clinic                  | Dr. Shah Zaman                            |                            |                 | Hospital Road, Gilgit City                          | Yes           |
| 8         | The Dental Clinic                  | Dr. Nahid Ullah Baig                      | 343506443                  |                 | New Fcna Market, Alfiyah Market, Jutial Gilgit      | No            |
| 9         | Dental Care                        | Dr. S. Shaiq Hussain                      | 3144771090                 |                 | New Fcna Market, Near Radio Pakistan, Jutial Gilgit | No            |
| 10        | Family Health Center               | Dr. Wali                                  |                            |                 | Shahrah E Quaid Azam, Jutial Gilgit                 | Yes           |
| 11        | Baig Dental Clinic                 | Dr. Baig                                  | 3449477349                 |                 | Near Narket, Opp Jubilee Hotel, Aliabad Hunza       | Pending       |
| Hospital  |                                    |   |                            |                 |   |               |
| 12        | Dhq Hospital, Gilgit               | Dr. Nahid, Dr. Shaiq, Dr. Babar, Dr. Shah |                            |                 | Hospital Road Gilgit City Bazar                     | No            |
| 13        | Akfhc, Gilgit                      | Dr. Zeenat Fatima                         | 3315092115                 |                 | Chinar Bagh Road, Near Chief Minister House, Gilgit | Yes           |
| 14        | City Hospital, Gilgit              | Dr. Maqbool Ahmed                         |                            |                 | Near Konodas Bridge, River Road Gilgit              | No            |
| 15        | Seehat Foundation Hospital, Gilgit | Dr. Iftikhar Hussaink                     |                            |                 | Near Yaadgar Chowk, Danyore Gilgit                  | Yes           |
| 16        | Civil Hospital Gulmit              | Dr. Innam                                 |                            |                 | Near Fg High School Chamangul Gulmit Gojal Hunza    | No            |
| 17        | Akfhc Hunza                        | Dr. Fahad Khattak                         |                            |                 | Main Kkh, Aliabad Hunza                             | Yes           |
| 18        | Dhq Hospital Hunza                 | Dr. Baig                                  | 3449477349                 |                 | Hospital Road, Aliabad Hunza                        | Pending       |

## List of Islamabad Dental Clinic

| Sn | Name of Clinic                        | Contact person            | Contact No                        | Email id                     | Address   |
|----|---------------------------------------|---------------------------|-----------------------------------|------------------------------|---|
| 1  | Dr. Abrar and Associates              | DR. Abrar                 | 051-2287691, 051-2287692          | Abrar_associates@yahoo.com   | House # 6-A, Ismail Zabeen Road (Service road parallel To Faisal Avenue) Sector F-8/3, Islamabad  |
| 2  | Dental Solutions                      | Dr. Ijaz                  | 0305-5678867                      |                              | Office3201, second floor Above IDC, F8 Markez Islamabad   |
| 3  | Smile Works ☺                         | Dr. Faisal Moeen          | 051-2850546                       |                              | Agha Plaza, Shop 5B, Plot 16 , Kohistan Rd, F-8 Marak Islamabad                                   |
| 4  | Malik and Associates                  | Dr. Abid Malik            | 051-2824017                       |                              | 1 <sup>st</sup> Floor, Mustaq Mansion, Fazal E Haq Road, Blue area                                |
| 5  | Ali Dental Associates                 | Dr. Asif Ali              | 051-2873633 051-2272192           |                              | 21 E, Huma Plaza Fazal E Haq Road, Opp poly Clinic  |
| 6  | Consultant Dental Surgeon             | Dr. Sheryar Ahktar Khokar | 051-2806170                       | Sheharyar001@yahoo.com       | 4- Ghulam Rasool Plaza Ground Floor, Opp Excel Labs Fazal E Haq Road,Blue Area                    |
| 7  | Islamabad Dental Center               | Dr. noor Ul Amin          | 0302-5557949, 0333-9109433        |                              | 15, Block 14, F-6 Markaz Islamabad  |
| 8  | Zia Dental Clinic                     | Dr. Zia                   | Na                                |                              | 1 <sup>st</sup> Floor Kalar Sayedan Plaza, G-9 Markaz Islamabad                                   |
| 9  | Women Own Dental Clinic               | Dr. Humaira Sultan        | 03005197242, 051-2351193          |                              | Shop#15, Ali Plaza, Baila Road G10 Markaz Islamabad   |
| 10 | Umer Dental Clinic                    | Dr. Shoaib Ahmad          | 051-2353547                       |                              | Shop #15, Ali Plaza, Baila Road G-10 Markaz Islamabad   |
| 11 | Amin Dental Surgery                   | Dr. Amin Ur Rehman        | 03009767429                       |                              | St Floor Office # 13, Golden Plaza, G-11 Markaz, Islamabad  |
| 12 | Smile Dental Care                     | Dr. Imtiaz Hussain        | 051-2299199                       | Dentist_imtiaz@yahoo.com     | Office#2, 1 <sup>st</sup> Floor Shah Nawaz Plaza, Uper Al-Rehman Medicodse, G11 Markaz, Islamabad |
| 13 | Noor Dental Surgery                   | Dr. Zafar Ullah           | 051-2204747                       |                              | 10, Musarrat Arcade F, G-11 Markaz Islamabad  |
| 14 | Capital Dental Clinic                 | Dr Farooq Ahmad           | 0332-5489646                      | chaudhary4@hotmail.com       | Off: F-4, First Floor, Sardar Plaza, G-11 Markaz, Islamabad                                       |
| 15 | Jalal Dental Clinic                   | Dr. Peer Jalal Khan       | 0313-5998999 051-2537155          | drpirjalal@yahoo.co.uk       | Shop No. 10, Hill View Plaza, Sawan Road, G-10 Markaz, Islamabad                                  |
| 16 | Perfect Smile Dental Clinic           | Dr. Usman Rana            | 0333 5134880                      |                              | 1-A. Plaza. Beside Shell Petrol Pump. F-10 Markaz. Islamabad                                      |
| 17 | Norman And Lkhalid Dental Surgery     | Dr. Norman Saleem         | 0333-5360968 051-2291662. 0097614 |                              | 4.Rajan Plaza 2-E, Behind Shell Pump F-10 Markaz Islamabad  |
| 18 | Health Care Medical And Dental Clinic | Dr. Seema Nake Akhtar     | 0333-5233241                      |                              | 4 - Jalil Plaza, F-10 Markaz Islamabad  |
| 19 | Dental Aesthetics                     | Dr. Shehzad Saleem        | 0333-5389959 051-2222984          | info@dentalaesthetics.com.pk | 3,4 Ground Floor, Arooj Arcade F-10 Markaz Islamabad  |

|    |                                 |                               |   |                          |  |
|----|---------------------------------|-------------------------------|---|--------------------------|--|
| 20 | Gentle Dental Care              | Dr. Irfan Maqbool             | 0300-5245742<br>051-2100742                             | drirfanmaqbool@gmail.com | #2, 1st Floor, Above KASB Bank, Hamza Plaza. F-II Markaz Islamabad                       |
| 21 | Hassaan Dental Clinic           | Dr Harris Mehmood             | 051-2820731<br>051-2821284                              |                          | #2, 1 <sup>st</sup> Floor, Above KASAB Bank, Hamza Plaza, F-11 Markaz Islamabad          |
| 22 | Dr. Rubina and Associates       | Dr. Rubina Mumtaz             | 051-2375313   |                          | House # 328, Street # 67, main Service Road, Multi Professional Society, E-11/3.         |
| 23 | Khyber Dental Care              | Dr. Muhammad ad Saleem Sharif |   |                          | 1 <sup>st</sup> Floor Kalar Sayedan Plaza, G-9 Markaz, Islamabad                         |
| 24 | The Dental Consultant Islamabad | Dr. Bilal Qureshi             | 0333-5111110<br>0303-3337770<br>051-8350000 051-2655055 | bjqureshi@gmail.com      | Suit # 8-A, First Floor, Block 12-C, Above Captain Cook's Jinnah Super Market, Islamabad |
| 25 | Dental Impact Clinic            |                               |   |                          | Office: 2 1 <sup>st</sup> Floor, Hamza Plaza, F11 Markaz.                                |
| 26 | Canyon Dental Clinic            |                               | 051-8739997   |                          | Suit 1 Level 1 Bizzon Plaza F-11 Markaz Islamabad  |

(PB # 45, 2015)

# Toxic Mercury and Mercury Amalgam Use in Dentistry – the need to review and revise current BDS curriculum at dental teaching institutions

*Dr. Mahmood A. Khwaja and Sadaf Nawaz*

## Introduction

The extreme hazardousness and toxicity of the only known liquid element mercury is well established. Mercury has been ranked third in the list of toxic substances (ATSDR 2012). Being assessed as a toxic substance to ecosystem, wildlife and human (UNEP 2002 & 2013), it affects nervous system and functioning of brain, especially of children. Short-term mercury exposure may cause damage to lungs, skin rashes and eyes irritation. Metallic mercury is an allergen that may cause eczema. Mercury amalgam use for teeth health care can lead to oral lichen (Jarup 2003; Martin & Griswold 2009; OPH 2008). In view of the adverse health impacts due to mercury exposure and its impacts on ecosystem and environment, in order to reduce and phase out global mercury use, “Minamata Convention on Mercury,” was in-acted by over 140 countries in early 2013 and till now 94 countries (including Pakistan) have already signed it (UNEP 2013).

In an earlier SDPI study carried out at 34 dental sites (including 17 dental teaching institutions) in five main cities of Pakistan, alarmingly high levels of mercury vapours were observed in outdoor/indoor air around these sites (Khwaja & Abbasi 2014; Khwaja et al. 2013). 88% of the sites indicated indoor mercury levels in air above the USA EPA reference level of 300ng/m<sup>3</sup>. SDPI study also indicated general unawareness among dental professionals regarding appropriate handling of mercury/mercury amalgam, poor management of mercury containing wastes, improper and inadequate ventilation system at the workplace, lack of awareness about hazards of mercury exposure to human health and its adverse impact on the environment. Use of liquid mercury for mercury amalgam making, non-mechanical mixing and very careless/care free use of mercury/mercury amalgam by the students at dental teaching institutions have been considered other main reasons for the above reported very high mercury vapour levels in the air at some of the monitored dental sites (Khwaja & Abbasi 2014; Khwaja et al. 2013).

The present study was designed follow up to the above SDPI study report, with the following objectives:

- to know the present level of awareness and general practices regarding mercury/mercury amalgam use in operative dentistry in Pakistan
- to review BDS curriculum/syllabus, presently offered by national and professional bodies (including Pakistan Medical and Dental Council-PMDC) to the students of dental teaching institutions in the country.
- to assess and evaluate its contents with regard to mercury/mercury amalgam use and occupational health, safety & environment, best environmental practices/technologies employed and management of mercury containing waste related issues.
- to emphasize the need to revise the curriculum/syllabus at the earliest time possible, in the light of the above findings and to develop recommendations for additional needed relevant contents as part of the dental curriculum, for adequate knowledge and training of upcoming dental

professionals towards minimizing mercury exposure, occupational health and safety of healthcare workers, mercury containing waste reduction at source and protection of environment.

For comparison and guidance, the curriculum offered by medical and dental councils of neighboring countries, Bangladesh and India and some teaching institutions in India and Pakistan were also reviewed.

Details of the above activities, collected data, findings/results and recommendations are briefly described and discussed in the foregoing pages.

## **Methodology**

A questionnaire based assessment was undertaken to evaluate the mercury/mercury amalgam related issues, as included in the curriculum/syllabus offered at dental teaching institutions in Pakistan. The main aim & objective of the survey was to get up-to-date information through the specially designed and developed questionnaire (annex 1). The questionnaires were responded either by head of the teaching institutions or in-charge/senior member of the “Operative Dentistry.”

Hard copies of the questionnaire were sent to 38 dental teaching institutions in 12 main cities of the country (annex 2) and followed by also sending e-questionnaires and in person contacts via e-mails / on telephone.

Information regarding national dental/medical councils of Bangladesh, India and Pakistan and the curriculum/syllabus offered to dental teaching institutions in the respective countries were retrieved from the internet at the given institutional website addresses. Similar information were also retrieved via internet for dental institutions in Bangalore, Kolkata and Kerala University in India and institutions at Lahore, Islamabad/Rawalpindi and Peshawar cities in Pakistan.

## **Results and Discussion**

Since 2001 in Netherlands , the teaching of mercury dental amalgam has been ceased at Nijmegen dental school and substituted by resin composite and accordingly, the dental curriculum been revised (Roeters et al. 2004). Studies in India have indicated that 40.60% dentists disposed of silver amalgam into common bin, 68% mixed mercury amalgam manually and 5% were not using amalgam at all (Singh 2014; Sudhakar & Janakiram 2008). Studies in Pakistan have indicated that 92% dentists used amalgam often/always, 57% using hand mixing for dispensing and 55% disposed of mercury containing wastes in the sink (Rubina et al. 2010; Iqbal et al. 2011).

In the present study, curriculum for dental teaching institutions approved by medical and dental councils of Bangladesh, India and Pakistan and as offered in some dental institutions in India and Pakistan have been reviewed to specifically identified course content regarding mercury/mercury amalgam use in dentistry.

## **Medical and Dental Councils Curriculum**

The dental curriculum of some selected parent bodies and dental teaching institutions in the two neighboring countries, Bangladesh and India, was reviewed for comparison of course contents with the curriculum offered to dental institutions in Pakistan. The course contents of curriculum offered by

*Bangladesh Medical and Dental Council* (BMDC) do not mention mercury related health, environmental & waste management issues or occupational health and safety (BMDC 2007). *Dental Council of India* (DCI) recommended course contents, which include dental materials and concerns regarding health hazards due to the mercury toxicity and exposure. However, management of mercury/mercury amalgam contaminated waste has not been specifically mentioned (DCI). The curriculum offered by *Pakistan Medical and Dental Council* (PMDC) to dental teaching institutions in the country has been developed jointly or has the approval of Higher Education Commission (HEC). Among others, it includes mercury hazards in dental practice; operator and environment but not specifically with respect to mercury and mercury amalgam use (PMDC 2005).

## **Curriculum at Selected Dental Teaching Institutions in India and Pakistan**

The curriculum of four selected dental institutions in India was reviewed. These were Rajiv Gandhi University of Health Sciences, Karnataka, Kerala University, West Bengal University of Health Sciences and SRM Kattankulathur Dental College and Hospital, Nagar Potheri.

The courses offered at Rajiv Gandhi University of Health Sciences, Karnataka seem to be in line with the DCI recommended course contents. The chapter on dental materials contains details with focus on silver amalgam alloy. Mercury hygiene and toxicity, the practical exercises for BDS students require the manipulation and trituration of silver amalgam. Pediatric and preventive dentistry chapter describes the restoration of teeth through various materials such as silver amalgam, composites and glass ionomers. The objective of the dental course offered by Kerala University (KU) is the growing concern of health hazards due to mercury toxicity, inhalation of certain vapours or dust materials, irritations and allergic reactions to skin due to contact of dental restorative materials. Others course contents include conservative dentistry, children using restorative materials such as silver amalgam, glass ionomers and composites. The best management practices, specifically for the disposal of mercury and mercury amalgam have not been mentioned in Kerala university curriculum. West Bengal University of Health Science (WBUHS) curriculum includes science of dental materials: dental amalgam alloys; choice of filling materials; health education, environmental health, disposal of wastes but mercury or mercury amalgam are not mentioned in the course outlines. SRM Kattankulathur Dental College and Hospital (SRM) course contents include dental materials, properties and technical considerations of dental amalgam and basic aspects for management of restorative materials such as amalgam, cement, composites & glass ionomers, and amalgam & mercury hygiene management.

The curriculum of three selected dental institutions in Pakistan was reviewed. These were Bahria University, Fatima Jinnah Dental College and University of Health Sciences.

Bahria University, Islamabad (BU curriculum course contents include operative dentistry, restorative materials such as amalgam, mercury hazards and hygiene. Fatima Jinnah Dental College, Karachi (FJDC) curriculum course contents include science of dental materials, filling materials, amalgam restoration, polishing of restorations. Operative dentistry, restorative materials such as amalgam, mercury hazards and hygiene, preparations of dental amalgam, cross infection control, operator and the environment but not specifically with respect to mercury and mercury amalgam. University of Health Sciences (UHS) recommended curriculum course contents that include science of dental materials, amalgam, mercury toxicity, amalgam restorations and conservative dentistry, operative dentistry,

operator's environment and self- protection but does not specifically with respect to mercury and mercury amalgam.

The information given above is not the full or complete regarding course contents approved/offered by the three parent national dental/medical councils or the dental institutions. These have been identified with reference to mercury/mercury amalgam use in dentistry and the resulting health, environmental and waste issues. It is evident from the mercury specific course contents described above, that whereas dental curriculum offered by some Indian institutions also include mercury related important aspects of occupational health and safety, the same seems to be lacking or inadequate in the dental teaching institutions of Bangladesh and Pakistan.

## **Survey of dental teaching institutions in Pakistan**

The main aim & objective of the survey carried out at dental teaching institutions was to get the up-to-date information through the specially designed and developed questionnaire (Annex 1) – a set of 15 questions related to mercury/mercury amalgam use (35.71% of total number of questions), the resulting occupational health, environment, safety (21.42%), mercury contaminated waste (14.28%) and other issues (14.28%), as covered in the curriculum offered by the respective dental teaching institutions in the country.

The responses received were more than half (57.89%) of the sample size (38) of the dental institutions in the country. About one third (22.73%) of the respondents were females. Maximum responses (83.67%) were from KPK and minimum (40.00%) from Punjab provinces. The information collected has been described and discussed in the foregoing pages. For ready reference, some of the questions (annex 1) for each of the four specific areas have also been reproduced, prior to the description of the collected data and discussion of the same.

### **Mercury/Mercury Amalgam Use**

To a question, does the BDS curriculum emphasize the environmental degradation due to mercury emission, release and waste, 66.67% response was no to the question and the respondents did not agree that the dental curriculum adequately emphasized environmental degradation due to mercury emission, release and waste. 33.33% response was in the affirmative. Does the BDS curriculum require to be reinforced w.r.t more content about mercury poisoning, guidelines and technologies for mercury / mercury amalgam waste minimization at source? In response to this question, 90.48% respondents agreed that the curriculum needed to be reinforced with more information with respect to guidelines and technologies to minimize mercury releases/emissions as well as waste minimization at source. 9.52% did not agree. Majority of the respondents (57.14%) were unaware of Minamata convention on Mercury, while 38.10% knew about this global treaty (Minamata 2013). 52.38% responded that the amalgam mixing area is adjacent to filling/operative area whereas 19.05% indicated amalgam mixing area is within unit, 28.57% indicating different specified area. It is advisable that amalgam mixing area should be away from the filling/operative area for safety purposes and emphasis on the same, with enhanced information, needs to be included in the curriculum.

## **Occupational health, Safety and Environment**

76.19% of respondents believed that the students were well aware of the potential health hazards caused due to mercury/mercury vapours while 23.81% were of the opinion that the students did not know about the health hazards due to mercury/ mercury vapours. There is a need to address the health hazards due to mercury in dental practice and the necessary education/training be provided by inclusion of the relevant contents in curriculum offered at dental teaching institutions in the country. To a question that what protective measures are taken in case of accidental mercury spill, majority of the respondents responded in negative, indicating no special/specific measures to guard against the accidental mercury spill. Guidelines for self-protection as well as minimizing general exposure in the event of accidental mercury spills, with due emphasis be considered for inclusion in the curriculum for students at dental institutions. 57.14% respondents agreed that the curriculum effectively provides knowledge on occupational health and safety regarding environmental and health hazards due to mercury, while 42.86% disagreed.

## **Mercury/mercury amalgam waste management**

2/3 of the respondents (about 61.9%) thought the information provided on mercury contaminated waste management was adequate, while 38.10 did not agree. It is strongly recommended that enough information regarding mercury emission/releases control, waste reduction at source and environmentally sound management of mercury contaminated waste be provided to the students and the same be effectively taught, for implementation of the same at workplaces. In response to a question that how mercury/ mercury amalgam is being disposed of at your institution, 33.33% said, at their institutions separate bins were used for mercury/mercury amalgam contaminated wastes. 66.67% indicated that the mercury/mercury amalgam waste was not disposed of separately but collectively with the other hospital/municipal wastes. It is obvious that at majority of dental teaching institutions, the on-going waste disposal practices are not sound and environment-friendly, resulting in environmental degradation and causing threats to the health of the population residing close by the hospital waste dumps. Guidelines for environmentally sound management of mercury contaminated wastes have been well-established (Kulkarni et al, 2008; Minamata 2013) and the same may be included as part of the curriculum at dental teaching institutions.

## **Other Curriculum Related Issues**

Generally, the respondents seemed not satisfied with the course content as well as the time allocated for training/learning about mercury toxicity and hygiene. 61.90% of the respondents felt for enhanced time allocation, especially with regard to mercury amalgam filling, while 23.81% also considered it inadequate and 14.29% thought that both the course content and the allocated time were sufficient. 90.48% of the respondents supported the review and revision of the dental curriculum with inclusion of more content to emphasize the mercury related occupational safety, health, environment and mercury contaminated waste issues. Only 9.52% did not agree to the same. Accordingly, there is a dire need to review and revise the dental curriculum offered at teaching institutions in the country. Majority of the dental teaching institutions in the country (38.10%) follow the recommended curriculum of Pakistan Medical and Dental Council (PMDC), also approved by Higher Education Commission (HEC). The

remaining institutions follow curriculum offered by other bodies, such as University of Health Sciences, Bahria University and Karachi University.

## **Conclusion and recommendations**

It is evident from the survey data described and discussed in the preceding pages and the review of the contents of the curriculum offered by the national professional parent bodies that an un-even education, with serious omissions regarding the use of mercury amalgam in operative dentistry is going on at dental teaching institutions in the country. The responses to the questionnaire have indicated that the offered curriculum did not address the main mercury related issues, such as occupational health, safety, environment and management of mercury contaminated wastes. 42.86% of the respondents indicated that the present curriculum did not effectively prepare outgoing future dental professionals by not providing information, knowledge and training on these mercury/ mercury amalgam related human health issues.

Curriculum is a comprehensive planning of an educational training programme for improving manpower to fulfil the dynamic needs of society. As also expressed by a large majority of the respondents (90.48%), it's time that the existing dental curriculum must be reviewed and revised to fulfil serious omissions by including relevant contents for the identified occupational health, safety, environment and mercury contaminated waste management, control measure and guidelines for the same.

To minimize the observed alarmingly very high mercury vapours contamination of air at dental sites due to mercury/mercury amalgam improper handling & use and to prevent health hazards resulting from mercury exposure to public in general and health workers, children & pregnant women in particular and for adequate teaching and training of students, we strongly recommend immediate review of the existing curriculum and inclusion of relevant contents in the revised curriculum with emphasis to the following:

Brief on the need, objectives and the relevant provisions of "Minamata Convention on Mercury," regarding mercury in products (dental amalgam), health and environment.

Toxicity and health hazards resulting from mercury/mercury amalgam use, protection and control measures for the same, to minimize mercury exposure and guidelines for environmentally sound mercury contaminated waste management.

Cost and clinically effective mercury-free alternatives to mercury amalgam filling, such as composites & glass ionomers, use of encapsulated mercury methodology and mechanized mixing

Occupational health and safety; use of best in-house environmental practices at dental facilities, to reduce mercury exposure and releases to air, water and land.

We also strongly recommend that Minama convention on mercury be signed & ratified by national governments, including Pakistan (already signed) and accordingly, measures be taken by parties to the convention, to phase down the use of mercury/ mercury amalgam in their respective countries, leading to its elimination at the earliest possible time.

Full detailed report accessible at [www.sdpi.org](http://www.sdpi.org)

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**Annex. 1****MERCURY POISONING DENTISTRY****SDPI Questionnaire on BDS curriculum followed in dental institutions of Pakistan**

Name \_\_\_\_\_ Position \_\_\_\_\_

|             |      |       |         |
|-------------|------|-------|---------|
| Institution | Name | &     | Address |
| _____       |      |       |         |
| _____       |      | _____ |         |

Phone No. /Mobile No. \_\_\_\_\_ Fax No. (If any) \_\_\_\_\_

Email \_\_\_\_\_ Address: \_\_\_\_\_

***Kindly respond as soon as possible to the following which would remain confidential and are only for the purpose of this research work.***

***Thanks for Your time.***

Q1: Which Curriculum your Institution follows?

- (a) HEC (b) PMDC (c) UHS (d) Bahria University (e) Karachi University (f) Other

Q2: Does the BDS curriculum emphasize onto the environmental degradation due to mercury emission, release and waste?

- (a) Yes (b) No

Q3: In your courses like Science of Dental Materials & Operative Dentistry is there chapter /content focused mercury safe waste management available?

- (a) Yes (b) No

Q4: Does the content of BDS curriculum effectively give knowledge for occupational health and safety incase of Mercury hazards?

- (a) Yes (b) No

Q5: Does the BDS curriculum require to be reinforced w.r.t mercury poisoning and guidelines and technologies for mercury / mercury amalgam waste minimization at source?

- (a) Yes (b) No

Q6: Do you think the allocated conter Please Follow on Next Page phasizes on mercury toxicity and hygiene is:

- |                |                |  |
|----------------|----------------|--|
| (a) Sufficient | (b) Inadequate | (c) Rather should be more elaborate, for knowledge and awareness especially in case of mercury amalgam filling |
|----------------|----------------|--|

Q7: Are you aware of global treaty “Minamata Convention on Mercury” for the phase out mercury use?

- (a) Yes (b) No

Q8: During practical, how far away is your amalgam mixing area from your dental filling area?

- (a) Within unit (b) Adjacent to filling area (c) Any other specify \_\_\_\_\_

Q9: Do the students know the potential health hazards due to the Mercury / Mercury vapors?

- (a) Yes (b) No

Q10: How many mercury amalgam fillings are to be made by students according to the practical hours per student? Kindly Specify Q11: How mercury/ mercury amalgam is being disposed off?

- (a) Combined with other waste (b) Separate bin only meant for mercury / amalgam

Q12: What protective measures are taken in case of Mercury spill? How room is made safe from Hg vapors when any accidental mercury spill occur?

Q13: Do you support the revision of the BDS syllabus curriculum with emphasizes on mercury health & waste issue?

- (a) Yes (b) No

Q14: Any additional comments you want to make regarding ‘Mercury’ use in field of operative dentistry?

---

**Please Return to:** Sadaf Nawaz, (SDPI) Postal Address: House No. 38, G-6/3, Embassy Road, Islamabad, Telephone No: 051-2278134; Fax No: 051-2278135

## Annex. 2 List of dental teaching institutions in Pakistan

| S No. | Name of Institution   | Focal person   | Address  | Contact                                      | Email Address   |
|-------|---|--|--|--|---|
| 1     | de 'Montmorency College of dentistry                        | Prof Waheed-ul-Hamid   | Fort Road, Lahore  | Tel: 042-37669521                            | w_hammed@hotmail.com  |
| 2     | FMH College of Medicine and Dentistry                       | Prof Yaqoob Baig Mirza   | Shadman, Lahore  | 042-37503685, UAN: 111-555-600 Ext 540       | ybmirza@live.com  |
| 3     | Lahore Medical & Dental College                             | Dr Moeen-ud-din Ahmed<br><br>Dr. Shujaat (HOD of community and preventive dentistry)           | Tulspura, North Canal Bank, Canal Road, Lahore                           | 042-36582201-06 Ext 122                      | drmoeen@hotmail.com<br><br>drshujaathasan@yahoo.com                                   |
| 4     | Sharif Medical & Dental College                             | Prof Muhammad Saeed<br>Dr Uzma (HOD Dental Materials)  | Jati Umra, Rawind Road, Lahore   | 042-37860101                                 | imran.hanif@sharifmedicalcity.org<br>uzma_shahid112@yahoo.com                         |
| 5     | University College of Medicine and Dentistry                | Dr Mogheez Baig (Dr Saad Asad)   | 1 KM Rawind Road, Lahore   | 042-35963421 Ext 1905, 1911                  | jamshediqbal105@gmail.com   |
| 6.    | Akhtar Saeed Medical and Dental College                     | Prof Laiq Siddique Hussein   | Sector C, BAHRIA Town, Multan Road, Lahore                               | 042-35963643                                 | No dental department  |
| 7     | Fatima Jinnah Medical College for Women                     | Prof Sardar Fakhar Imam  | Shahra-I-Fatima Jinnah, Queens Road, Lahore                              | 042-99200572<br>042-99203718                 | Only Mbbs admissions  |
| 8     | Shaikh Khalifa Bin Zayed Al-NahYAN Medical & Dental College | Prof Zafar Iqbal (Principal)<br>Dr. Ayyaz Khan (Operative dentistry)                           | Shaikh Zayed Medical Complex, University Avenue, New Muslim Town, Lahore | 042-35912229, (0300-8454981)                 | Dental department only for practice<br>ayyazalikhan@iadsr.edu.pk                      |
| 9     | Shalimar Medical & Dental College                           | Dr. Muhammad Zahid Bashir  | Shalimar Link Road, Mughalpura, Lahore.                                  | 042-36852609                                 | No response   |
| 10    | Armed Forces Institute of Dentistry                         | Brig Waseem Ahmed<br><br>Col Azad<br><br>Dr. Maj Muzzamil Jamil Rana (HOD operative dentistry) | CMH Road, Rawalpindi   | 051-9270289<br><br>051-5562266 Ext 124 (P.A) | afidrwp@hotmail.com<br><br>pakprosthodontist@hotmail.com<br><br>drjamilrana@yahoo.com |
| 11    | Islamabad Medical and Dental College                        | Dr. Saima (HOD O.D)<br>Dr. Mohtada Hassan (HOD Dental Materials)                               | Main Murree Road , Bhara Kahu, Islamabad                                 | 051-2807201<br>051-2232045                   | saima.azam@iideas.edu.pk<br><br>mohtada.hassan@iideas.edu.pk                          |
| 12    | Margalla Institute of Health Sciences                       | Dr Nadia Aman<br>Dr Raja Usman (dental materials)  | Quaid-e-Azam Avenue, Gulrez Phase II, Rawalpindi                         | 051-5509518                                  | nadiaaman79@hotmail.com   |

|    |  |   |   |  |  |
|----|--|---|---|--|--|
| 13 | Islamic International Dental College   | Prof Ulfat Bashir (principal)<br><br>Dr. Alia Ahmed (HOD of operative dentistry)<br><br>Dr. Yawar Hayat (HOD of Dental Materials) | Principal's Office, Islamic International Dental College, 7th Avenue G7/4 Islamabad | 051-2891836-9                                      | ulfat.bashir@riphah.edu.pk<br><br>aliaahmed@riphah.edu.pk<br><br>yawar.hayat@riphah.edu.pk |
| 14 | Rawal Institute of Health Sciences     | Brig Manzoor (Principal)<br><br>Ma'am Shazia Nawabi (Vice )<br><br>Dr Shazeb Patoli   | Rawal Dental Hospital, Lehtrar Road, Khana Pull near Ali Trust College, Islamabad   | 051-2617381<br><br>0332-3045279                    | brigmanzoorahmed@yahoo.com<br><br>drshazianawabi@yahoo.com<br><br>drshahzeb@hotmail.co.uk  |
| 15 | YUSRA Medical and Dental College       | —   | Main G.T Road, Kahuta Morr, PO ModelTown, Humak Islamabad, Pakistan                 | Tele: 051-4492811-5                                | —  |
| 16 | Nishtar Institute of Dentistry         | Dr Pervaiz Iqbal Principal<br><br>(Dr Illyas Medical Superintendent)  | Nishtar Institute of Dentistry, District Jail Road, Multan                          | 061-9201501-3)<br><br>061-9201504                  | drmpi@hotmail.com  |
| 17 | Multan Medical & Dental College        | Dr M.Zulfiqar<br><br>Dr. Jameel (dean of dentistry)   | Southern Bypass, Janhangirabad, Multan  | 061-6782877<br><br>061-6782874                     | pasha_789@hotmail.com  |
| 18 | University Medical & Dental College    | Akhtar Bukhari Principal  | University of Faisalabad, Sargodha Road, Faisalabad                                 | 041-8868326<br>041-8869910                         | principaldental@tuf.edu.pk   |
| 19 | Dental Section, Punjab Medical College | Prof Asif Ali Shah  | Sargodha Road, Faisalabad   | 041-9210080<br>0333-4704010                        | asif_shah12@hotmail.com  |
| 20 | Sardar Begum Dental College            | Prof Dr. Shaheed Iqbal  | Canal Road University Town, Peshawar, khyber pakhtunkhwa                            | 091-5844429  | shaheed.iqbal@gandhara.edu.pk  |
| 21 | Peshawar Dental College                | Dr. Tallat Firdos   | Warsak Road, Peshawar   | 0321-9029630                                       | tallatfirdos@gmail.com   |
| 22 | Khyber College of Dentistry            | Prof Dr Khalid Ur Rehman (HOD of operative dentistry)<br><br>Prof Dr. M.Saleem (HOD Dental Materials)                             | Khyber College of Dentistry, Uni campus, Peshawar                                   | 091-9216217<br><br>0300-5976764<br><br>091-9222065 | khalidkcd@hotmail.com<br><br>msaleemkcd@gmail.com  |
| 23 | Frontier Medical & Dental College      | Dr Imran (HOD Operative Dentistry)  | Mansehra Road, Abbottabad   | 0992-380190,<br>0992-383568 & 0992-383712          | imrankhan850@hotmail.com   |

|    |  |  |   |   |  |
|----|--|--|---|---|--|
|    |  | Dr. Adila  |   |   |  |
| 24 | Women Medical College                      | Dr. Zahir Shah<br>(principal)  | Murree Road,<br>Nawanshehr,<br>Abbottabad                                 | 0992-391443   | wmcpk@doctor.com   |
| 25 | Ayub Medical College                       | Dr. Abdul Wahid<br>(HOD Dental<br>Materials)<br><br>Dr. Waqar-Ur-<br>Rehman Qureshi                          | Karakorum Highway,<br>Abottabad   | 0992-383157,<br>0992- 382221<br><br>0321-<br>5724209              | prof.a.wahid@gmail.com<br><br>waqarqureshi_57@yahoo.com  |
| 26 | Bolan Medical College                      | Dr. Zia-ul-haq   | APB-1 Bolan Medical<br>College Complex<br>Colony, Quetta                  | 081-9203132,<br>0300-<br>9381033                                  | samar_zia@yahoo.com  |
| 27 | Karachi Medical and<br>Dental College      | Dr. Vaqar<br>Hussein Kazmi   | Block M, North<br>Nazimabad<br>Karachi                                    | 021-<br>99260300  | wakaz@hotmail.com  |
| 28 | Baqai Dental College                       | Kashif Akram<br><br>Dr. Talha Mufeed<br>Siddique (Vice &<br>HOD Operative<br>Dentistry)                      | 51, Deh Tor, Gadap<br>Road, Near Toll<br>Plaza, Super<br>Highway, Karachi | 021-<br>34410293-8<br>021-<br>34410295<br>(ext 223)               | <a href="mailto:info@bdc.edu.pk">info@bdc.edu.pk</a><br><br><a href="mailto:drtms@bdc.edu.pk">drtms@bdc.edu.pk</a><br><br><a href="mailto:drtms@hotmail.com">drtms@hotmail.com</a> |
| 29 | Fatima Jinnah Dental<br>College            | Dr. Baqar Askary<br><br>Dr. Sabiha<br>(vice principal)<br><br>Dr Nosheen<br>Khawar (HOD<br>Dental Materials) | AM-1/B , BLK-D<br>Bhittai Colony<br>Korangi Creek<br>Karachi              | 021-<br>35111963 –<br>65<br><br>021-<br>35801741-42               | <a href="mailto:drnosheenk@gmail.com">drnosheenk@gmail.com</a>   |
| 30 | Jinnah Medical and<br>Dental College       | Prof Mumtaz-ud-<br>Haider<br><br>Prof Mohsin<br>Girach (dentistry)   | 22-23 Shaheed-e-<br>Millat Road Karachi                                   | 021-<br>34931886<br><br>0300-<br>2447739                          | <a href="mailto:mohsingirach@hotmail.com">mohsingirach@hotmail.com</a>   |
| 31 | Hamdard College of<br>Medicine & Dentistry | Dr. Marvin<br>Hosen<br><br>Dr. Kashif Naqvi<br><br>Dr. Nadeem<br>(HOD Dental<br>Materials )                  | North Nazimabad<br>Block L 02K Bus<br>stop, Karachi                       | 021-<br>36648111  | <a href="mailto:kashifnaqvi@hotmail.com">kashifnaqvi@hotmail.com</a>   |
| 32 | Altamash Institute of<br>Dental Medicine   | Dr. M. Altamash<br><br>Dr. Ismail Sheikh   | 2-R Sunset<br>Boulevard, Defence<br>Housing Authority,<br>Karachi         | 021-<br>35874070<br><br>021-3582<br>1952,<br><br>021-<br>35821955 | <a href="mailto:drmaltamash@gmail.com">drmaltamash@gmail.com</a>   |
| 33 | Ziauddin Dental College                    | Dr. Nuzhat<br>Hussein<br>Dr. Hina Ahmed<br>(HOD Operative<br>Dentistry)                                      | ST-4/B, Block 6,<br>Scheme 5 Clifton,<br>Karachi                          | 021-<br>35862937  | <a href="mailto:drnuzhatshah@yahoo.com">drnuzhatshah@yahoo.com</a>   |

|    |   |  |   |                                   |  |
|----|---|--|---|-----------------------------------|--|
|    |   | Dr. Shoaib<br>(Dental Materials)   |   |                                   | shoaib.khan@zu.edu.pk  |
| 34 | Sir Syed college of Medical Sciences for Girls                      | Dr. H.R Sukhia<br><br>Dr. Sana Shah (HOD of Operative Dentistry)   | ST-32, Block-5, Boating Basin, Clifton, Karachi                       | 021-35374095<br><br>021-35838682, | hsukhia@hotmail.com  |
| 35 | Liaqat College of medicine & dentistry                              | Dr. Naveed Rasheed Qureshi<br><br>Dr. Shumaila Iqbal (HOD Dental Materials)<br><br>Dr Naheed Nazami (head of operative dentistry)<br>Dr. Huma (faculty of O.D) | ST 19- Block 15, Gulistan-e-Johar, Karachi                            | 021-34610271<br><br>0300-2700155  | nrmaxfac@yahoo.com<br><br>shumailaiqbal@hotmail.com<br><br>huma.huffain@live.com |
| 36 | Liaquat University of Medical & Health Sciences, Jamshoro/Hyderabad | Dr. Feroz Ali (Principal)  | Jamshoro, Sindh   | 022-9213308-13                    | feroze.kalhoro@lumhs.edu.pk  |
| 37 | Isra Dental College/Isra Dental Hospital                            | Prof Abdul Qadir Khero   | P.O. 313, Hala Road, Hyderabad  | Tele: 022-2030181-4               |  |
| 38 | Bhitai Dental and Medical University                                | Dr. Ghulam Mustafa Butt (Chairman)<br>Dr. Atif Jawad   | Opposite Sattari Cotton Factory, Jarwari Canal, Ring Road, Mirpurkhas | 0233-507511, 0345-3642909         | info@bdmch.edu.pk  |

(PB # 43, 2014)

# High Risk of Mercury Exposure to Public Health due to MercuryAmalgam Use in Dentistry in Pakistan

*Mahmood A. Khwaja and Maryam Shabbir Abbasi*

## Introduction

Dental mercury amalgam, also called silver filling or amalgam filling, is used widely because it's inexpensive, ease of use, and best settling material. Most importantly, it is resin free, which makes it less allergic than composite fillings. These fillings gave off mercury vapors and its amount depends upon cavity size, tooth characteristics, composition, age of amalgam, time taken for filling, the number of fillings, temperature of ingested food/drinking liquids and the activities like chewing & grinding of teeth. (MERC Vermont 1998, Intelligence Service 2012)

Mercury (Hg), the essential constituent of dental amalgam, is also known as quick silver, is a toxic substance of global concern. A persistent pollutant, Mercury is not limited to its source but it travels, on time thousands of kilometers away from the source. Mercury poses risks to environment and human health, especially the health of children. In September 2012, IUCN World Conservation Congress (IUCN WCC-2012) adopted SDPI Motion (M-169) and called upon government representatives of Intergovernmental Negotiating Committee (INC) to support a legally binding treaty on Mercury with an objective to protect human health and the environment from hazardous and toxic Mercury. In January 2013, 140 countries in Geneva adopted a ground-breaking, world's first legally binding treaty on mercury, to be called "Minamata Convention on Mercury," limiting the use and emission of health-hazardous mercury. It shall be open for signatures at a diplomatic conference in Japan, in October 2013 (UNEP 2013)

Scientific evidence, including UNEP Global Mercury report, establishes mercury as an extremely toxic substance, which is a major threat to wildlife, ecosystem and human health at a global scale (Stortbecker 1989). It is also a major threat to fish that constitutes an all-important nutritious component of human diet. Children are more at risk from mercury poisoning, which affects their neurological development and brain. Mercury vapors can cause damages to central nervous system, thyroid, kidneys, lungs, immune system, eyes, gums and skin. Neurological and behavioral disorders include tremors, insomnia, memory and vision problems, neuromuscular effects and headaches. Fetuses and young children are more vulnerable to the mercury vapors. (Pamphlet 1998, Alex Kirby 2013, MERC Vermont 1999, Intelligence services 2012)

There are few investigations carried out and reported in Pakistan on mercury contamination in air. (Khwaja et.al 2012, Khwaja et.al 2005). According to a preliminary report on mercury inventory, published in 2000, the point sources of mercury releases and emissions in Pakistan are dental clinics, a chlor-alkali plant, light products manufacturing units, incinerators and other coal based primary or secondary unit operations. Based on this reported preliminary data, the estimated maximum and minimum emission and transfer of mercury in the country is about 36,900 and 10,800 kg per year, respectively. The estimated amount of mercury consumed in dental sector in the country is reported as 65 kgs/annum (GoP - UNEP 2000). At present, there is no mercury specific legislation in the country. However, development of a mercury management action plan is in the making.

In 2010, a study in Pakistan, evaluating the amalgam use by dentists in the country and its waste management, has indicated that 92% dentists use amalgam often/always, whereas 56% of the study samples disagreed that amalgam should be phased out and replaced with non-mercury fillings. 92% dentists of the selected number of samples perceived amalgam a health risk, whereas 46% considered it an environmental hazard (Rubina et.al 2010). A similar study carried out in Karachi indicated 94% of dentists perform dental amalgam restoration, 57% using hand mixing for dispensing and 55% disposing of mercury waste in the sink. (Iqbal 2011)

In the present study, mercury levels in and around mercury releasing sources and in open air are being examined, to identify "Mercury Hot Spots" in five cities of Pakistan, namely Peshawar, Rawalpindi, Islamabad, Abbottabad and Lahore. This brief report describes and discusses results of our findings at dental clinics, hospitals, dental colleges and teaching hospitals. The selected sampling points at these sites were operative dentistry/treatment sections, adjacent corridors and surrounding open-air.

During the present mercury monitoring study in air at dental sites, the medical doctors, staff and management were alarmed at the observed very high indoor mercury contamination at some dental sites. Immediate remedial/control measures were also sought to protecting the health of staff, patients and visitors.

## **Methodology**

The high precision RA-915+ mercury analyzer (Lumex), calibrated by the supplier was used to measure mercury levels in air at the select sites.

For discussion of the results, US EPA reference level, 300 ng/m<sup>3</sup> has been referred (ATSDR, 2012).

Overall summarized findings for mercury levels in air at dental colleges/teaching hospitals (17), general hospitals (7) and private clinics (10) are desctried in table 1. All visited sites (34) are identified in annexes A, B and C.

## **Results and Discussion**

Among all the visited/monitored dental sites in Lahore, Peshawar, Abbottabad, Rawalpindi & Islamabad, eleven (11) sites were most contaminated with mercury level in air many times higher than the recommended limit of 300ng/m<sup>3</sup>. Mercury levels in air of operative dentistry (OPD) at 15 out of 17 dental teaching institutions was found to be higher than the recommended limit, whereas, similar higher mercury levels were observed in 5 out of 7 general hospitals and all the 10 private clinics visited (Table 1). Highest mercury levels in OPD air at teaching institutions, general hospitals and private clinics were found to be 44,067, 17,172 and 1,800 ng/m<sup>3</sup> and the lowest values at these sites were 109, 174 and 333 ng/m<sup>3</sup>, respectively (table 1). Among dental sites mercury contamination of air was found to be generally in the increasing order operative section > corridor > open air and at teaching institutions > general hospitals > private clinics.

**Table 1:** Mercury levels at visited sites in Lahore, Peshawar, Abbottabad, Rawalpindi and Islamabad.

| Sr.No | Samples                      | Sampling Sights | Mercury Levels in OPD air ng/m <sup>3</sup> |      | Above Standard *(300ng/m <sup>3</sup> ) No (%) |
|-------|------------------------------|-----------------|---|------|--|
|       |                              |                 | Max.  | Min. |  |
| 01    | Dental teaching institutions | 17              | 44067                                       | 109  | 15 (88)  |
| 02    | General Hospitals            | 7               | 17172                                       | 174  | 5 (71)   |
| 03    | Dental Clinics (Private)     | 10              | 1800  | 333  | 10 (100)                                       |

\*ATSDR, 2012

The study also showed the unawareness regarding appropriate handling of mercury/mercury amalgam, mercury containing wastes, improper and inadequate ventilation system and lack of awareness regarding health hazards of mercury to human health. Our findings reveal that the main reasons for the observed elevated levels of mercury in air at OPD, adjacent corridors and the surrounding air, at some of the visited sites, were the careless use of mercury/mercury amalgam and inappropriate mercury/mercury amalgam waste management.

## Recommendations

In order to reduce the risk of mercury exposure to public health, we recommend that use of health hazardous mercury and its emission be banned follow up to signing and ratifying the Minamata Convention on mercury (2013) by the government of Pakistan at the earliest time possible.

- Following the best preventive approach - “Waste Reduction at Source,” mercury emissions/releases streams be identified within dental sites through an environmental waste audit, so that accordingly, control measures be designed and implemented at the earliest.
- Non-mercury dental fillings be advised to patients by dentists.
- Best in-house environmental practices (cross ventilation, exhaust fans) and use of best environment friendly technology be encouraged, standard operating procedures for mercury handling, transport and use, be developed and implemented.
- An institutional mercury waste management plan be put in place at all mercury operated sites and the same be periodically monitored and evaluated, by the management.
- Capsulated mercury amalgam use be promoted, as these effectively and substantially reduce mercury waste, releases/emissions to the environment.
- At the identified highly polluted dental sites in the present study (evident from the reported data of snap/spot measurements of mercury vapors in air, at the time of measurements), a follow up comprehensive survey and monitoring program, including measurement of mercury levels for 8 hours exposure period, be developed and implemented at the earliest, to further confirm risks to public health in general and visitors/medical staff in particular.
- Mercury specific legislation, including national emissions/releases standards, standard minimum mercury in products and protocols for permits/license be introduced for private clinics/teaching institutions.

## Acknowledgements

Collaboration of Zero Mercury Working Group (ZMWG) & Institute of Chemical Sciences (ICS), Peshawar University and the financial support by the Sigrid Rausing Trust and the European Commission via the European Environmental Bureau (EEB) for this study is gratefully acknowledged. We are also thankful to our SDPI colleagues, Fareeha Mehmood and Sehrish Jahangir for their part-time valuable contributions towards this study.

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## Annex(s)

### Annex A: List of Teaching Institutions Monitored.

- University college of dentistry , Lahore (Lat: 073.09311 ;Long: 33.72018)
- Punjab dental hospital , Lahore (Lat: 073.09311 ;Long: 33.72018)
- Fatima Jinnah medical college for women, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Mayo hospital, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Sharif medical and dental college, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Lahore medical and dental college, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Ghurki trust teaching hospital, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Sardar Begum teaching hospital, Peshawar (Lat: 071.50056; Long: 34.00214)
- Khyber college of dentistry, Peshawar (Lat: 071.50056; Long: 34.00214)
- Naseer teaching hospital, Peshawar (Lat: 071.50056; Long: 34.00214)
- Peshawar medical and dental college, Peshawar (Lat: 071.50056; Long: 34.00214)
- Town teaching hospital, Peshawar (Lat: 071.50056; Long: 34.00214)
- Margalla college of dentistry, Rawalpindi (Lat: 071.50056; Long: 34.00214)
- Islamic international dental college, Islamabad (Lat: 071.50056 ,Long: 34.00214)
- Islamabad medical and dental hospital, Islamabad (Lat: 071.50056; Long: 34.00214)
- Ayub Medical college, Abbottabad (Lat: 073.03164, Long:33.68727)
- Frontier medical college, Abbottabad (Lat: 073.03164; Long: 33.68727)

### Annex B: List of General Hospitals Monitored.

- Northwest general hospital and research center, Peshawar (Lat: 071.50056; Long: 34.00214)
- Fawad and associates, Peshawar (Lat: 071.50056; Long: 34.00214)
- Polyclinic hospital, Islamabad Rawalpindi (Lat: 071.50056; Long: 34.00214)
- Rawal medical and dental hospital, Islamabad (Lat: 071.50056; Long: 34.00214)

- Shifa international hospital, Islamabad (Lat: 071.50056; Long: 34.00214)
- District Headquarters Hospital, Rawalpindi (Lat: 071.50056; Long: 34.00214)
- Bilal hospital, Rawalpindi (Lat: 071.50056; Long: 34.00214)

**Annex C: List of Private Clinics Monitored.**

- FMH specialist care center, Lahore (Lat: 073.09311 ;Long: 33.72018)
- The Dental cooperation, Lahore (Lat: 073.09311 ;Long: 33.72018)
- Nasir Shah clinic, Peshawar (Lat: 071.50056; Long: 34.00214)
- Hameed Awan and associates, Peshawar (Lat: 071.50056; Long: 34.00214)
- Zea dentistry center, Peshawar (Lat: 071.50056; Long: 34.00214)
- Syed Nasir Shah clinic, Peshawar (Lat: 071.50056; Long: 34.00214)
- Tariq dental clinic, Islamabad (Lat: 071.50056; Long: 34.00214)
- The art dentist, Islamabad (Lat: 071.50056; Long: 34.00214)
- Agha khan family health center, Islamabad (Lat: 071.50056; Long: 34.00214)

**(PB # 34, 2013)**

## Ban on Non-biodegradable Chemicals in Detergents\*

*Mahmood A. Khwaja*

Detergents are made from Branched Alkyl Benzene Sulphonic acid (BAB/ABS, brand name Conco AAS) and Linear Alky Benzene Sulphonic acid (LAB/LAS, brand name Santomerse). These chemicals have a high production volume and more than 1, 000,000 pounds are produced annually. These ionic surfactants are found in domestic, agricultural, industrial cleaning and personnel products (including those used by children), textiles and paints. Detergents, therefore, are now competing well with soaps in terms of both quality and cost. Commercial products usually contain 60 – 90 percent, while consumer products contain 5 – 30 percent BAB/LAB. The commercial BAB/LAB products are mixtures of various alkyl chain lengths, typically from C10 to C14. The manufacturing process of BAB/LAB emits benzene, which is a known carcinogen and a known reproductive toxin.

BAB was developed in the early 1930s and being inexpensive became an instant success for use in powdered laundry detergents, replacing soaps. Soon, however, it was found that these detergents caused foaming problems in sewage/waste water treatment plants and in the environment. BAB surfactant began to accumulate in remote streams, waterfalls and fountains. These synthetic detergents were thought to be more resistant than soap to degradation in sewage treatment plants. The degradation process was found to be slow and incomplete due to the interruption of bacterial two-carbon oxidation by the branched alkyl (3-carbon oxidation) in the hydrocarbon chain (C10 – C12). This led to a search for the development of biodegradable straight chain chemicals to be used in detergents.

The light colored viscous liquid LAB was introduced in 1965 as a replacement for BAB. LAB are complex mixtures of closely related homologues and isomers. Though pure LAB solutions have average foaming properties, but the alkaline mixtures of LAB are considered almost as excellent as soap.

The enormous amounts of LAB consumed each year (2 million tons in 1990), have raised serious concerns and studies are in progress to examine the biodegradation of major co-products of commercial mixtures of LAB surfactants. Di-alkyl tetralin-sulphonates (DATS) and methyl-branched isomers of LAB(iso-LAB) which account for up to 15 percent of LAB, have been reported to be resistant to primary degradation. Studies have indicated the non-biodegradability of 40 – 60 percent of DATS and iso-LAB. On the basis of LAB consumption and the results of these studies, it has been estimated that 200,000 tons of refractory organics is dispersed each year in the environment as a result of the use of these surfactants.

Under the High Production Volume Chemical Challenge Program, the LAS/ABS (LAB/BAB) Consortium provided the following information<sup>1</sup>:

- a) For 28 days, biodegradation of LAB (mixtures) and BAB (derivatives) is 71 percent and 64.73 percent, respectively.
- b) Acute oral for LAB (mixtures) 1300 – 1836 mg/kg and for BAB (derivatives) 520 1080 mg/kg. Both types of chemicals cause skin irritation.

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\* prepared on the request of Pak-EPA/MoE

<sup>1</sup> Partial submission to US Environmental Protection Agency in Dec.2002

Further studies by the LAS/ABS Consortium are in progress in USA and a final submission will be made to USA EPA during 2004.

The International Program on Chemical Safety (ICS), World Health Organization (WHO), has yet to evaluate the different alkyl benzene sulfonates and their effects on the environment.

Laboratory tests (including aerobic degradation, industrial, atmospheric and water borne wastes and energy consumption in manufacturing process, and waste disposal) based on 1000 lbs sulfonates support the use of methyl ethyl sulfonates (MES) and fatty alcohol sulfonates (FAS) over LAB.

In view of the above, following recommendation have been made to the Pakistan Environmental Protection Agency (Pak-EPA) for consideration regarding ban on the use of BAB and LAB in detergents:

- i. Both LAB and BAB may not be banned in the country for the next two to three years.
- ii. Meanwhile, an assessment should be made regarding the consumption of LAB and BAB by the industrial sector in the country. Industries should also be advised to look into use of MES/FAS to replace BAB/LAB.
- iii. In view of the LAB/BAB consumption in the country and the results of the on-going studies on LAB/BAB biodegradation, their environmental and health impacts, either or both LAB/BAB may be banned.
- iv. The industry may be offered incentives and technical assistance to replace LAB/BAB with MES/FAS.

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( PB # 18, 2004)

## Pesticide Policy<sup>2</sup>

*Shahid Zia*

The aggressive media campaigns by pesticide companies do not comply with FAO guidelines for advertising pesticides. Pakistan adopts FAO guidelines on the issues where Pakistani law is silent. The Pakistan law does not clearly outline the guidelines for advertising pesticides. Our law says only that it is a punishable offence if any person falsely represents a pesticide in an advertisement. However, the FAO code states clearly that pesticide industry should ensure that all advertisements draw attention to warning phrases and symbols as used on labels. Labels generally, however, mean little since our rural illiteracy rate is very high. Safety claims with safe use methods and safety warnings should be made part of advertisement by law. As you suggested, it can be made compulsory to run a safety warning after every media pesticide advertisement like cigarette advertisements.

Instructions regarding the storage and use of pesticides are very clear in FAO guidelines. It says that persons engaged in spraying pesticides shall use protective clothing and masks. However, persons engaged in spraying rarely use masks. They sometimes, however, use protective cloths. As you suggested, farm owners should be required to provide some kind of health insurance or they should be made responsible for treatment costs in case of mishaps. Generally, the persons engaged in spraying belong to the self-employed landless class. One person sprays many fields a day for different owners. Thus, it is very difficult to hold one owner responsible for any health problem. The owner farmers have little, if any, control over them. Systematic media campaign, however, can be used to enhance awareness about safe pesticide use methods.

In addition to this, I would like to draw your attention to two other important issues; use of ineffective pesticides, and use and marketing of banned pesticides.

Pakistan's present pest control strategy is based mainly on the use of chemicals. Though, in the recent past, increased use of pesticides has helped in enhancing agricultural production, extensive use of pesticides has created many technical and environmental problems. Moreover, due to excessive use of pesticides, whitefly and many other pests have developed resistance. This poses a major risk to our cotton crop. Some studies show that compounds like cypermethrin, monocrotophos, chlorpyriphos, cyfluthrin, profenophos, thiodicarb, methamidophos that constitute a major share of the total pesticides used in the country have virtually failed to control pests in the field. Nevertheless, these are still being marketed. There is an urgent need to take a policy decision to ban the use of pesticides for which resistance has been developed.

In addition, evidence shows that pesticides that have already been banned because of their known harmful residual effects are still available in the market in Pakistan and are in use. A report of Pesticide Research Laboratory, Karachi (1994), has documented the results of surveys conducted in 1992 and in 1993. Pesticide residues were found in more than 70 percent of the samples of fruits, vegetables, cotton seed oil, human blood, and human milk. In more than 20 percent of the samples of fruits and vegetables, the residues were found to be higher than maximum recommended levels. The detected pesticides

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<sup>2</sup> This brief was prepared on 21 July, 1997 for Mr. Sartaj Aziz, Federal Minister for Finance. He asked for a brief on issues related to pesticide use while he was attending a seminar on Trade and Environment arranged by SDPI on July, 17, 1997.

included DDT, BHC, aldrin, dieldrin, and heptachlor. It is surprising that the detected pesticides also included some pesticides that are banned in Pakistan like DDT and BHC. It is proposed that the ban on the use and marketing of banned pesticides should be strictly enforced.

**(PB # 1, 1998)**

## A-2. Climate Change

### Better Water, Better Jobs – Envisioning a Sustainable Pakistan

*Sebastian Gollnow*

#### Introduction

Pakistan is an arid to semi arid economy with low and variable rainfall. Water is a scarce resource and most of it is utilized in agriculture sector. The major water resource here is the sophisticated Indus Basin irrigation system, which irrigates more than 90 per cent of the country crops.

Agriculture constitutes the largest part of Pakistan's economy, as majority of the population, directly or indirectly, depends on it. It contributes to 24 per cent of the Gross Domestic Product (GDP), accounts for half of employed labour force, and is the largest source of foreign exchange earnings (Ministry of Finance 2015). These facts underline the importance of water for economic growth and employment.

This policy brief aims to review the relation between water management and employment in Pakistan.

#### Political economy of water

Pakistan's National Climate Change Policy provides a detailed list of policy recommendations that need to be implemented to ensure water security, cope with a changing climate and handle increase in demand due to a fast growing population (Figure 1). These policy measures require the following actions:

**a) Water storage and infrastructure:**

Additional storage and distribution infrastructure requirements need to be addressed. Furthermore, the existing structures should be upgraded.

**b) Water conservation:**

There is a need to incentivize efficient irrigation techniques, and harvest rainwater.

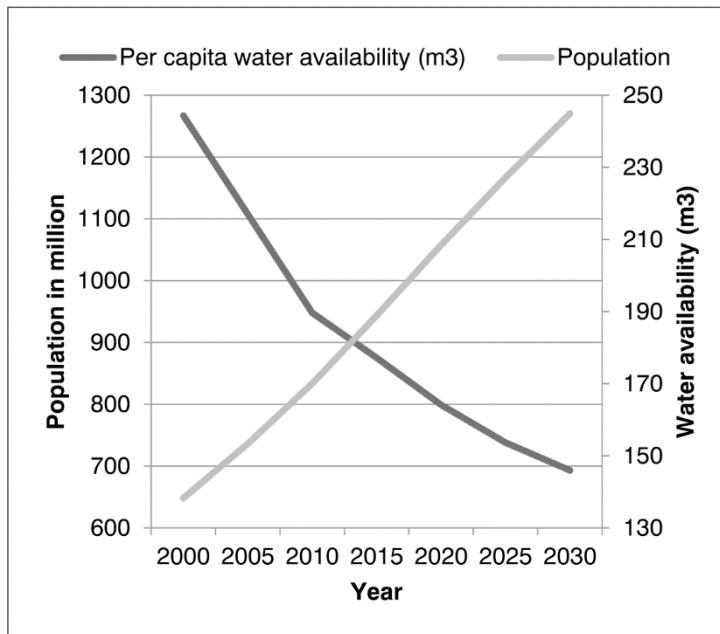
**c) Integrated water resource management:**

It must be ensured that water allocation is regulated between sectors and regions. Groundwater use also requires regulation. Participatory irrigation management reforms for farmers need to be implemented;

**d) Legislative framework:**

There is a need to enact waste and waste water management practices;

**e) Enhance institutional capacity of relevant stakeholders and raise public awareness**

**Figure 1:** Pakistan's population and water availability, 2000-2030 (UNESA 2016)

These policy measures to a great extent are in line with the policy recommendations put forwarded by the World Bank, the UN, and NGOs (SDPI 2006; IUCN 2014; World Bank 2015). The critical point of the policy is that the Ministry of Climate Change cannot implement it, as it has no authority over the sectors' concerned. It can only recommend and support the coordination of institutions that have the authority through the National Climate Change Implementation Committee.

In short, the policy measures identified by the Ministry of Climate Change to ensure water security today and in future lack implementation. Despite water scarcity and dependency on irrigation, Pakistan is still managing to achieve most of its foreign exchange earnings through the export of water intensive agricultural products. Also, water-related jobs are the main source of livelihood.

## **Impact on Pakistan's economy**

Water scarcity, dependency on agricultural production, population explosion, and inefficient water management has made the country extremely vulnerable to climate change.

Its agricultural yields are currently the lowest in the world. About 60 per cent of the country's population is facing food insecurity, and nearly 50 per cent of women and children under five years of age are malnourished (WFP 2015). Food and nutrition insecurity in the country are primarily attributable to limited economic access and utilisation by the poorest and most vulnerable — particularly women — to an adequate and diverse diet (WFP 2015).

SDPI, as part of the PRISE project, is currently assessing climate resilient economic development, migration trends and water governance in Pakistan (Box 1). Climate resilient economic development is assessed based on the example of the cotton value chain.

Cotton is particularly important to Pakistan's economy, as it is the main industrial crop and 40 per cent of the industrial labour force is employed in the textile sector (USDA 2015).

Cotton yields are comparable low in Pakistan and vary substantially between years. The variability affects the whole value chain as the textile industry requires cotton as input. Climate change is expected to increase variation in yields as the occurrence of climate extreme events will increase.

Groundwater is increasingly used to meet water requirements of crops as a consequence of limited surface water availability. This is leading to several environmental issues such as an increase in secondary salinisation of irrigated soils and a falling water table. Also, the usability of groundwater is in many areas limited, as it is already saline or polluted due to insufficient waste and wastewater treatment.

Estimates indicate that climate change effects, including water scarcity, rainfall shifts, and heat stress, may motivate anywhere from 25 million to 1 billion people to migrate by 2050 (global). Climate change in combination with other socioeconomic factors is also associated with the rural to urban migration trend. The PRISE project team at SDPI is currently assessing migration trends in Pakistan. Preliminary conclusions are: Supporting the development of intermediate cities could mitigate rapid urbanisation and the expansion of megacities. Migration is currently hard to monitor; it is, therefore, recommended to develop a monitoring system to capture migration trends. Pakistan's rural economy depends very much on agriculture. Agricultural production is threatened by climate change. Hence, adaptation strategies to cope with challenges need to be implemented. Current rural and urban service delivery through decentralised governance needs to be improved (Saeed et al. 2016).

## Key Recommendations

Recent climate disasters in 2010, 2011, 2012 and 2014 have demonstrated that, in the absence of policies promoting climate-resilient development, climate change is expected to multiply existing vulnerabilities and magnify climate risks (SDPI 2015).

### Box 1: The PRISE project

Pathways to Resilience in Semi Arid Economies (PRISE) is a five year multi-country research project that aims to generate new knowledge about how economic development in semi-arid regions can be made equitable and resilient to climate change.

It supports decision-makers in local and national governments, civil society and businesses to strengthen their commitment for influencing policy interventions and investments that create more equitable and resilient economic development.

Some of the key objectives of the project are:

- To establish an evidence base on the impact of climate change on key factors conditioning the economic growth of semi-arid lands, and conversely, how these factors condition vulnerability to climate change.
- To develop an evidence base on the risks posed to economic growth in semi-arid lands by extreme climate events, particularly droughts and floods
- To identify investment, policy and planning measures for inclusive climate-resilient development and growth in semi-arid lands

Leveraging existing initiatives and networks in a stakeholder engagement process that co-creates knowledge builds credibility with research users and promotes the uptake of results.

For details: (<http://prise.odi.org>)

While Pakistan has the necessary natural endowment and the world's most extensive irrigation system, harnessing these assets requires a paradigm shift in water policy and management in a context that would emphasize demand-side measures that promote conservation and control of excessive groundwater exploitation. Policies, as suggested by the Ministry of Climate Change, need to be implemented.

There is an urgent need to develop policies and approaches for bringing water withdrawals into balance with recharge, a difficult process, which is going to require action by the government as well as informed and organized users. Since much groundwater recharge in the Indus Basin is from canals, this requires an integrated approach to surface and groundwater. There is a little evidence that the government has adapted their capacity and support to deal with this great challenge. And here delay is fatal, because the longer it takes to develop such actions, the greater the depth of the groundwater table, and the higher the costs to restore resilience.

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(PB # 50, 2016)

# Future Heatwaves in Pakistan under IPCC's AR5 climate change scenario

*Fahad Saeed and Abid Qaiyum Suleri*

## **Introduction**

Heatwaves occupy an important class of climate-related disasters with a history of causing large scale mortalities. Most of the people do not realize how deadly a heatwave can be because in contrast to the visible and destructive nature of floods, heatwaves are regarded as “silent killers”. With all its fury and destruction, the heatwaves in France in 2003 resulted in 15,000 death (Poumad`ere et al. 2005). At a time when Pakistan was facing the worst flooding of its history in 2010, a heatwave in Moscow caused the death of 11,000 people (Shaposhnikov et al. 2014). Very recently, another deadliest heatwave caused around 2,300 casualties in India and a few weeks later, Pakistan had to face this havoc, which claimed 1,200 human lives.

The recent heatwaves in India and Pakistan can be attributed to climate change (Khan 2014). Intergovernmental Panel on Climate Change (IPCC), in its series of assessment reports, has been continuously warning about an increase in duration, intensity and magnitude of future heatwaves due to global warming (IPCC 2013). Since IPCC does not do its own research, its findings are based on the published literature, generally in impact factor journals. The technique, which is mostly adopted in such studies, is largely based on climate modeling.

Today climate models or more specifically the Global Climate Models (GCMs) are considered to be the most sophisticated numerical tools to carry out global climate simulations. However, the resolution of these GCMs is coarse and is typically of the order of 250 km. Hence, many regional-scale climatic features go beyond the scope of ESMs. Therefore, it led to the development of regional climate modeling technique in order to downscale the coarse GCMs to the regional scale at a typical resolution of 10 to 50km. These models are named Regional Climate Models (RCMs) (Saeed et al. 2009).

In a recently published study in 2015, the authors used the data of seven GCMs and claimed it to be the “first projection of future heatwaves in India” (Murari et al. 2015). In the present study, we have gone one step further while using the data of three RCMs (having much higher resolution than GCMs) to present a first projection of future heatwaves in Pakistan. This paper is structured as follows: section 2 provides the details of ‘Data and Methodology’ followed by ‘Results’ section. Section 4 presents the critical analysis of “2015 heatwave in Pakistan” followed by the ‘Recommendation’ section at the end.

## **Data and Methodology**

As mentioned earlier, we have used the data of three different RCMs, forced with three different GCMs at a resolution of  $0.44^{\circ}$  ( $\sim 50\text{km}$ ). The models runs are executed under CORDEX (Coordinated Regional climate Downscaling Experiment) initiative for South Asia domain. It is important to mention here that CORDEX is an initiative by World Climate Research Project to downscale CMIP5 (Coupled Model’s Intercomparison Project phase 5) simulations using different RCMs over different domains around the globe. The details of the model matrix for this study can be seen from Table 1. We used data

of control (1976-2000) as well as future period (2026-2100) by dividing it into three sub-periods which are 2026-2050, 2051-2075, and 2076-2100. All these simulations are conducted using RCP8.5 concentration scenario which is also called “business as usual” scenario (Riahi et al. 2011). The data is obtained from Center for Climate Change Research, Indian Institute of Tropical Meteorology, Pune’s database<sup>3</sup>.

**Table 1:** Matrix showing names of Regional Climate Models (RCM's) and their forcing Global Climate Models (GCMs) along with their respective institutes.

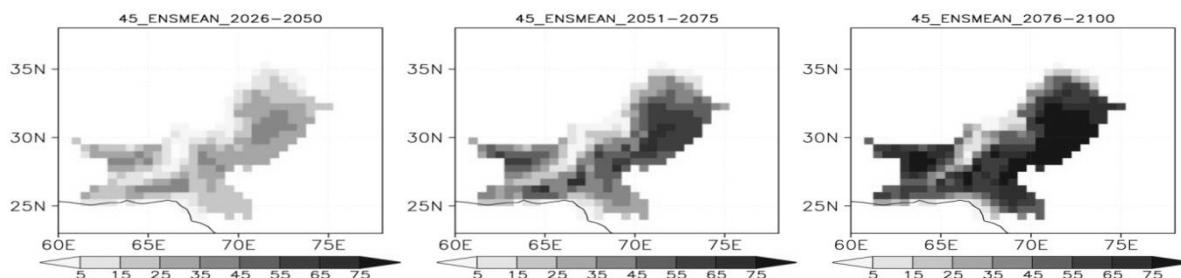
| RCM       | RCM's Institute                 | GCM      | GCM's Institute                               |
|-----------|---------------------------------|----------|---|
| CSIRO     | CSIRO, Australia                | CCSM     | NCAR, USA                                     |
| RCA4      | Rossby Centre, Sweden           | EC-EARTH | Rossby Centre, Sweden                         |
| REMO_2009 | Climate Service Center, Germany | MPI-ESM  | Max Planck Institute for Meteorology, Germany |

For defining a heatwave, we followed a criterion that is also used by Zahid and Rasul (2012), that if the daily maximum temperature remains 45°C centigrade or more at a continuous stretch of five days, then it will be considered as one heatwave. We applied this criterion on the data of all the three models on control as well as three future sub-periods. It is important to note that the results presented in the proceeding section are the difference of number of heatwaves events between the future and control period for the whole 25 year period. This implies that increase in the number of heatwave events of 50 in a particular grid-box would mean 50 events in 25 years with an average increase of 2 events per year.

## Results

The process of future climate change modeling is characterized by many types of uncertainties. In order to cater for these uncertainties, the popular approach which is adopted in climate science is called as multi-model ensemble approach (Haensler et al. 2013). Therefore, the results presented in Figure 1 show the average of the three RCMs at each grid-box for the respective time period.

**Figure 1:** Difference in number of heatwave events between control and three sub-periods 2026-2050 (left), 2051-2075 (middle), 2076-2100 (right). The data presented in these plots is the ensemble average of all the three RCMs.



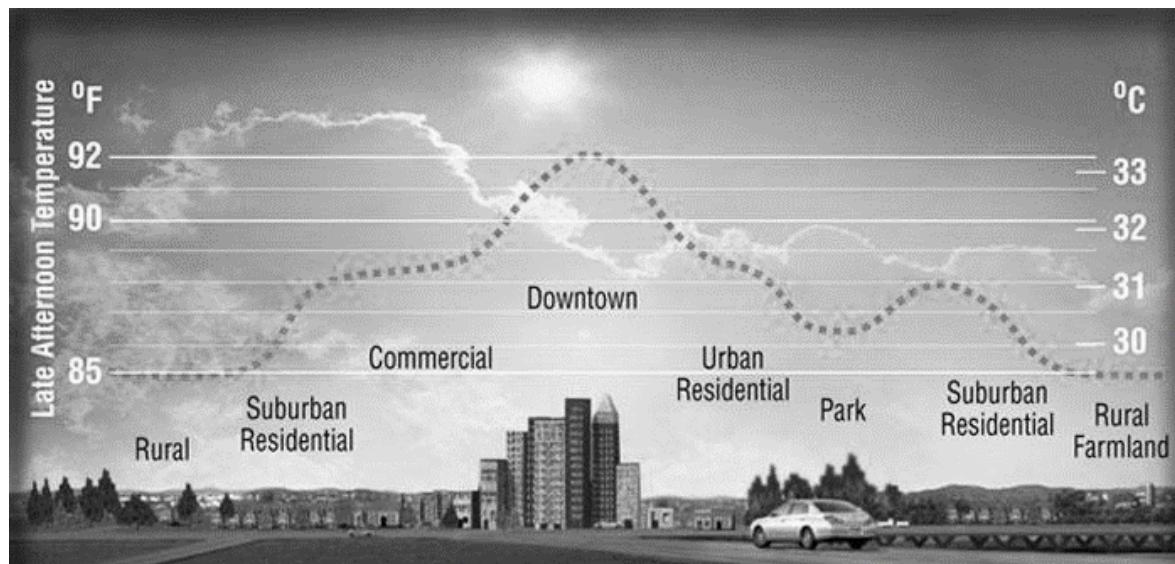
<sup>3</sup> <http://cccr.tropmet.res.in/cordex/files/downloads.jsp>.

A consistent increase in the number of heatwave events is obvious from Figure 1. It is worth-mentioning that Figure 1 does not show anything over the northern areas of Pakistan. This is because of our heatwave definition, which sets the threshold at 45°C. The northern areas, which are characterized by low temperatures due to their higher topographic extent, did not achieve such a high temperature. However, in the southern Pakistan, which is characterized by hyper arid and arid to semi-arid region, there is an obvious increase in the number of heatwave events even in the near future i.e. 2026-2050. This trend keeps on increasing in the middle (2051-2075) as well as in the end of century (2076-2100).

Interestingly, increase in the number of heatwave events towards the end of the century are also likely to happen in the provinces of Balochistan and Sindh, however increase in heatwaves is most pronounced over the Punjab plains. In the period between 2076-2100, the increase in the number of heatwave becomes more than 75 over Punjab, implying an average increase of 3 events per year as compared to control period. Considering a high population density in the Punjab, this alarming increase in heatwave will pose a serious concern not only for far future but also for the near future. Moreover, densely populated cities like Lahore, Faisalabad, Rawalpindi, Multan, Gujranwala, Sargodha, and Sialkot are all located in this region, which are more susceptible to the negative impact of heatwaves as compared to the rural areas because of the phenomenon called “urban heat island effect”.

The urban heat island effect can be understood by considering that as the urban areas develop, changes occur in its landscape. Infrastructure such as building, roads, etc. replace open land and vegetation and converts the surfaces once permeable and moist to impermeable and dry. Hence, these changes cause warming of urban regions as compared to their rural surroundings, hence forming islands of high temperature. This phenomenon is better illustrated in Figure 2 which shows a temperature difference of 4°C between a city's downtown and its surrounding rural areas.

**Figure 2:** Illustration of Urban Heat Island Effect. The image is obtained from <https://heatisland.lbl.gov/>



## 2015 Heatwave in Pakistan

The deadly heatwave hit southern Pakistan in 2015 when temperatures peaked from June 18 to June 23. During this span, additionally from the urban heat island effect, temperatures in Karachi remained above 38°C with June 20 recording the hottest day with a maximum temperature of 45°C. Normally during this time of year, the temperature remains in the range of 33°C to 35°C, thanks to the relatively cool sea breeze blowing towards land that keeps the temperature of Karachi under check from getting hot. However, during this episode, a low pressure was developed over the sea which reversed the direction of wind, i.e. from land to ocean. This resulted in the subsidence of air from aloft, hence causing high humidity. Because of this high humidity, the maximum temperature remained in early 40°C, but the ‘feel like’ temperatures went as high as 50°C. This particular event, i.e. development of low pressure over the Arabian Sea may be attributed to the presence of a strong positive phase of ENSO (El Nino Souther Oscillation) this year over the Southern Pacific Ocean (By Zolfaghari and Prigg , 2015).

Besides the climatic factors, there are many other factors, which exacerbated the impact of this particular event. First of all, Pakistan Meteorological Department (PMD) remained unable to forecast this event, therefore, failed to give the relevant authorities to act in time. National Disaster Management Committee (NDMA) also played a passive role initially and towards the end of the heatwave spell, managed to respond after the directions of Prime Minister (Haider M, 2015). The coordination between PMD and NDMA was also criticized during the flooding of 2014 in Pakistan as well (Saeed et al. 2014).

Power and water shortages were also amongst the major reasons resulting in the worsening of matters. K-electric, which is responsible authority in providing the electricity to most of the Karachi, remained unable to meet the demands of public, hence there were long hours of load-shedding. This initiated a debate in print and electronic media among political parties as to whose responsibility is to ensure the provision of electricity in Karachi. Instead of putting their energies in giving relief to the affected people, the political parties at national and provincial level fell into a ‘blame game’. Therefore, instead of educating people on how to cope with the ongoing heatwave, the major time and space of electronic and print media went to the coverage of this ‘blame game’. Dehydration caused by fasting during the holy month of Ramadan was also one of the reasons that people, especially the elderly fell prey to heatstrokes.

## Recommendation

Based on the analysis presented above, we propose the following recommendations;

- Considering an increase in future heatwave frequencies presented in Figure 1, there is a dire need to improve the capacity of PMD in forecasting such events at a reasonable lag-time. Similarly, the capacities of disaster management authorities should be enhanced to address such calamities in future. Moreover, a better coordination between PMD and National/Provisional disaster management authorities (NDMA/PDMA) should be ensured, especially in the Punjab where the heatwaves are projected to increase the most.
- During the times of heatwaves, the provision of facilities which reduces the impact of heat such as water and power in affected areas, should be made available. Moreover, emergency should be called in hospitals for timely delivery of health care facilities to the victims of heatstrokes.

- The use of electronic and print media should be employed to sensitize people in the times of such extremes. This includes the education of people in terms of maintaining adequate level of hydration by consuming extra water, avoiding large protein rich meals that can result in increased metabolic heat and warm the body avoiding unnecessary visits in the sun, etc.
- Information regarding heatwaves should be passed on to schools to take necessary measures and also to consider potential change in summer holiday schedule.
- Establishment of makeshift “cooling centers” by declaring mosques, libraries, parks, zoo, swimming pools, etc. as cooling centers can also be employed in order to beat the heat.

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**(PB # 46, 2015)**

# Climate change and heat-waves: Rural-to-Urban Migration in Pakistan

## A silent looming crisis

*Fahad Saeed, Kashif Majeed Salik and Sadia Ishfaq*

### Introduction

Over the past 20 years, new insights have been gained about climate-human interactions, which caused human mobility and migration. The latest assessment report of Inter-governmental Panel on Climate Change (IPCC) projects that the magnitude of human displacement and migration may rise during the 21st century due to climate change. Quantitative research on the relationship between migration and climate change is however limited, given the complexity and unpredictability of climate-induced migration patterns (Black et al. 2011), and the heterogeneity in individual and collective responses towards climate change. Moreover, the uncertainty surrounding climate science itself presents a challenge to predict precisely the impact on human settlements (Banerjee et al. 2011).

The problems being faced to most of the developing countries are compounded by the challenge of urbanization that seems to couple with climate-induced migration (ADB 2012). While a substantial proportion of populations in developing countries lives in rural areas, it remains largely unknown as how many people migrate internally from that rural livelihood is mainly based on agriculture, and climate-induced losses in agricultural productivity cause to alter livelihoods (Bartnett & Adger 2007; Mueller et al. 2014), which can potentially scale up urbanisation.

Considering this, we analyse climate-induced internal migration in Pakistan, a developing country that is largely semiarid and faces development challenges of urbanisation, rural poverty, and associated agricultural productivity losses.

### Pakistan's Context

Pakistan is a low-middle income country of 188 million people. It is ranked low in human development, with rural-urban disparities in poverty, income and development infrastructure. Rural poverty is widespread, but more pronounced in arid and semiarid zones. The country's urban economy contributes 78% to the national GDP although it is home to one-third of total population (WB 2014; Hussain 2014). With an urbanization rate of 3% per annum (Kugelman 2014), many Pakistani cities have informally grown into large agglomerations with about 35% to 50% of urban population reportedly living in slums (WB 2014; Kugelman 2014). The government projections show that by 2030, more than half of Pakistan's population will be residing in urban areas (GoP 2014). Such estimates do not take into account the effects of climate change on urbanization, rural-urban migration, and population growth.

Agricultural productivity in rural areas is affected through variations in climate variables like average temperature and precipitation. Heat stress in particular has shown to affect agricultural productivity of winter crops (Qin et al. 2014) such as wheat, a staple food which is grown in arid and semiarid areas of Pakistan. According to a long-term study by Mueller et al. (2014), migration-benefits outweigh the moving costs especially following heat stress/wave in the winter season, which results in migration of

all forms. Thus, to some extent, climate change may play a role in pushing up rural to urban migration, which presently constitutes 40% of total internal migration in the country (Arif 2005).

The issue of migration receives little attention in Pakistan's rural-urban development planning. For example, the prevalence of poverty in rural and urban areas largely influences migration and urbanization patterns but the government's Poverty Reduction Strategy Paper (PRSP) and recently approved Vision 2025 fail to provide any strategy relevant to current and future urban planning or migration. A draft National Migration Policy, however, discusses international migration issues exclusively with no focus on internal rural-urban migration.

The results of the study conducted by Saeed et al. (2015) on climate change driven rural to urban migration in Pakistan indicated that climate change acts in combination with many other socioeconomic determinants of migration. Climate shocks and slow-onset changes impact ecological conditions in rural lands that trigger shifts in agricultural productivity, thus eroding incomes of poor and marginal cultivators. Migratory decisions may be taken to escape from losses in rural incomes which is variably intensified by climatic stress. The study predicts that such changes are likely to be magnified by 2030 in arid and semiarid areas that are important in terms of wheat production, and are home to a large rural population. Given the sensitivity of wheat crop to heat-stress, it is anticipated that decline in wheat production will affect the rural poor and marginal households across Pakistan, who will be forced to cope with the situation. When coupled with prospects for improved life in urban centres, this will incentivize the poor rural population to out-migrate. Thus, while variability in weather patterns play a role in influencing migration patterns, the development deficit in Pakistan's semiarid rural areas, paralleled by higher investments in urban centres, together lure potential migrants from rural to urban settlements.

## Recommendations

### **Managing rapid urbanization:**

The study results show that rural-urban migration may contribute to unplanned urbanization and expansion of mega cities like Karachi, Lahore, and Faisalabad, which may disrupt urban well-being. Therefore, one viable solution to overcome this challenge is to develop intermediate cities or towns (Jamal & Ashraf 2004), which can serve as pivots between large cities and rural areas by facilitating access to markets for agriculture outputs (Hussain 2014).

### **Monitoring of internal migration:**

The dearth of adequate data on rural-urban migrants hinders monitoring of internal migration flows, which presents a challenge to informed decision-making. Therefore, this study proposes a National Registration Systems that can capture population mobility data across Pakistan.

### **Risk management in agriculture sector:**

To improve farm productivity and protect poor farmers against climate-stresses, climate risk management in agriculture sector needs to provide innovative location-specific climate-smart technologies and financial support mechanisms to millions of small farmers' in Pakistan. This will enhance their potential to cope and adapt during/after climate shocks (such as crop insurances to protect crop failures, and revitalization of agriculture extension department).

### **Improved rural and urban service delivery through decentralized governance:**

The revival of local governments under the 18th Constitutional Amendment is important control rural to urban migration, as it may improve service delivery for rural and local populations. This would however need to be complemented by improved service provision in urban slums as well, which are likely to absorb influx of informal rural migrants.

### **Integrated approach to ‘climate-proof’ development:**

Given Pakistan's high vulnerability to climate change and its existing level of development challenges, the country requires an integrated and multi-sectoral approach to climate-resilient economic development. Sectoral policies on population, agriculture and food security, environment, poverty alleviation and economic growth need to propose and finance specific measures for climate-resilience, as highlighted in National Climate Change Policy 2012 and Framework for Implementation of Climate Change Policy (2014-2030).

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## Planning for Floods: Now or Never

*Fahad Saeed, Abid Qaiyum Suleri and Kashif Majeed Salik*

### Introduction

The year 2014 is the fifth consecutive year when Pakistan is undergoing extreme weather conditions. In July 2010, Khyber Pakhtunkhwa (KP) and the Punjab provinces were affected by record rains causing heavy floods, 1700 deaths and disruptive impact on over 20 million people (Houze et al. 2011; Webster et al. 2011). In 2010, the magnitude of catastrophe was so high that the number of affected people exceeded the combined total of people hit by the 2004 tsunami in Indian Ocean, the 2005 earthquake in Pakistan, and the 2010 earthquake in Haiti. In September 2011, a massive flood severely hit Sindh province, caused over 400 deaths, affected 8 million people, and inundated 1.7 million acres of arable land (Habib 2011). In 2012, Pakistan received unprecedented rainfall resulting in over 450 deaths and affecting more than 5 million people along with thousands of acres of arable land in KP, Southern Punjab and Upper Sindh (CNN 2012). Intense rainfall caused flooding yet again in August 2013, but this time in different pockets throughout the country, including KP, Karachi city, and central Punjab, resulting in around 200 deaths, and affecting 1.5 million people. To this series of flooding, the year 2014 was no exception, when a heavy cloudburst occurred once again over Kashmir region resulting in huge devastation in Indian held Kashmir (IHK), Azad Kashmir as well as downstream areas of Pakistan. This time the death toll has risen to 500 people both in India and Pakistan besides the number of people affected by the floods was again in millions (Singh et al. 2014).

### Can floods be attributed to changing climate?

The consecutive extreme rainfall during the last five years rings alarm bells among the scientists to find out the reasons behind it. It is a general perspective that climate change is responsible for extreme events (such as floods and droughts) due to increased Green House Gases (GHGs) in the atmosphere. GHGs (water vapour, carbon dioxide, methane, etc.) are the important part of the earth's atmosphere, as they trap the radiations emitted from the earth's surface and reflect a good part of it back to atmosphere. However, after the industrial revolution, there has been an out of all proportion increase to the GHGs in the atmosphere. This increase leads to enhanced trapping of earth's radiations and hence resulting in increase of the earth's temperature. In the recent assessment report of Intergovernmental Panel on Climate Change (IPCC), the earth's mean temperature is reported to have been increased by  $0.85^{\circ}\text{C}$  due to changing climate.

There are robust projections according to the latest research, which suggests that we are not just heading towards a simple and steady increase in global precipitation, rather shifting towards less frequent, but more intense rainfall events. This would lead to a threatening situation with an increase in floods and droughts in the wet and dry regions respectively. The question remains that how this increase in temperature will cause extreme events like floods and droughts?

Let us assume that there is a balloon in the air above a certain region, which bursts and causes rainfall when it is filled with 100 liters of water. The rise in atmospheric temperatures due to climate change will increase the capacity of the balloon to hold more water, so 150 liters of water would perhaps be needed to burst the balloon. This increase of 50 liters will affect the wet as well as dry regions. The

drier regions, which are already devoid of water, will struggle to find extra 50 liters of water for rainfall to occur and hence would get drier. On the other hand, the wetter regions, which used to get rains at the threshold of 100 liters previously, will not get rain unless the balloon is filled with 150 liters. However, when the threshold of 150 liters is acquired, it will result in heavy downpour.

The above-mentioned analogy applies to monsoon rainfall as well. The monsoon phenomenon is very complex and involves a lot of moisture and energy. In the active monsoon phase from July to September, the winds from warm equatorial oceans, carrying a lot of moisture from Indian Ocean, travels towards the land. The moisture in the monsoon season arrives in Indus basin through mechanisms like movement of cyclones from Bay of Bengal, advection from Arabian Sea, local recycling of irrigated water, etc. There is another very interesting interplay between the monsoon currents and mid-latitude jet-stream resulting in heavy rainfall events over upper reaches of Indus basin (Ding & Wang 2007; Lau & Kim 2012). As the name indicates, mid latitude jet-stream is the fast moving stream of westerly winds meandering north and south across the globe in the upper atmosphere (at the height of around 12 km) and is known to affect the northern hemisphere weather to a large extent. Climate change is responsible for the unprecedented rainfall associated with the jet-stream over northern Pakistan in 2010, 2011 and 2012 (Rasmussen et al. 2014). The jet-stream got stuck for several days with a trough over northern Pakistan resulting in heavy downpour. The jamming of jet-stream is very strongly attributed to climate change. The initial analysis of 2014 flooding seems to have similar pattern of mid-latitude jet-stream blocking with the development of upper atmosphere trough over Europe in August, which created situation feasible for monsoon depression to intrude deep into the land and cause intense rainfall.

## Floods & role disaster management bodies

On September 02, 2014, Jammu and Kashmir region was hit by more than 200mm of rain in less than 24 hours, which was four times the average monthly rainfall. Over the next few days, rains continued on both sides of the valley. On September 05, Jhelum river in Srinagar and Tawi river in Jammu were flowing above the danger mark ( Jhelum at 12 feet above the danger mark in Anantnag district). This is considered the worst floods in that area during the last 50 years. The river dykes were breached to save major cities by the Indian authorities. The water flowed from Jammu to Pakistan and flooded the downstream seasonal nullahs (drains) of Sialkot and Chenab river for which Tawi serves as a major left bank tributary. The nullahs in Pakistan, with their catchment areas in Jammu, became uncontrollable, and the Chenab river turned violent. This coupled with heavy rains in Pakistan ruining districts after districts in the Punjab, and affecting parts of Sindh as well (Suleri 2014).

Both the Indian and Pakistani authorities had to face a lot of criticism by the stakeholders, their inability to predict rains on the one hand, and on the other, showing negligence to cope with the urgency. In Pakistan, the mainstream media incited an argument between the government institutions on the flood situation. Pakistan Meteorological Department (PMD) was somewhat praised by different analysts/experts for the event's forecast well before time. However, other institutions like National Disaster Management Authority (NDMA), Provincial Disaster Management Authority (PDMA), and Federal Flood Commission (FFC) had different stances. Let us examine the situation by analyzing the numbers and figures.

Two days before the onset of the event on September 01, Pakistan Meteorological Department's National Weather Forecasting Commission (NWFC) issued a weather advisory that reads:

*"A well-marked Low Pressure Area (LPA) is located over eastern India (Southeastern Madhya Pradesh) and is likely to move west-northwestward during next 2 days. Under the influence of this weather system, strong monsoon current will start to penetrate in Pakistan (Punjab, Sindh and Kashmir) on Tuesday/Wednesday. This LPA has a potential to produce at times very heavy rainfall over northeast Pakistan (upper Punjab & Kashmir) during Wednesday to Friday."*

However, it took two days for PMD's Flood Forecasting Division (FFD) to translate the information issued by NWFC into a flood alert. On September 03, the FFD issued a warning that reads:

*"According to latest meteorological conditions a Well-Marked Monsoon Low lies over Rajasthan (India), which is likely to affect upper catchments of all the major Rivers except Indus.*

*Under this scenario, Very High to Exceptionally High Flood Level is expected in Chenab rivers & its associated nullahs, whereas High Flood Level is expected in Ravi river along with its associated nullahs.*

*High to Very High Flood Level is also expected in Jhelum & Sutlej rivers."*

PMD went on to claim their better prediction of the event referring to their advisory of September 01 by NWFC. However, NDMA, PDMA and FFC kept on criticizing that the PMD-FFD warning of flood came too late. The lack of coordination shown by various federal and provincial level departments is astounding considering that it was the fifth successive year in which an extreme rainfall occurred during the similar time of the year.

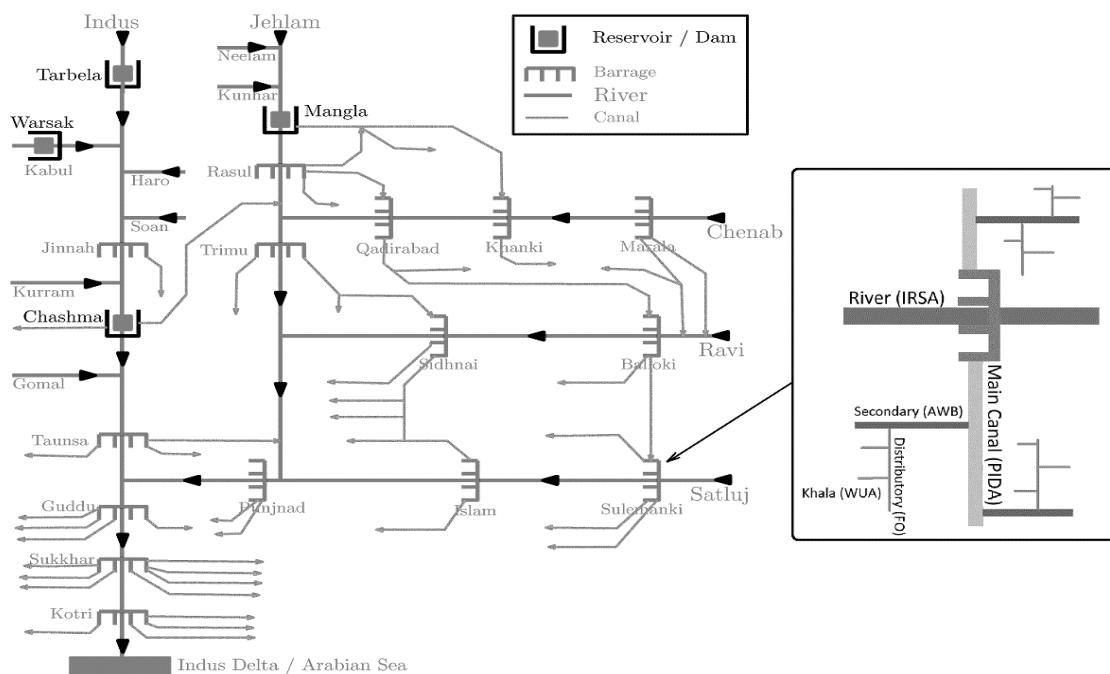
Moreover, during the event the Indus River System Authority (IRSA), responsible for regulating the river flows, opted to fill the Mangla reservoir despite the flood warnings from PMD. Once the reservoir got filled, 283,000 cusecs of water had to be released from Mangla on September 6. This release of water combined with the exceptionally high flood of over 480,000 cusecs at Marala and downstream at Khanki/Qadirabad (over 600,000 cusecs) further aggravated the situation. Had the water been incrementally released between September 4 & 5, a massive surge at Trimmu could have been avoided (Sharaf 2014). This once again shows the lack of coordination between various government departments working on the same issue.

Meanwhile, the accusations of "water aggression" from India were highlighted in a section of local and international Press. The premise behind this criticism was the dual peak in Chenab at Marala inflows on September 5 & 7, as can be seen in Table 1. Especially, the second peak on September 7 is attributed by media to the manipulation of flows from Indian water management authorities. However, Pakistan's Indus water commissioner denied those allegations and said that India was continuously sharing the data with Pakistan at sub-daily time scale. Commenting on the issue, the Harvard University's Prof. Dr John Briscoe also said that India could not have exacerbated the current floods in the Chenab and Jhelum basins in Pakistan. India does not have any large storage reservoirs on either the Jhelum or Chenab, in part due to the restrictions of terrain, and in part due to the restrictions of the Indus Waters Treaty (Briscoe 2014).

**Table1:** River Flows data with all the figures in 1000 x Cusecs. Source WAPDA

|         | Jhelum at Mangla Inflow | Jhelum at Mangla Outflow | Chenab at Marala Inflow |
|---------|-------------------------|--------------------------|-------------------------|
| Sept 02 | 24.6                    | 45.0                     | 33.0                    |
| Sept 03 | 22.7                    | 45.0                     | 42.4                    |
| Sept 04 | 95.0                    | 30.0                     | 136.7                   |
| Sept 05 | 310.2                   | 15.0                     | 484.8                   |
| Sept 06 | 413.2                   | 282.2                    | 323.3                   |
| Sept 07 | 146.8                   | 128.4                    | 562.8                   |
| Sept 08 | 107.5                   | 95.2                     | 127.5                   |

On September 8, Pakistan's Federal Minister for Water and Power told the joint session of parliament that PMD had predicted below-average monsoon rains in Pakistan in 2014 and measures must be taken to improve their forecast (The News 2014). However, South Asian Summer Monsoon (SASM) is known to have a "notoriously difficult to predict nature" (Saeed et al. 2011) even in terms of average rainfall in a season, therefore, prediction of the extreme rainfall such as September 2014 is a far cry. Many scientists across the world were expecting dry summer in the subcontinent this year due to the presence of El Niño, which *The New York Times* lists as one of the biggest challenges for the new Modi government (Singh 2014b). Although PMD should be equipped to predict such an event a few days in advance, forecast of such an event should not be expected before the start of the season.

**Figure 3:** Indus Basin Irrigation System

Source: <http://cyphynets.lums.edu.pk/index.php/HydrosystemsAT>

## Conclusion and Recommendations

It is said that one cannot avoid natural calamities but the implementation of a right set of policies and safety measures can help stop the natural calamities from turning into a deadly disaster. Owing to climate change, as discussed earlier, extreme events resulting in flooding are bound to happen. However, with proper management and appropriate actions, these events can be averted by making a potent strategy on the following lines.

- a. Natural calamities know no boundaries and so are their consequences in the absence of a coordinated disaster management strategy. India and Pakistan, despite their political differences, would have to collaborate on issues of seasonal extremes — manifestation of climate change. We already have a flood control cooperation model (Sapta Kosi High Multipurpose Project) between India and Nepal on Kosi river. Through this project, the Kosi, once known as the sorrow of Bihar, is envisaged to be managed through Sapta Kosi High Multipurpose Project for the development of hydropower, irrigation, flood control and management, and navigation in both the countries. (Suleri 2014). Therefore, a platform or programme should be established for sharing objective information between India and Pakistan on the effects of actions during the times of floods and droughts. This could be achieved easily and transparently, for example, by involving a pair of competent Pakistani and Indian institutions.
- b. This coordination should not remain confined to trans-boundary knowledge sharing, but coordination between the government institutions within Pakistan is also a must, as such coordination will result in improving the regulation of existing reservoirs for flood control. The series of damages caused by heavy rains and floods in the last five years should be a good enough caution for the Pakistani authorities to prepare for such a situation. There should have been a better coordination among IRSAs, NDMA, PDMA, FFC and PMD to ensure better vigilance, water regulation and early warning. With the better information of water rushing downstream, IRSAs could have released water between September 4 & 5 in order to avoid a major surge at Trimmu.
- c. Another very important caveat among the government departments responsible to act under such catastrophes is political pressures. After the 2010 flooding episode, a flood inquiry commission headed by a retired judge of Sindh High Court held some officials responsible for their negligence for the breaches of a couple of Bunds (dykes) in Sindh province. Instead of some action taken against them, those officials were promoted at a later stage after the report was made public (Tunio 2014). Also, the report severely criticized the Federal Flood Commission (FFC) and National Disaster Management Authority (NDMA), the two main bodies that function at federal level, to tackle floods. In the case of recent flooding, these two bodies have already come under severe criticism from various sections of the civil society for their centralized nature and lack of autonomy in terms of decision-making and financial resources disbursement. Therefore, the government bodies (FFC, NDMA, IRSAs, Irrigation Department, etc.) should not be under political influence and work as autonomous bodies to make best decision under the given circumstances.
- d. In the absence of an “effective” local government system, the decision from where to breach the dyke would always be non-consultative and top-down. Such plans are to be prepared and vetted by the local government authorities, but in the absence of local governments, the provincial government should do the flood zoning and discourage any construction in extremely flood prone areas (Suleri 2014). Therefore, strengthening of local governments, which can play an imperative role not only during flood management but also during the relief efforts, is essential.

- e. In highly flood-prone areas, flood control should be given overriding consideration in reservoir regulation policy even at the cost of sacrificing some irrigation or power benefits.
- f. PMD-FFD issued a warning on September 03, however it could have been given much earlier. A study published in a scientific journal indicates the potential prediction of such an event 8 to 10 days prior to its occurrence (Webster et al. 2011). The research unit of PMD should include such findings into their prediction methodology. More research funds should be allocated to forecast such events at the reasonable time lag.
- g. Unplanned development at the riverbanks and dry river bed exacerbate the scale of disaster, which should be avoided at any cost. Dry river bed in dry season offers false sense of security. People need to be sensitized about potential loss to their lives, infrastructure and investment due to floods and must be discouraged from populating the river beds. This would also require a strategy to provide alternative settlements to landless settlers. According to the federal minister for water and power, there were less than 20 waterways from the Himalayas to the Indian Ocean in the south compared to 200 earlier because of encroachments, and this has exacerbated the losses due to flooding.

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**(PB # 44, 2013)**

## Viable Household Water Treatment Methods

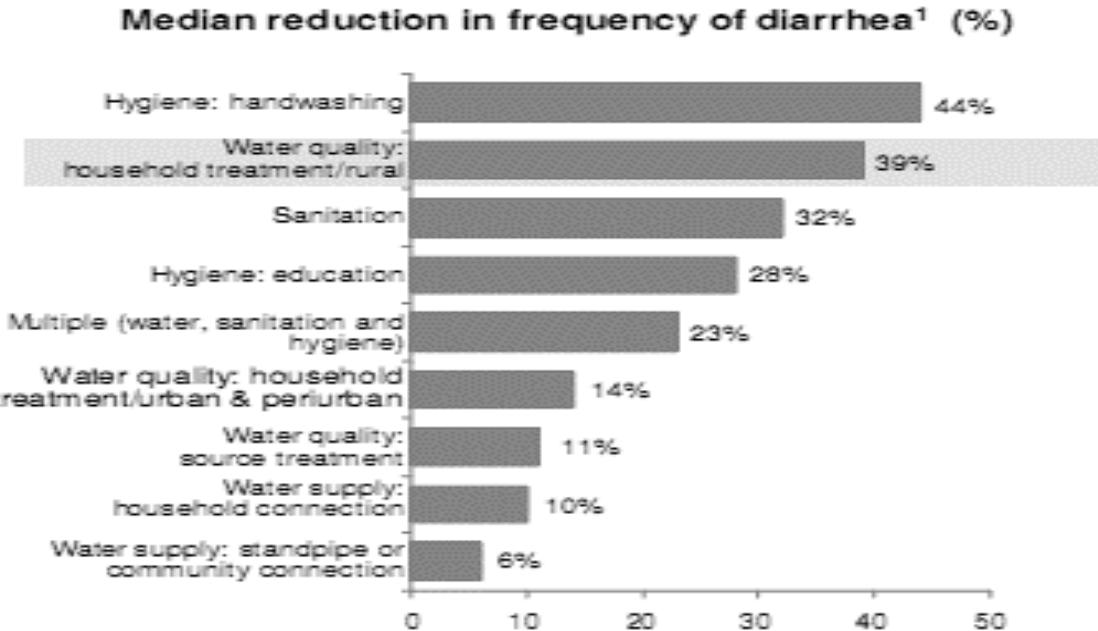
*Mome Saleem*

### **Background:**

Access to safe drinking water is inadequate in Pakistan. Moreover public health authorities have not been able to reduce the frequency of waterborne diseases resulting from microbial disinfection. Empirical evidence shows that people with sustainable access to quality drinking water is barely 25% (Nils, 2005). According to the Pakistan Council of Research and Water Resources (PCRWR), water related diseases form 40% of all reported illnesses. Further it is projected that in Pakistan diarrheal diseases alone cause the death of 200,000 children each year. Following these estimations it is noted that 600 rural and urban poor suffer from different ailments and water allied diseases daily due to bad quality/contaminated water. On the contrary drinking water quality is deteriorating persistently as a result of biological contamination i.e. human waste. On the contrary the problem of water contamination is further exacerbated by chemical pollutants from industries and agricultural inputs. The centralized distribution system for drinking water through pipes and the drainage system (sewerage lines) lie very close to each other hence any damage to either of the two results into water flowing from one into the other consequentially contaminating the water. Open drains in close vicinity of the drinking water pipelines also result in contamination of water and cause many serious water borne diseases. In Pakistan 45% of infant deaths are attributed to diarrhea and 60% to overall infectious waterborne diseases. The Public Health System is over burdened with water borne diseases such as cholera, diarrhea, dysentery and typhoid hence causing considerable economic losses. In this context estimates show that only diarrheal diseases are costing the country Rs. 55 to 84 billion annually.

Malnutrition is one of the basic health problems in developing countries. Non availability of food and lack of food absorption (Consumption of food) are reasons for food insecurity among the masses in the country. Food absorption being the third indicator of food security is directly linked to the quality of drinking water. Water borne diseases on the other hand restrict the nutrients in the food to fully mix with the blood stream to get maximum energy. Diarrhea causes loss of nutrients from the body as does persistent vomiting. Malnourishment in turn makes the human body susceptible to diseases and early death.

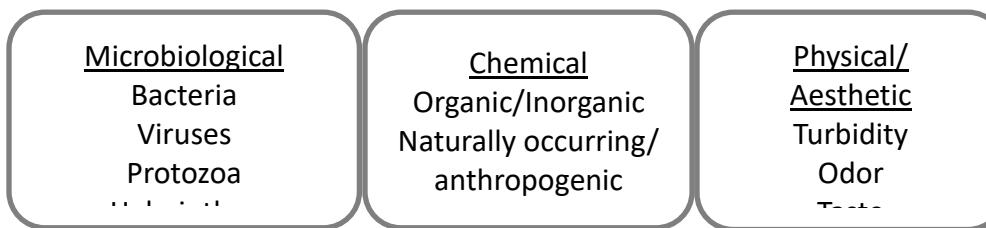
**Table 1:**  
**HWT is the second most effective intervention  
in reducing diarrhea...**



Source "REACH Ending Child Hunger and Undernutrition, Acting at Scale: Intervention Guide, Household Water Treatment, August 2008

### Types of Contamination

There are four broad categories of contamination;



### Importance of Household Water Treatments (HWTs):

Household Water Treatments (HWTs) facilitate the users in providing clean and safe water at the point-of-use as they help remove contaminants during distribution, collection and storage of drinking water. Therefore subsequent to hygiene i.e. washing hands, HWTs are the most effective in reducing diarrhea i.e. 39% and other waterborne diseases. Moreover, HWTs are cost-effective and reduce the incidence of water borne diseases at places with low quality water. A WHO report entitled '*Managing water in the home: accelerating health gains from improved water supply*', endorses the capability, effectiveness and acceptability of low-cost, point-of-use interventions at the household and community level. According to *Mark D. Sobsey Professor, Department of Environmental Sciences and Engineering*

*Director, Environmental Microbiology Laboratory, 2002,* with the use of HWTs, the storage of water becomes free of microbial contamination hence reducing the incidence of lethal disease i.e. diarrhea. Various technologies seek to achieve significant improvements in health and they are acceptable to consumers in terms of cost and change of taste (widespread sustained use).

## Available Household Water Treatment (HWTs) for disinfecting microbial contamination

In Pakistan there is no dearth of empirically tested water treatment methods. The existing low cost technologies that have been recommended as Household Water Treatment (HWTs) methods include Chlorination, Safe Storage, Solar Disinfection, Filtration, Combined Flocculation/ Disinfection systems, Boiling, UV Disinfection and Domestic Small-size Filters.

**Table 2:**

### Each HWT technology has different advantages

But largely similar impact means that users can select best option for their own needs

|                           | Availability and practicality | Technical ease | Microbial efficacy | Affordability | Other advantages/disadvantages   |
|---------------------------|-------------------------------|----------------|--------------------|---------------|--|
| <b>Boiling</b>            |                               |                |                    |               | <ul style="list-style-type: none"> <li>• Depending on fuel availability</li> <li>• Depending on fuel price</li> <li>• Aggravation of indoor air quality</li> <li>• Risk of respiratory infections</li> <li>• Risk of burning</li> <li>• Low environmental sustainability</li> <li>• Low quantities of water disinfected</li> </ul> |
| <b>Solar disinfection</b> |                               |                |                    |               |  |
| <b>Chlorination</b>       |                               |                |                    |               | <ul style="list-style-type: none"> <li>• Dosage has to be made carefully</li> <li>• Affects odor and taste of water</li> </ul>   |
| <b>Ceramic filtration</b> |                               |                |                    |               | <ul style="list-style-type: none"> <li>• Operates under various conditions (temperature, pH, turbidity)</li> <li>• Introduces no chemicals in water that affect taste and odor</li> <li>• Improves water aesthetically</li> </ul>  |

**The decision which HWT system is chosen must not only include "technical" criteria but also local cultural beliefs**

Source: REACH Ending Child Hunger and Undernutrition, Acting at Scale: Intervention Guide, Household Water Treatment, August 2008

Several points have to be kept in mind while proposing options for HWTs to the masses. The appropriate HWT option is directly linked to the existing water and sanitation conditions at a particular place. Water quality, cultural acceptability, implementation feasibility and other local conditions are intrinsic to selection of well suited HWT. Water treatment technologies have a more or less similar impact with a few differences regarding affordability, easy access and use, practicality, technical simplicity and microbial efficacy.

The World Health Organization (WHO) in its 2009 report entitled “*Scaling-up Household Water Treatment among Low-Income Populations*” recognizes solar water disinfection-SODIS as one of the viable household water treatment methods among the six most effective and widely used HWTs. The effectiveness was measured, based on its ability to cleanse water from disinfectants, easy/friendly use especially for females (water bearers of the family), cost effectiveness (low cost) and less energy consuming. Other HWTs mentioned and recognized in the report include SWS (Sodium Hypochlorite), F-D Sachets, Solar Disinfection, Bio-sand Filters, Ceramic Filters, NaDCC Tablets.

The effectiveness of Boiling as compared to other HWTs is very high. However, this paper will focus primarily on Solar Water Disinfection SODIS as a viable cost effective technology to disinfect water from microbial contamination.

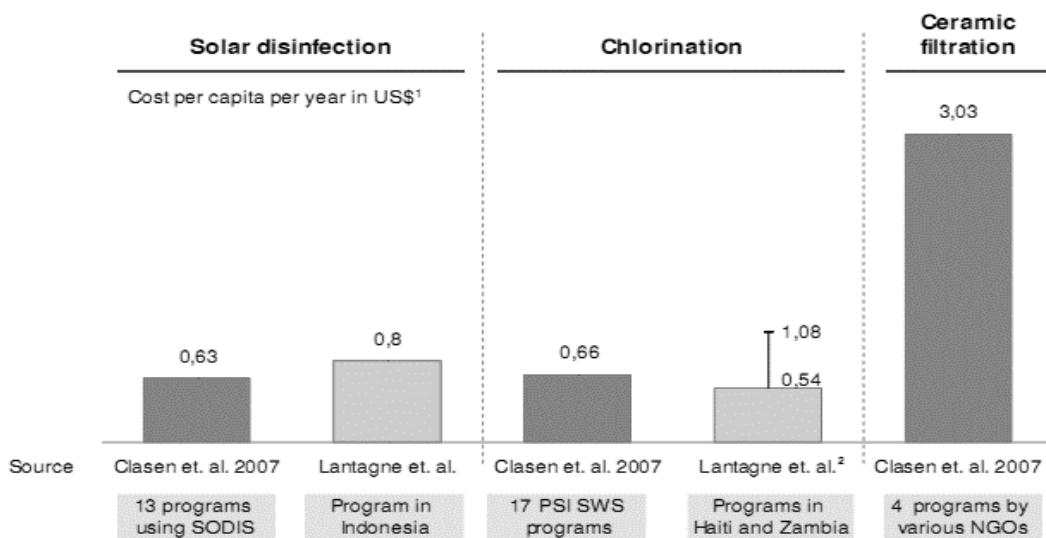
### **Solar Water Disinfection (SODIS):**

One of the viable options that best suits Pakistan’s weather, economic conditions and culture is Solar Disinfection (SODIS). Poor financial means adversely affect the preference of the community to perform water treatments such as Filtration or chlorination in order to improve the quality of drinking water. Further the change of taste resulting from the use of chlorine is also a reason for rejection. Water boiling for drinking purposes is not always practicable considering the global energy deficient and environmental degradation (climate change) due to burning of inefficient fuels. In the case of Pakistan energy resources are mostly absent due to the prevailing energy crises. “*Burning carbon-based fuels indoors in poorly ventilated dwellings can also have a significant impact on lung disease*” (Joyce and Conroy, 1999).

Reed has identified the conditions under which the SODIS method is one of the best available alternatives to untreated drinking water. These are summarized as follows: (Reed, 1997)

1. Rural villages and urban shanty communities with access only to sewage contaminated water.
2. Dispersed rural populations or semi-nomadic communities where chemical treatment is too costly.
3. Refugee camps/settlements at the time of natural disasters or in war zone.
4. A locality facing an outbreak of cholera or bacterial diarrhea where the water source gets contaminated with pathogenic bacteria or any place where no reliable safe water supply exists.

**Table 3:**  
**Solar disinfection and chlorination tend to be less expensive HWT technologies**



Source: REACH Ending Child Hunger and Undernutrition, Acting at Scale: Intervention Guide, Household Water Treatment, August 2008

Solar Disinfection is a water treatment known as SODIS. It requires an initial expense and running cost as low as 1 \$ per annum and is invaluable to the population vulnerable to water borne disease (table-2). Solar water disinfection (SODIS) is performed under direct sunlight/solar heating/UV rays to kill the waterborne pathogens in apparently clear but microbial contaminated water. (*Joyce and Conroy, 1999*) The technique is recognized by the WHO and simply requires Polyethylene Terephthalate (PET) bottles. PET bottles filled with clear water are left in the sunlight on a light reflecting surface (corrugated iron sheets) for 6 hours to deactivate the microorganisms. (*SODIS, 2009*) According to Joyce and Conroy, no study illustrates the degeneration of water quality due to solar exposure even under cloudy conditions in moderate climates.

A range of microbiological studies have tested that the SODIS method is effective against a number of germs including bacteria (typhus, cholera, dysentery, etc.), viruses (polio, causes of hepatitis, diarrhea etc.) and parasites (diarrhea, fever, stomach cramps etc.)

According to EAWAG, a Swiss Institute of Environmental Sciences,

“Bacteria are highly sensitive to UV-A radiation (wavelength 320-400nm) and are quickly killed by sunlight. The viruses are slightly more resistant, but are also killed within the recommended 6 hours. Parasites are less sensitive to sunlight. While giardia cysts are rendered inactive within 6 hours, cryptosporidium cysts must be exposed to direct sunlight for at least 10 hours before they are neutralized. Amoebas do not die until the water temperature has been warmer than 50°C for over an hour.”

(SODIS, 2010) The tests performed in laboratory as well as in the field show the SODIS method to effectively kill pathogens. The following table is a summary of these research results.

**Table 4:**

| <b>Bacteria</b>         |   |  |  |  |
|-------------------------|---|--|--|--|
|                         | <b>Disease</b>                          | <b>Reduction with SODIS method (6h, 40°C)</b>  |  |  |
| Escherichia coli        | Indicator for water quality & enteritis | 99.999%  |  |  |
| Vibrio cholera          | Cholera                                 | 99.999%  |  |  |
| Salmonella species      | Typhus                                  | 99.999%  |  |  |
| Shigella flexneri       | Dysentery                               | 99.999%  |  |  |
| Campylobacter jejuni    | Dysentery                               | 99.999%  |  |  |
| Yersinia enterocolitica | Diarrhea                                | 99.999%  |  |  |
| <b>Virus</b>            |   |  |  |  |
|                         | <b>Disease</b>                          | <b>Reduction with SODIS method (6h, 40°C)</b>  |  |  |
| Rotavirus               | Diarrhea, dysentery                     | 99.9 - 99.99%  |  |  |
| Polio virus             | Polio                                   | 99.9 - 99.99%  |  |  |
| Hepatitis virus         | Hepatitis                               | Reports from users   |  |  |
| <b>Parasites</b>        |   |  |  |  |
|                         | <b>Disease</b>                          | <b>Reduction with SODIS method (6h, 40°C)</b>  |  |  |
| Giardia species         | Giardiasis                              | Cysts rendered inactive  |  |  |
| Cryptosporidium species | Cryptosporidiosis                       | Cysts rendered inactive after > 10h exposure   |  |  |
| Amoeba species          | Amibiasis                               | Not rendered inactive. Water temperature must be above 50 °C for at least 1h to render inactive! |  |  |

Source: Tobler M., Wegelin M., Luzi S., Cavin., Meierhofer R. Solar Water Disinfection SODIS, Eawag: Swiss Federal Institute of Aquatic Science and Technology, web: 13<sup>th</sup> April 2011.  
[http://www.sodis.ch/news/material/flyer\\_poster/poster\\_research\\_e.pdf](http://www.sodis.ch/news/material/flyer_poster/poster_research_e.pdf)

SODIS has been field-tested in Columbia, Thailand and Jordon and has expanded to several countries in Asia, Africa and South America after that, in coordination with local partners. An experimental, scientific study on the impact of the SODIS method has not been undertaken in Pakistan due to financial constraints of private institutes and lack of knowledge of the method among the relevant stakeholders. However, tests from India in this context are closest to Pakistan considering the similarity of environment and region. The scientific experiment conducted in India was entitled ‘Solar disinfection of water for diarrheal prevention in southern India’. The experiment was conducted with 100 children who were dispensed water treated by the SODIS method in polyethylene terephthalate (PET) bottles.

The follow up period was six months hence a visible and drastic reduction in the incidence, duration, and severity of diarrhea among the sampled children receiving solar disinfected water was observed. The results of the study concluded that SODIS of drinking water is cost effective and a suitable method to increase water quality in dwellings with limited resources leading to a drastic decline in diarrhea and resultant child mortality.

### **SODIS Pilot Project in Pakistan:**

SODIS was introduced in 2002 as a low cost, easy and convenient technology for getting pathogen free drinking water at the point-of-use initially by Community Action Program (CAP, local NGO in Faisalabad) in collaboration with, Swiss Federal Institute of Environmental Sciences and Technology (EAWAG). Later the project was taken up by the Department of Water and Sanitation in Developing Countries (SANDEC) and the National Program for FP and PHC, Ministry of Health (MoH) on a limited scale in Chiniot. The Swiss agency for development and cooperation (SDC) and EAWAG undertook demonstration/pilot projects in several countries including Bangladesh and Pakistan to study the acceptance and efficiency of SODIS by involving several local and national organizations. In Pakistan, the project was conducted in Faisalabad and Hyderabad districts where 40 Health facilities in Faisalabad and 10 in Hyderabad were covered in the intervention area which included 150,000 households and 1000 Lady Health Workers. The Lady Health Workers were employed for the project because they have direct access to the community. The aims of the project were to assess diarrhea reduction in SODIS users, 150,000 household aware of the SODIS technique and assessing its acceptability in the community and lastly, developing water quality profile in SODIS intervention areas. The project was scaled up in Faisalabad and Hyderabad in 2008 with the help of Community Action Program (CAP) and so far 600,000 households in district Faisalabad, Jhang and Hyderabad have been reached thus bringing down the incidence of Diarrhea among children above 5 years of age in Faisalabad by 40.1% in 2008 as compared to the statistics of 2007. In Hyderabad, the results showed 24.8% decrease in the diarrhea incidence among children below 5 years of age and 19.4% decrease among the children above the age of 5 years (CAPS, 2009).

### **Policy Recommendations:**

- Public awareness about the three broad categories (microbial, turbidity and arsenic/chemical contaminations) of drinking water contamination and an emphasis on the fact that clear water is not always clean is necessary.
- A variety of empirically tested Household Water Treatment technologies (HWTs) from which recipients can select should be offered. That can help;
  - a) Increase implementation by empowering users
  - b) Better kowtow to available local resources, prevailing circumstances & cultural practices
  - c) In the prevalence of power shortages, viable, cost effective HWTs such as SODIS, Nadi filters etc should be promoted
- The Ministry of environment (MoE) and Ministry of Health (MoH) should work in close liaison to reduce health hazardous resulting from environmental degradation etc. especially regarding water borne diseases to reduce the incidence of diarrhea among children.
- The Public Health Model is the front of line force i.e. LHGs is practicable to spread awareness about viable and cost effective Household Water Treatment (HWTS) such as SODIS.

- The Ministry of Environment in collaboration with the Ministry of Education should allocate funds to encourage research on new HWTs among university students and faculty for having empirically tested viable HWTs.
- Communication mediums should be selected based on the access, costs and potential impact on the beneficiaries including print and electronic media.
- The media should be extensively engaged in bringing change in the hygiene behavior of people especially regarding water contamination through public awareness campaigns/messages.
- The Government should encourage public/private partnerships. Private/public sector advancement will enhance and facilitate public investment to spotlight on lowest income populations. It will also ensure sustainability of the program thus implemented.
- Schools and colleges should also be focused upon for the purpose of dissemination of information by incorporating information in the curriculum.

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(PB # 25, 2011)

## A-3 .Sustainable Industrial Development

### **Environmental Challenges and Constraints to Policy issues for Sustainable Industrial Development in Pakistan**

*Mahmood A. Khwaja*

#### **Introduction**

Like most of other south Asian countries, traditionally, Pakistan's economy has been centered on agriculture. However, in the recent past, manufacturing and services have also emerged as major contributing sectors. The share of manufacturing sector, from 18.3% in 2007 to 30% by 2030, has been envisioned in Vision 2030 (1). With the increasing industrial & agricultural activities, energy demands, urbanization, traffic density and population growth, the degradation of all segments (air, water & land) of environment is alarmingly increasing and remains a grave concern. The unsound management of chemicals, specially in the manufacturing and agricultural sectors, have further compounded the environmental issues. Trade liberalization programs like South Asian Free Trade Area, SAFTA (2), are likely to lead to export growth and thus enhanced production, also resulting in further environmental degradation, due to ineffective environmental legislative control and polluting production/processes adopted by most of the members countries party to the agreement (3).

20% of the registered industries in Pakistan are considered highly polluting (4). Under the Self-monitoring and reporting/SMART program for industry in Pakistan, in category A (most hazardous) there are 23 & 11 industrial sectors for industrial effluents and gaseous emission, respectively (5). Major industries/clusters are in textiles, leather, steel, oil refineries & mills, chemicals, ceramics, pharmaceuticals and food. Most of these are located in Sialkot, Faisalabad, Multan, Hyderabad, Lahore, Peshawar and Rawalpindi cities. More than 10 industrial states are functional and a few new ones are in development (4).

#### **Pressing Environmental Issues**

Industrial waste water discharge from industries in the country has been estimated at 6.25 (in 2010) to a projected value of 12.50 million cubic meters/annum (in 2025). A combined pollution load (BOD,COD & TDS) in waste water discharged to inland water bodies has been estimated at 28.6 (in 2010) to a projected value of 58.6 million tons/annum (6). Degradation of water quality, both for human consumption and irrigation, due to industrial waste water discharge with high pollution load and its resulting impacts on public health and environment are most obvious. In a recent SDPI survey of 38 polluted sites in the country, it was shocking to observe, waste water from the industrial estates and industrial units being discharged into agriculture fields mostly for cash crops but also in a few, for food crops and vegetables, both on large and small scales (7). Water and soil are known and well established pathways for toxic chemicals (metals, non-metals & organics) getting into food chain and ultimately into human bodies, besides, to a lesser extent through air.

Annex 1 describes the list of 37 industries identified and assessed by SDPI team in Punjab (25 in/around 7 cities), Khyber Pukhtunkhawa (5 in/around 3 cities) and Sindh (7 in/around 2 cities). Two polluted

sites were identified and assessed in/around Islamabad (7). Nine priority polluted sites for which immediate remediation actions are required are listed in Annex 2.

Industrial chemicals manufacturing and use, obsolete pesticides stocks and hospital wastes are main potential sources of hazardous wastes in the country. Substantial quantum of hazardous industrial wastes is also released by old/expired ship-breaking yards and non-formal industrial sector/SMEs, including very small scale recycling units run by un-skilled and illiterate labor, which are scattered across the country. To the best of accessible information, district based inventory of these by district/provincial EPAs are yet to be developed.

Air pollutants can be transported across states and national boundaries, therefore pollutants produced by one country, as well have adverse impacts on the environment of neighboring countries. Trans-boundary air pollution, which is also impacting some areas of Pakistan, as evident by increased fog in winter months, is an emerging environmental issue that demands critical attention. Down-wind areas of the countries are likely to be affected more than the up-wind areas (8)

The impact of climate change on chemicals characteristics, hazardous wastes and sites and the resulting impacts on environment and public health have been little realized in Pakistan and other developing countries. The high temperature and low precipitation would enhance volatile chemicals levels in the air and the increased evaporation would enhance non-volatile chemicals levels in water bodies and soil. The low temperature and high precipitation/snow fall would transport back air pollutants to water bodies and land. Enhanced air, water and land pollution due to climate change and in the event of high flood, the spread of hazardous wastes dumps into cities/towns at the polluted sites could play havoc with the environment and health of the population of the climate change affected areas of the country.

## **Constraints to Policy Issues**

Over the years, environmental protection agencies (EPAs) and Ministry of Environment have done well in establishing institutions, developing and to the extent possible, implementing with the involvement and support of stakeholders, environment policies, action plans, strategies and legislation to regulate industrial pollution, for the protection of environment and safeguarding public health. Phasing out lead from gasoline, reduction in sulfur content of diesel & furnace oil, conversion of vehicles to CNG on a massive scale for transport, substantial technical & financial support towards ISO certification by industries, setting up of cleaner production centers and combined treatment plants for specific industrial sectors, setting up of revised national environmental quality standards (NEQS) and launching of self-monitoring and reporting/SMART program for industrial sector across the country, requirement of initial environmental examination (IEE)/environment impact assessment (EIA) for new public & private sectors projects, issuing of environment protection orders (EPOs) to non-compliance industries and establishment of environmental tribunals, have been great initiatives and arrangements. The progress on these initiatives and arrangements has been slow but steady. There have been increase in ISO certified industrial units (from 59 (2005) to 200 (2008), IEE/EIA reports submitted to EPAs (from 37 (2000) to 437 (2008) and environmental investment by the industrial sector of Rs. 7,570 millions (1996) to estimated 25, 520 millions (2011 – 2025). The self-monitoring and reporting/SMART program developed and promoted a culture of monitoring & reporting by industry to provincial EPAs

which was never in existence in the country. Several EPOs have been issued to non-compliance industrial units and cases referred to environmental tribunals (6)

## **Recommendations**

The responsibility of the slow progress referred to above needs to be looked at the performance of the three main stakeholders to the environment issue, the government (MoE/EPAs), industrial sector (FPCCI, provincial & district CCI & industrial associations and representatives of civil society (NGOs & CBOs) and their constraints/limitations in meeting the challenge of a clean environment in the country.

There seems to be a general impression of lack of political will. Environment has not been among priorities of the past or present government. Hardly any political party manifesto prominently speaks of environmental issues in the country. All along the governments preference has been a voluntary or carrot approach and not a strict or stick approach in regulating industrial pollution. Pakistan environmental protection council (PEPC), just meets once a year and some time even after longer period, to monitor and expedite the development/implementation of environmental policies and programs in the country. The implementation of the approved environmental policies, action plan, program and projects on times take so long that the situation over the time changes drastically and these either may not remain feasible or needs to go through another time investing process of updates and revision, as evident by revised NEQSs, Self-monitoring and reporting/SMART 2 program. The same need may arise for the national implementation plan (NIP) for phasing out persistent organic pollutants (POPs). Lack of capacity and capacity building, expertise, technical know-how, technical facilities and human resource are other major constraints, not only for the government to enforce compliance but also for the industry to comply with.

In the early years of environment policy and legislation development, industry through FPCCI, not only supported government initiatives but also played an important role as an active member of National Standards Committee and NEQSs implementation committee. FPCCI not only agreed to payment of pollution charge but also proposed the amount of the base rate/pollution unit for non-compliance with NEQSs. However, the government's response to the FPCCI proposed financial incentives (9) and lack of credit availability/facility for environmental technology or investment has not been up to FPCCI expectations. Even whereas, industry seems willing to invest in pollution control measures, the information regarding key-turn appropriate, well tested and established technology, its cost, effectiveness and durability have not been readily accessible. Establishment of "Provincial Sustainable Development Fund" to support industry with soft loan for the purchase of pollution control equipment and installation of industry specific "Joint Treatment Plants" was agreed upon (9) both by the government and the industry but it could not be well institutionalized due to diversified opinion regarding its operating mechanism and delayed power delegation of the same to the provincial governments.

Civil society can also play a vital role towards industrial pollution control by building awareness, understanding and concern within all stakeholders and sections of society, providing relevant information and help to marginalized and vulnerable groups (women, children, elderly & sick) and by carrying out national and local campaigns and projects that contributes to protecting environment and minimizing public exposure to toxic industrial releases/hazardous waste sites. Civil society needs to be

involved to the extent possible, both at the policy development and implementation phases, as is now made obligatory to the national governments party to Stockholm Convention on POPs, Strategic Approach to International Chemicals Management (SAICM) and the under-negotiations UNEP draft text of the legally binding instrument on mercury phase out (10)

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## **Annex 1:** Identified and Investigated Polluted Sites in Pakistan

### **Punjab**

#### ***Rawalpindi***

1. Nullah Lai, Jawed colony ,Liaqat Bagh Rawalpindi, Punjab

#### ***Sialkot***

1. Rohail Garah, Sialkot, Punjab, Pakistan
2. Sahuwala,Wazir Abad Road, Sialkot
3. Modair Pur, Sialkot
4. Muzaffar Pur, Sialkot
5. Malik-e-Kalan, Sialkot

#### ***Faisalabad***

1. Chenab Drain, Nishat abad, Husain abad.
2. Jaranwala road, Lokey village
3. Sitara Chemical drainage,Faisalabad
4. Main Khuryanwala,Faisalabad
5. Dagranwan road, Faisalabad
6. Muhammadi street, Samandri road, Faisalabad
7. Gokhuwal, near Millat town,Faisalabad

#### ***Lahore***

1. Rohi Nala, Kahna Kacha, Guja Mata Road , Lahore Kasur
2. Bnbla Kamboyan, Depalpur Road, Kasur.
3. Maan Village, ½ Km, Kasur treatment plant, Kasur.
4. Unis Nagar, Kasur.

#### ***Multan***

1. Shah Town, Sameejabad, Hasanabad, Multan.
2. Pir Shah Wala, Basti Darkhaana,
3. Walwat village Near Sher Shah, Multan,
4. Basti Khair Shah, Nawabpur Road, Puraana Bhatta , Multan
5. Rehmat Colony, Near Baba Qamardin , Multan.

#### ***Khanewal***

1. Moosa Wirk, Mian Channu Distt. Khanewal

#### ***Sahiwal***

1. Raj pura, Near Lower Bari Doab Canal, Sahiwal.
2. Tannery Waste site, Harrapa,Dist. Sahiwal.

## **KHYBER PAKHTUN KHWA (KPK)**

### ***Nowshera***

1. Demolished DDT Factory Site, Amangarh, Nowshera

### ***Peshawar***

1. Depleted Pesticides Dump, Jamrud Road, Peshawar
2. Industrial Drain at the back of KPK Agriculture University, Peshawar

### ***Abbotabad***

1. Hazardous Waste Dumping Site Salhad, Abbottabad, KPK
2. Banda Ali Khan stream, near Ayub Medical Complex, Abbottabad.

## **SINDH**

### ***Karachi***

1. Kimiyari Coal Dumping Site.
2. Mehran town, Sharif abad, Near Oil Refinery, Chamra Chorangi.
3. Korangi Creek, Beside IBM College.
4. Sher Payo Colony.

### ***Hyderabad***

1. Haji Daryan Khan Panwar.
2. Wakeel, Near Haji Daryan Khan Panwar.
3. Tando Ghulam Haider Tehleko, Near Sugar Mills, District Tando Muhammad Khan.

## **ISLAMABAD**

1. Drain Humak Industrial Triangle (Kahuta Triangle)
2. Khanna Dak, Lehtrar,

## **Annex 2:** Priority Polluted Sites for Remediation Action

### **KPK:**

1. Depleted Pesticides Dump, Jamrud Rd.
2. Hazardous Waste Dumping Site Salhad.

### **Sindh:**

1. Kimiyari Coal Dumping Site, Karachi.
2. Haji Daryan Khan Panwar Hyderabad

### **Punjab:**

1. Younis Nagar, Kasur
2. Moosa Wirk, Mian Channu Distt. Khanewal
3. Shah Town, Sameejabad, Multan.
4. Pir Shah Wala, Basti Darkhaana, Multan
5. Chenab Drain, Nishat abad, Faisalabad
6. Rohail Garah, Sialkot

# A Legally Binding Agreement (LBA) - Growing Need for Air Pollution Reduction and Control in South Asia

*Mahmood A. Khwaja and Faisal Haq Shaheen*

## Introduction

With increasing urbanization and economic growth, air pollution is becoming an urgent concern in South Asian countries. The study upon which this paper is based has been conducted at SDPI, to look into and discuss the socioeconomic situation of South Asia, the existing situation of air pollution in the countries/region and the responses, if any, of national governments to air pollution. Among others, the paper makes recommendations, including a legally binding agreement for South Asia (LBA-SA), for strengthening the framework for air pollution reduction at regional and national levels in South Asia.

South Asian countries, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka, have carried out a number of projects/ activities for the creation of a meaningful framework to limit air pollution. A greater participation of member states is required and a regional framework is needed for better understanding and cooperation among the member states, on issues relating to air pollution. An effective implementation of a regional framework with shared responsibilities towards air pollution reduction measures across the member countries is vital for sustained economical growth, protection of environment and to safeguard public health, especially of future generations, in the region.

South Asia with a combined population of roughly 1.6 billion people, is a low-income region and home to half of the world's poor. Traditionally, the South Asian economies are centered on agriculture, however recently manufacturing and services have become major contributing sectors as well. The strong recovery in India and the growth in the economies of Bangladesh and Sri Lanka are primary reasons for this economic rebound (World Bank, 2010a). The state of education and health in the region leave much to be desired. With the worst score on the Global Hunger Index (GHI), South Asia along with Sub-Saharan Africa suffers from the highest level of hunger (International Food Policy Research Institute, 2010).

Environmental degradation remains a challenge in almost all the countries of South Asia. With an increase in industrial activity, the exponential growth in number of vehicles and population, the contribution of each country to the south Asia regional air pollution will increase over time (World Bank, 2010). Emissions levels of Sulfur dioxides, nitrogen oxides and suspended particulate matter have been rising steadily over past few decades. Owing to economic growth and increasing energy demand, greenhouse gas emissions have risen in South Asia by about 3.3% annually since 1990. Coal is the main source of energy in the region, followed by natural gas (World Bank, 2010c).

Air pollutants can be transported across state and national boundaries covering a distance from about 100s to a few 1000s of kilo-meters, therefore pollutants produced by one country, as well can have adverse impacts on the environment of neighboring countries. Down-wind areas of the countries are likely to be affected more than the up-wind areas. Trans-boundary air pollution is an issue that demands critical attention, especially for landlocked countries. The persistent Atmospheric Brown Haze over Bay of Bengal has been traced to emissions from South Asian and South East Asian countries. As part of the Indian Ocean Experiment (INDOEX), scientists discovered the Atmospheric Brown Haze (also

referred as Cloud) that pervades most of South Asia. This haze consists of inorganic & organic chemicals, black carbon, fly ash and other pollutants. Biomass burning, rapid industrialization, urbanization and lack of alternative environment-friendly energy sources are primarily responsible for this haze over South Asia. Other include industrial air pollution, indoor air pollution (biomass burning), increasing traffic trends, thermal power plants and incineration of solid waste (UNEP 2008 B)

Some key air pollutants of priority concerns to countries in south Asia are suspended particulate matter (SPM), sulphur oxides (SOx) and nitrogen oxides (Nox). The suspended particulate matter (SPM) is of great concern in south Asia. In most of the countries, the levels of SPM exceed the national standards and cause severe health impacts and environmental damage. WHO guideline levels of suspended particulate matter (SPM) exceed in the air of most of mega cities of South Asia (Asian Development Bank, 2001)

The level and nature of air pollution in any country has implications for the economy of that country as well as neighboring countries, owing to the trans-boundary nature of air pollution. A regional level framework for combating air pollution is important and its harmful effects can be assessed after reviewing the socioeconomic situation in South Asia and establishing the impact of air pollution on the various socioeconomic parameters. Once governments and society realize the potential damages caused by air pollution, sufficient support can be garnered at the national and regional levels to combat this environmental hazard. High levels of air pollution have a serious impact on the environmental quality that imposes economic costs associated with reduced quality of life, lost productivity and health care costs. According to the World Health Organization (WHO), air pollution is responsible for an increase in outpatient's visits owing to respiratory and cardiovascular diseases and approximately 3 million people die each year due to air pollution in the world (World Bank, 2003b).

In any preventive pollution control strategy, “Reduction at Source” is considered to be the very first and foremost option. The same has been considered for air pollution reduction in South Asia, to minimize the resulting economical, environmental and health impacts in the region. South Asian countries have developed environmental legal and regulatory frameworks in their respective countries. However, the execution of the national environmental action plan has been limited, due to lack of financial resources and technical know-how. A number of international Conventions and Treaties have also been signed by most of the south Asian states and every member state has constituted its own designated organizational authority for the implementation of international conventions and treaties. The major hurdles in the implementation of these treaties and conventions are common to all states, which include lack of financial and technical support, lack of coordination, inefficient legal and regulatory framework, no access to relevant databases and lack of awareness among the local populations.

As also emphasized earlier, air pollution has a serious impact on the socioeconomic status of any country. It can increase poverty, widen the classes and gender-divide and harm the agriculture sectors. Local impacts due to air pollution would be only further aggravated by the trans-boundary air pollution. Therefore, it is imperative to look for and identify a regional level framework not only for reducing the trans-boundary impacts of air pollution in South Asia but also to support enforcement for adopting control measures at the country level towards the improvement of ambient air quality in general. Undoubtedly, any effort to control air pollution levels in South Asia will be daunting, in light of the

continued policy push for unabated economic growth by the region's governments. Regional cooperation has often been called for across the region in economic terms, but the call has yet to be answered institutionally in terms of social and environmental concerns. Only a regional institutional capacity and forum for engagement will be able to facilitate knowledge dissemination in a way that it is non competitive and effective.

## **Recommended Policy Actions at the Regional Levels**

Given the progress that has been made at the national levels in terms of institutional building and development in south Asia, a number of initiatives are recommended which should initially create forums for more regular technology sharing and dialogue. Such forums would also help to:

- establish consensus sharing between national and provincial bodies on common issues of concern
- related to trans-boundary pollution.
- ensure that dissemination of work to other regional bodies takes place on a regular basis. Pilot projects should be set up and their progress monitored regularly, periodically reported on and disseminated to other groups and interested agencies region wide.
- look at ways of defining the precautionary principle for usage that encourages solutions and alternative
- development while not constraining economic growth and development imperatives.
- establish working groups on specific sectors which involve public and private sector stakeholders and actors in priority areas such as automobile and industrial emissions & standards;
- recommend, in the light of national emission inventories and metrological data, the minimum standards for vehicles road worthiness, fuel quality and emissions from brick-kilns.
- recommend national emission reduction targets to comply with agreed regional targets and to consider replication of "Self-monitoring and Reporting/SMART program for industrial sector" similar to one in Pakistan for other member states (Pak-EPA/MoE, 2000; Khwaja, 2001)

## **South Asian Association for Regional Cooperation (SAARC)**

SAARC could be a possible forum, to provide support for establishing forums for the above and to look into ways & means of generating possible support for air pollution reduction in the region. While SAARC has been functional for about 25 years now, the impact of this framework, especially with regard to air pollution is yet to be seen. SAARC needs to be strengthened with a monitoring and evaluation mechanism to observe whether member countries are making progress on reducing air pollution and its associated impacts in the South Asia region. Moreover, there needs to be a mechanism of binding commitments such that member countries take the promises of reducing air pollution seriously and if it could be mandatory for them to make some progress in this regard. Through technical assistance protocols, countries would be able to learn from each other, thereby making the goal of minimizing air pollution and its trans-boundary effects not only possible but also achievable. It is also strongly recommended that SAARC summits should be more frequent so that the momentum of the agenda of air pollution is not lost.

## **Legally Binding Agreement (LBA) for Developing and Strengthening the Framework of Air Pollution Reduction in South Asia**

Air pollution leads to atmospheric transport of pollutants, affecting countries of the region in more than one way, thus making air pollution a regional issue. Being a regional problem, no one country, especially in a poor and diversified region like South Asia, can tackle it on its own. National actions in

this regard seem to be insufficient. Lack of financial support, skilled and trained manpower, technology and technical know-how, further limit one single country's capability to handle this issue. As air pollution impacts the region, to combat it, a regional focus and approach is essential in which all member countries of the region have a role to play, with equal but diversified responsibilities.

The Acid Deposition Monitoring Network in East Asia and the Malé Declaration on Control and Prevention of Air Pollution and its likely Trans boundary Effects for South Asia are current reflections of regional concerns and efforts to control emissions at a regional level. ASEAN has also established the ASEAN Agreement on Trans boundary Haze Pollution to prevent and monitor such pollution in the region. Convention on Long Range Trans-boundary Air pollution (LRTAP) is another regional agreement for air pollution reduction. Besides possible support from SAARC forum, another option for consideration by south Asian countries could be preparing and in-acting a legally binding agreement, similar to ASEAN and LRTAP, to manage air pollution and its reduction in south Asian region. The objective of such a legally binding agreement for South Asia (LBA-SA) should be to protect human health and ecosystem by setting up time framed air pollution reduction targets (starting with priority pollutants SPM, SOx and NOx).

Some salient features of the envisaged LBA – SA could be: (a) the recognition of the problem of increasing air pollution in South Asia and its resulting environmental, economical and health impacts on the population of the region (b) reduction of air pollution through the exchanges of information, consultation, research, monitoring, policy and assessments. (c) the recognition that obligations regarding control and reduction of emissions of agreed pollutants, should allow for flexible and differentiated national programs, to be implemented by individual Parties to the instruments with a view to achieving the most cost-effective and environmentally benign improvements of air quality in the whole region.

For the implementation and further development of the cooperative program for monitoring and evaluation of the long-range transmission of air pollutants, whenever possible a comparable or standardized procedures for monitoring is strongly recommended, whenever possible which should be based on the framework of both national and international programs. Mechanisms would also need to be established for capacity building, finance, intra-state available technology transfer, knowledge and information exchange (about emissions, exposures, monitored data, socio-economic impacts) and reporting and evaluation of LBA-SA effectiveness. The LBA-SA should acknowledge and ensure an active role of civil society in the development and implementation of the LBA-SA of national and finally, among others, the LBA-SA should establish effective and enforceable treaty compliance provisions. The specific elements of the LBA may be further built up on the above to address/accommodate "*Policy Actions at the National and Regional Levels.*"

Importantly, this instrument would encourage governments to pass legislation in their respective countries, to set up or revise and improve minimum emission standards for industrial, vehicular and brick kiln emission, use of filters to clean emissions and improved fuel quality, banning the use of unclean or 'dirty' fuels for domestic or industrial consumption.

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(PB # 27, 2011)

# Present Status of Implementation of Self-Monitoring and Reporting Program/SMART for Industry\*

*Mahmood A. Khwaja*

## **Executive Summary**

In this paper background information is provided with regard to decisions made by the Environment Standards Committee (ESC) for establishing a Self-Monitoring and Reporting system for industry in the country. The ESC was constituted by the Pakistan Environmental Protection Council (PEPC) in 1996, to rationalize the National Environmental Quality Standards (NEQS) and to work out detailed modalities for their implementation. PEPC designated Sustainable Development Policy Institute (SDPI) as the secretariat of ESC. Members of the ESC included representatives from government, industry and public interest organizations.

The self-monitoring and reporting concept, which is entirely based on the honor system, emerged from a dialogue between the government and industrial representatives. Pakistan Environmental Protection Act 1997 provides the legal basis for it. Industry has been classified into three categories i.e. A, B and C, each corresponding to a specified reporting frequency. Based on "Self-Monitoring and Reporting Rules, 1998," a software, Self-Monitoring and Reporting Tool (SMART) has been developed. This software is planned to be used by the industrial units in the country to generate reports of their emissions levels (environmental data) and send the same electronically through e-mails/floppy disks to Environmental Protection Agencies (EPAs) for compilation and analyses. Section 3 and 4 of this paper briefly describe the SMART modules and the pilot-phase program and the proceedings of the national workshop held in Islamabad on August 02, 2001, at the end of the SMART pilot-phase.

## **Background**

Development of an environmental monitoring program for industry was a salient feature and a priority action area of SDPI project on Technology Transfer for Sustainable Industrial Development (TTSID). Without a proper and systematic environmental monitoring program in place, no environmental policy, be it national environmental quality standards (NEQS) or adaptation of cleaner technologies for pollution control, is likely to be successful. The principle objectives for the environmental monitoring program under TTSID were as follows:

- (i) to provide support to government/federal EPA for developing a monitoring framework and requirements for the industry and the establishment of standard monitoring procedures and reporting formats.
- (ii) to provide assistance to industry through information dissemination and training in environmental monitoring, emission and effluent measurements from selected industrial units/industrial estates and
- (iii) support to create and maintain a database on pollution loads from individual industries throughout the country.

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\* Prepared on the request of Pakistan NEQS implementation committee

## Self-Monitoring and Reporting Program for Industry

The self-monitoring and reporting (SMAR) concept, which is entirely based on the honor system, emerged from a dialogue between the government and industrial representatives.

### Box 1

Rules and Regulations for Implementation of Self-Monitoring and Reporting Program for Industry.

- National Environmental Quality Standards (Self Monitoring and Reporting by Industries) Rules, 1998.
- Environmental Samples Rules 1999.
- ◆ Environmental Laboratories Certification Regulations, 2000.

The rules and regulations for implementation are cited in (Box 1) above. It is expected that the entrepreneurs, who are well aware of their social and legal responsibilities, will adequately respond to this new system, which does not involve the role of environment inspectors. The SMAR system takes into account the interests and resources of both the EPAs and industry. On the one hand, it saves considerable expenses, time and efforts of EPAs, and, on the other hand, it involves industry in the evaluation of environmental performance and the implementation of pollution control measures if called for.

PEPA-97 section 6(1)(i) (Annex A) provides the legal basis for environmental monitoring. Under SMAR system, industries in Pakistan are made responsible for systematically monitoring their environmental performance (industrial emissions) and reporting of the data to EPAs periodically. Guidelines for self-monitoring and reporting were developed through a consultative process among stakeholders by holding round-table-meetings of representatives from the ministry of environment/EPAs, Federation of Pakistan Chambers of Commerce and Industry (FPCCI) and non-governmental organizations (NGOs).

Industry has been classified into three categories i.e. A, B, and C each corresponding to a specified reporting frequency (Annex B). For liquid effluents, a reporting frequency of monthly for category A, quarterly for category B and biannually for category C is recommended. For gaseous emissions, the recommended reporting frequency for category A and category B are monthly and quarterly, respectively. For most industries, only 4–6 priority parameters have been proposed under normal plant operating conditions. Initially, industries may use their own facilities or engage any technically sound laboratory for testing samples of industrial emissions, but, eventually, Pak-EPA designated laboratories are to be used for this purpose. Laboratories will be certified under the “Environmental Laboratories Certification Regulations, 2000”. These regulations as well as “Environment Samples Rules 1999”, which provide details of sampling and analyses requirements and procedures, have already been notified.

### ***Environment Standard Committee (ESC) Final Report On Self-Monitoring and Reporting by Industry***

Pakistan EPA and SDPI jointly developed guidelines for self-monitoring and reporting by industry, which were presented and discussed during the ESC meeting of September 23, 1997. These guidelines were circulated to provincial EPAs, FPCCI and OICCI for comments, discussed during two roundtable

meeting held in Peshawar and Lahore in December 1997 and debated in the Expert Advisory Committee (EAC) on December 9, 1997 and February 7, 1998. The document was revised in the light of these comments and discussions and again presented to the ESC on March 10, 1998. The committee agreed during this meeting that Pak EPA should implement these guidelines from November 1, 1998.

## **Self-Monitoring and Reporting Tool (SMART)**

In view of limited capacity, both in trained personnel and equipment, for enforcing compliance of NEQS in the country, Pak-EPA, with technical support from Sustainable Development Policy Institute (SDPI) and local consultants, developed a self-monitoring and reporting tool (SMART). The software, SMART, has been developed, based on "Self-Monitoring and Reporting Rules, 1998" already notified by the government. It is planned to be used by the industrial units in the country to generate reports of their emissions levels (environmental data) and send the same electronically through e-mails/floppy disks to EPAs for compilation and analyses.

SMART consists of three modules, one each for industry, Provincial EPAs and Federal EPA. The Federal EPA, while registering an industrial unit, would assign a distinctive and unalterable user number to each reporting industrial unit in the country via the industry module. SMART software has an in-built provision of data confidentiality to safeguard genuine business interests of the reporting industrial units. The software is simple and user friendly and a computer capable of operating Windows 98 and having 4Mb free space can run it. A user can install SMART in a computer and enter the data with the help of "SMART – User Instructions."

## **Pilot Phase Program for SMART Testing and Demonstration**

A pilot-phase program for SMART demonstration and testing has been successfully completed\*. The pilot-phase was jointly organized and conducted by Pak-EPA and SDPI in collaboration with FPCCI. The SMART pilot-phase program was planned, executed and supervised by a "SMART Project Team," chaired by the Director General, Pak-EPA. Other members of the team were from SDPI, Hagler Bailly Pakistan (HB-P) and Federal and Provincial EPAs. Details of the SMART pilot-phase tasks are given in Appendix C. The objective was to test and, if required, improve SMART software before countrywide use. Through FPCCI, fifty industries volunteered to participate in the pilot-phase. These industries were provided with an "information package" consisting of self-monitoring and reporting guidelines, standard sampling procedures and analytical methods and the "SMART User Instructions Manual" and SMART floppy disks. The pilot-phase was underway for six months during which Pak-EPA received environmental data from the industries either through e-mails or on a floppy disk via postal service.

## **National Workshop on Self-Monitoring and Reporting Tool (SMART)**

After the completion of the six months pilot demonstration phase of self-monitoring and reporting tool (SMART) Pak-EPA and (SDPI) decided to evaluate the progress made during the pilot-phase and to review and discuss with industry further improvement in the SMART software and possible future measures for the self monitoring and reporting program.

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\* January – June, 2000

A one-day workshop was organized on August 2, 2001 at Islamabad by Pak-EPA and SDPI. Over sixty participants from industry (36 participants), Federal and Provincial EPAs, FPCCI, research laboratories, industrial association, non-governmental organizations and other institutions attended the workshop. The various aspects of self-monitoring and reporting program and SMART were presented and deliberated upon in two technical sessions. Representatives from a number of industries and other institutions actively participated in the discussion.

The workshop was inaugurated by the Federal Minister for Environment, LG & RD. The closing session was chaired by Secretary, Environment Protection Department, Punjab who also gave away certificates and shields to the representatives of the industries actively participating in the self-monitoring and reporting/SMART program.

In the light of the experience gained through the pilot-phase and feedback from industry, the “SMART Industry Module” has been further developed and made more user friendly and is now ready for country-wide use as a tool for expediting and effectively implementing the self-monitoring and reporting program for industry.

The checking and testing of “SMART Provincial EPA Modules” is in progress at SDPI, and soon after its completion, these would be installed in the offices of provincial EPAs, at Peshawar, Quetta, Lahore and Karachi, to receive monitoring data of effluents/gaseous emissions from industrial units in the respective provinces.

In the minutes of the Ninth Meeting of Pakistan Environmental Protection Council (PEPC) held at Islamabad on February 03, 2001, agenda item No.4, “Status of Implementation of National Environmental Quality Standards (NEQS) and Constraints,” the following decisions were taken:

1. The existing pilot phase of Self-Monitoring and Reporting (SMART) covering 50 industries will be expanded to include 200 industries beginning 1st March 2001.
2. The number of participating industries in this program will be increased to 400 in the second year and 700 in the third year.

## **Recommendations**

- Installation of SMART Provincial modules for Provincial EPA’s at Quetta, Peshawar, Karachi and Lahore
- Improvement in SMART software to make it more user friendly.
- Financial resources may be explored to cover expenses required for above and SMART program expansion to 400 units in the country

## **Annex-A**

Pakistan Environmental Protection Act 1997 (Pepa – 1997)

Section II Prohibition of certain discharges or emissions – (1) Subject to the provisions of this ACT and the rules and regulations made thereunder no person shall discharge or omit or allow the discharge or omission of any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the National Environmental Quality Standards or, where applicable, the standards established under sub-clause (I) of clauses (g) of sub-section

- (1) of section 6.
- (2) The Federal Government levy a pollution charge on any person who contravenes or fails to comply with the provisions of sub-section (1), to be calculated at such rate and collected in accordance with such procedure as may be prescribed.
- (3) Any person who pays the pollution charge levied under sub-section (2) shall not be charged with an offence with respect to that contravention or failure.
- (4) The provisions of sub-section (3) shall not apply to projects, which commenced industrial activity on or after the thirtieth day of June, 1994.

## **Annex-B**

### 1. Categories of Industries (for Liquid Effluents)

Category A (Monthly) Category B (Quarterly) Category C (Quarterly)

- |   |   |   |
|---|---|---|
| <input type="checkbox"/> <b>Chlor-Alkali<br/>(Mercury Cell)</b>   | <input type="checkbox"/> <b>Dairy Industry</b>                | <input type="checkbox"/> <b>Pharmaceutical</b>            |
| <input type="checkbox"/> Chlor-Alkali<br>(Diaphragm<br>Cell)      | <input type="checkbox"/> Fruit and<br>Vegetable<br>Processing | <input type="checkbox"/> Marble                           |
| <input type="checkbox"/> Metal Finishing<br>and<br>Electroplating | <input type="checkbox"/> Glass<br>Manufacturing               | <input type="checkbox"/> Cement                           |
| <input type="checkbox"/> Nitrogenous<br>Fertilizer                | <input type="checkbox"/> Sugar                                | <input type="checkbox"/> Any other as<br>notified by EPAs |
| <input type="checkbox"/> Phosphate<br>Fertilizer                  | <input type="checkbox"/> Detergent                            |   |
| <input type="checkbox"/> Pulp and Paper                           | <input type="checkbox"/> Photographic                         |   |
| <input type="checkbox"/> Pesticides<br>Formulation                | <input type="checkbox"/> Glue<br>Manufacture                  |   |
| <input type="checkbox"/> Petroleum Refining                       | <input type="checkbox"/> Oil and Gas<br>Exploration           |   |

- Steel Industry       Thermal power Plants (Gas Fired)
- Synthetic fiber       Vegetable Oil  
and Ghee Mills
- Tanning and Leather       Woollen Mills  
Finishing
- Textile       Plastic Material  
Processing and Products
- Pigments and Dyes       Wood and Cork Products
- Thermal power  
Plants (oil fired  
and coal fired)
- Rubber  
Products
- Paints,  
Varnishes &  
Lacquers
- Pesticides
- Printing
- Industrial  
Chemicals
- Oil and Gas  
Production
- Petrochemicals

## 2. Categories of Industries (for Gaseous Emissions)

Category A (Monthly)      Category B (Quarterly)

- |  |   |
|--|---|
| <input type="checkbox"/> Cement                  | <input type="checkbox"/> Sugar  |
| <input type="checkbox"/> Glass Manufacturing     | <input type="checkbox"/> Textile  |
| <input type="checkbox"/> Iron and Steel          | <input type="checkbox"/> Chloralkali Plants                               |
| <input type="checkbox"/> Nitrogenous Fertilizers | <input type="checkbox"/> Dairy Industry                                   |
| <input type="checkbox"/> Phosphate Fertilizers   | <input type="checkbox"/> Fruits and Vegetables                            |
| <input type="checkbox"/> Oil and Gas Production  | <input type="checkbox"/> Metal Finishing and Electroplating               |
| <input type="checkbox"/> Petroleum Refining      | <input type="checkbox"/> Boilers, Ovens, Furnaces and Kilns (Gas - Fired) |
| <input type="checkbox"/> Pulp and Paper          |   |
| <input type="checkbox"/> Thermal Power Plants    |   |

**(Coal and Oil based)**

- Boilers, Ovens, Furnaces and Kilns (Coal and Oil fired)**
- Brick kilns (Firewood and Bagasse)**

**Annex-C****SMART Pilot Phase Tasks**

| Phase 1               |  |   |
|-----------------------|--|---|
| <b>Preparation</b>    | Set up Pilot Steering Committee and Project Team               | Include project personnel and EPA staff; designate assignments; determine training needs                      |
|                       | Select participating plants (50 +10)                           | Representational sampling: size, geographical, NEQS category, industrial type                                 |
|                       | Registration and software issue                                | Complete pre-registration forms, enter data, print instructions and information package and prepare software. |
|                       | Training of project personnel                                  | Internal training of project and EPA staff; determine training support for industry                           |
|                       | Define sampling protocols                                      | Ensure readiness of industry for sampling and testing; list accredited third-party labs; other support needs  |
|                       | Define policy issues   | Incentives; data confidentiality; non-compliance handling   |
| <b>Implementation</b> | Mail software and information package, with pilot cover letter | Package; mail; follow up; re-issue and needed   |
|                       | Provide technical support                                      | For sampling, testing, software, and reporting issues   |
|                       | Collect reported data  | Data receipt and compilation; review; storage and management; issue notices                                   |
|                       | Analyze report results and trends                              | Use SMART analysis software   |

|                            |   |   |
|----------------------------|---|---|
|                            | Documentation   | Track issues, responses, necessary modifications  |
|                            | Issue completion notice                                       | Letters of thanks and further actions required  |
| <b>Post-implementation</b> | Review data and performance issues                            | Prepare final pilot data reports and evaluate criteria, procedures, and responsiveness; document changes required |
|                            | Undertake modifications                                       | Complete cycle of modifications and testing of revised software, policies and procedures                          |
|                            | Plan nationwide implementation                                | Determine requirements  |
|                            | End-of-pilot meeting  | Industry participation; award of certificates   |
| <b>Phase II</b>            |   |   |
|                            | Repeat phase I steps with modified programme in all provinces | Build implementation capacity; involve provincial EPAs in all aspects   |
|                            | Determine long-term implementation requirements               | Schedule industry-wide implementation, enforcement, and incentives  |

(PB # 13, 2001)

# Present Status of Pollution Charge and Finalization of Rules\*

*Mahmood A. Khwaja*

## Executive Summary

In this paper background, information is provided with regard to decisions made by the Environment Standards Committee (ESC) for establishing a “Pollution Charge” (PC) system for industrial units not complying with National Environmental Quality Standards (NEQS) in the country. The ESC was constituted by the Pakistan Environmental Protection Council (PEPC) in 1996, to rationalize NEQS and to work out detailed modalities for their implementation. PEPC designated Sustainable Development Policy Institute (SDPI) as the secretariat of ESC. Members of the ESC included representatives from government, industry and public interest organizations.

The concept of pollution charge, based on the “Polluter Pays Principal” is a key element of the implementation of the NEQS program in the country. The modalities for the determination and implementation of pollution charge were evolved through extensive discussions in several consultative roundtable meetings among representatives of industry, government, environmental non-governmental organizations, academic researchers and the private industrial sector. Pakistan Environmental Protection Act 1997 (PEPA-97) provides the legal basis for it. Pollution charges are to be applied, uniformly across all industry, initially on ten effluent and four gaseous emission parameters. The base rate per pollution unit for calculating the pollution charge has been agreed to be Rs.50/- during the first and second year, and thereafter, the base rate will be Rs. 75/-. The amount would be collected at a progressively increasing rate of 10%, 20%, 40%, 60%, and 80% of the base rate respectively, on a period of five years.

## Background

Pakistan Environmental Protection Act (PEPA-97) section 11, sub-section (2) provides the legal basis for the application of the pollution charge. (Annex-A) It states:

The Federal Government will levy a pollution charge on any person who contravenes or fails to comply with the provisions of PEPA-97 section 11, sub-section (1), to be calculated at such rate and collected in accordance with such procedures as may be prescribed.

The concept of pollution charge, based on the “polluter pays principle,” is a key element of the implementation of NEQS program in the country. This was one of the most difficult areas of work for the Environmental Standards Committee (ESC), in view of the different proposals submitted by the Sustainable Development Policy Institute (SDPI), Pak-EPA and FPCCI, using different criteria of linking it with the cost of (a) effluent clean up (b) environmental damage caused and (c) pollution load, depending on the size and type of industry.

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\* Prepared on the request of Pakistan NEQS implementation committee

## **Recommendations of Environmental Standards Committee (ESC)**

The modalities for the determination and implementation of pollution charge were evolved through extensive discussions, in several consultative roundtable meetings, among representatives of industry, businesses, government, environmental NGOs, academic researchers and the private industrial sector. The consensus was finally reached on the proposal based on pollution load measured in “pollution unit” in excess of NEQS, as determined by an agreed formulae (Annex-B). The consensus of all stakeholders was also on adopting a market based approach, i.e. a pollution charge combined with fiscal incentives to industries, rather than a “command and control” approach through regulations to ensure compliance with NEQS. The application of NEQS and the levy of pollution charges will be applied uniformly across all industry. Initially, pollution charges are to be applied on ten effluent and four gaseous emission parameters (Annex-C).

The base rate per pollution unit for calculating the pollution charge has been agreed to be Rs.50/- during the first and second year and thereafter, the base rate will be Rs.75/-. The amount would be collected at the rate of 10%, 20%, 40%, 60% and 80% of the base rate respectively over a period of five years. The underlying approach was that one needs to start with a slap on the wrist, but make it cheaper later on to institute pollution control, via preventive and other measures, rather than continue to pay the pollution charge. This, eventually, would ensure that those who introduce cleanup activities do not suffer relative to those who persist with dirty production methods. This approach also meets the dire need for real progress towards making the industry environmentally friendly without jeopardizing a progressively increasing economic growth in the country.

The above recommendations, accepted by ESC and Pakistan Environmental Protection Council (PEPC), for the base rate and the progressive escalating payment schedule, were established by the industry representatives (ESC sub-committee, headed by Vice-President, FPCCI) after weeks of negotiations among themselves. This was an unprecedented achievement in Pakistan, and perhaps anywhere, because industry voluntarily agreed to a charge to be applied to themselves for generating pollution in excess of national environmental quality standards (NEQS).

The ESC sub-committee also proposed changing the term “pollution charge” to “environmental improvement contribution.” However, since this requires an amendment in PEPA-97, the existing provision remains in force until such an amendment takes place.

It has been agreed upon by all stakeholders and strongly recommended by ESC that the money collected as pollution charge would be made available for collective environmental services to benefit industry. It would be used primarily for activities that will help in the abatement of environmental pollution such as soft loan for purchase of pollution control equipment, installation of combined treatment plants, research and development of indigenous pollution control technology, roundtable conferences, workshops in support of pollution abatement, training and advisory service for industry.

## **Environmental Standard Committee (ESC), Final Report on Determination of Pollution Charge for Industry**

Pakistan EPA and SDPI jointly developed guidelines for the determination of a pollution charge for industry. The proposal was discussed by the ESC during its meeting on September 23, 1997 and referred to the ESC Expert Advisory Committee (EAC) for consideration and feed back. It was circulated to Provincial EPAs, Federation of Pakistan Chambers of Commerce and Industry (FPCCI) and Overseas Investors Chamber of Commerce and Industry (OICCI) for comments, discussed during two roundtable meetings held in Peshawar and Lahore, and also thoroughly debated in the EAC meetings. On the recommendation of the EAC, the proposal was approved by ESC on March 10, 1998.

The ESC sub-committee, formed to recommend the base rate per pollution unit, and the escalation schedule during the next 4 – 5 years presented its report to the ESC on August 6, 1998. ESC approved the final draft of the guidelines for determination of a pollution charge for industry, as approved by EAC, after incorporating some changes agreed upon during the ESC meeting.

In the same meeting on August 6, 1998, the ESC sub-committee, formed to develop a workable proposal, within the provisions of PEPA-97, for calculation, collection and disbursement of pollution charge money, also presented to the ESC, draft rules (see Box 1 below) and regulations for the same. ESC recommended these for consideration by the Pakistan Environmental Protection Council (PEPC).

### **Box 1**

#### **Rules for Implementation of Pollution Charge**

- Industrial Pollution Charge (Calculation and Collection) Rules 1998
- Provincial Sustainable Development (Procedure) Rules 1998.
- Provincial Sustainable Development Fund (Utilization) Rules 1998.

## **Decisions of Pakistan Environmental Protection Council**

In the minutes of the 8th Meeting of Pakistan Environmental Protection Council (PEPC) held at Islamabad on August 26, 1999. Agenda Item No. 4 was the “presentation of the Environmental Standards Committee” report. The ESC report containing recommendation, “Levy of pollution charge in accordance with the agreed formula,” was adopted by the Council. PEPC also directed the ESC to continue its functions and to monitor the implementation of its recommendations. Draft rules for levy of pollution charges were circulated for views/comments to the provincial governments. NWFP, Punjab and Sindh have conveyed their concurrence.

In the minutes of the 9th Meeting of Pakistan Environmental Protection Council held at Islamabad on February 03, 2001, Agenda Item No.4 was the “Status of Implementation of National Environmental Quality Standards (NEQS) and Constraints. The following decisions were taken in this regard.

Collection of Pollution Charge, as per agreed formula, shall commence with effect from July 1, 2001. The rate of pollution charge from polluting industries shall be gradually increased to equal the cost of clean up. The charge so collected shall be deposited in the Provincial Sustainable Development Funds (PSDF). The administration of the levy of the pollution charges shall be overseen by Tripartite Committees comprised of representatives of industrial associations, EPAs and non-governmental organizations. Provincial Sustainable Development Funds shall be available for investment in

environmental friendly projects. Necessary notifications in this regard shall be issued by the Ministry of Environment, LG & RD.

In the last PEPC meeting, Pakistan Institute for Environment Development Action Research (PIEDAR) submitted a proposal for avoiding possible dilution of industrial effluents to reduce the pollution charges. The proposal is attached as (Annex-D).

The proposal may be reviewed through consultation with all stakeholders. Pollution Charge for Industry (Calculation and Collection) rules 2001 have been notified. However, so far the implementation has not occurred.

#### Recommendations

The issue of institutional arrangement for the collection and disbursement of pollution charge funds has remained unresolved. The government should take initiatives in this matter and resolve the issue through negotiated settlement with all staked holders.

### **Annex-A: Pakistan Environmental Protection Act 1997 (PEPA – 1997)**

#### Section II

Prohibition of certain discharges or emissions –

1. Subject to the provisions of this ACT and the rules and regulations made there under no person shall discharge or omit or allow the discharge or omission of any effluent or waste or air pollutant or noise in an amount, concentration or level which is in excess of the National Environmental Quality Standards or, where applicable, the standards established under sub-clause (I) of clauses (g) of sub-section (1) of section 6.
2. The Federal Government levy a pollution charge on any person who contravenes or fails to comply with the provisions of sub-section (1), to be calculated at such rate and collected in accordance with such procedure as may be prescribed.
3. Any person who pays the pollution charge levied under sub-section (2) shall not be charged with an offence with respect to that contravention or failure.
4. The provisions of sub-section (3) shall not apply to projects which commenced industrial activity on or after the thirtieth day of June, 1994.

## Annex-B: Formulae for Pollution Charge

$$\text{Pollution Charge (Rs)} = \frac{(C-S) \times R \times D}{F}$$

**Where:**

C = Pollutants Concentration (mg/L) in Effluent/Emission

S = NEQS for the pollutants

R = Flow Rate (m<sup>3</sup> / Day)

D = Total number of operating days/year

U = Pollutant Unit (kgs)

F = Fee (Rs) per Pollution Unit

TOAL PAYABLE POLLUTION CHARGE BY AN INDUSTRY WOULD BE SUM TOTAL OF POLLUTION CHARGES FOR ALL POLLUTANTS PRESENT (IN EXCESS OF NEQS) IN EFFLUENTS / EMISSIONS BEING DISCHARGED BY THE INDUSTRY

Recommendations: - Pollution to be re-named as “Environmental Improvement Contribution”

## Annex-C

### 1. Pollution Units for Gaseous Emissions

Carbon Monoxide (CO) = 400 kgs

Particulates (from coal & other sources) = 250 kgs

Oxides of Nitrogen (NO<sub>x</sub>) and Sulphur (SO<sub>x</sub>) = 200 kgs

Particulates (from oil) = 150 kgs

Particulates (from cement) = 100 kgs

### 2. Pollution Units for Effluents

COD, TSS = 50kgs

Oil and Grease = 3 kgs

Copper = 1000 gms

Chromium, Nickle, Lead = 500 gms

Cadmium, Pesticides, Herbicides = 100 gms

Mercury = 20 gm

## **Annex-D : Proposal to Avoid Impact of Dilution on Pollution Charges**

### 1. Under the exemption section;

The exemption for each parameter is equivalent to the pollution load within the NEQS during the determination period. For each parameter, the exemption is expressed in terms of exemption per unit output. This is calculated as the total exempted pollution load for the parameter divided by the production during the determination Period.

### 2. Under the calculation section

For each parameter the exemption is calculated as the exemption per unit output multiplied by the production of the unit during the previous six months.

Net quantity of pollutant is defined as the total quantity of pollutant minus the exemption.

### **Effects of this modification**

Subsequent to the determination period, dilution of the effluents has no effects on the net quantity of pollutant, in other words, dilution does not reduce the pollution charges.

**(PB # 14, 2001)**

## Financial Incentives to Industry

*Abdul Matin Khan*

### Executive Summary

This paper provides details of the decisions made by the Environment Standards Committee (ESC) on Financial Incentives to industry. It also documents the progress made so far in the implementation of ESC decisions. The Pakistan Environmental Protection Council (PEPC) constituted the ESC on March 11, 1996. Dr. Shamsh Kassim Lakha President Aga Khan University, was appointed as its chairperson while the members included senior representatives from government, industry and public interest organizations. The Committee held eight meetings up to August 1998, and made several important recommendations on the modalities for implementing National Environmental Quality Standards. Section 2 provides details on the agreements through the ESC on the Financial Incentives to Industry. Section 3 provides details of the developments that took place from August 1998 to date. Section 4 reports on the status of implementation to date.

### Background

This paper serves as a background document and provides details of the decisions on the financial incentives to industries for their pollution control activities. The paper also documents the progress made so far in the implementation of these decisions.

The Pakistan Environmental Protection Council (PEPC) constituted a committee, called the Environmental Standards Committee (ESC), on March 11, 1996. Dr. Shamsh Kassim Lakha President Aga Khan University was appointed as its chairperson. The members of the committee included senior representatives from government, industry and public interest organizations. Representatives from Ministry of Environment, Pakistan Environmental Protection Agency (PEPA), Federation of Pakistan Chambers of Commerce and Industry (FPCCI), Overseas Investors Chamber of Commerce and Industry (OICCI), All Pakistan Textile Processing Mills Association (APTPMA), and Pakistan Tanners Association (PTA) participated in the proceedings on a regular basis. Non-Government Organizations like The World Conservation Union (IUCN) and Sustainable Development Policy Institute (SDPI) also played a very active role during this consultative process.

The Committee accomplished important tasks to review and rationalize the National Environmental Quality Standards (NEQS), recommend modalities for enforcing the NEQS, and suggest ways and means for financing implementation work. SDPI worked as the secretariat of the Committee and also provided technical support through its Swiss-funded Program of 'Technology Transfer for Sustainable Industrial Development (TTSID)'. The composition of the Committee was later expanded through mutual agreement to include representatives from Public Sector government organizations and industry associations representing different sectors were also invited for wider participation. The ESC held eight meetings on May 6, 1996; May 16, 1996; June 24, 1996; July 2, 1996; July 15, 1996; September 23, 1997; March 10, 1998; and August 6, 1998. All decisions were taken through participation and consensus. The Final Report of the proceedings was prepared and presented to the Eighth PEPC meeting on August 26, 1999, which approved all its recommendations for implementation. Details of the proceedings and the decisions on different issues are available in the PEPC Secretariat record.

## Agreements Through Environmental Standards Committee

It was agreed in the ESC in the very beginning that easy availability of finances for investment and financial incentives to industries for their pollution control efforts are important elements to move them towards compliance with the National Environmental Quality Standards. On recommendation from the ESC, the Pakistan Environmental Protection Council (PEPC) approved in 1996 a detailed proposal for provision of financial incentives for pollution abatement activities. Subsequently these were discussed and approved by the Finance Division in a special meeting with Mueen Afzal, then special secretary Finance Division and Qazi Alimullah, then Deputy Chairman, Planning Commission. In order to assess progress on the incentives, and to define modalities of implementation, the Ministry of Environment, Urban Affairs, Forestry and Works (EUAFW) convened a meeting on October 9, 1996. Senator Waqar Ahmad Khan, Chairman Task Force on Environment and Forestry, chaired this meeting. The Ministry of Environment maintained contacts with different government departments on the status of implementation of these recommendations.

Industry representatives expressed their apprehensions during different ESC meetings on the delay in implementing these recommendations in letter and spirit. They raised this issue in more than one forum. The Ministry of Environment representatives assured their cooperation for perusing other government departments for full implementation throughout these discussions. The Federal EPA reported the status of implementation during the ESC meeting held in March 1998, which is given in Box-1 below.

### Box-1

|    | <b>Agreed Recommendations</b>  | <b>Status of Implementation (March 1998)</b>   |
|----|--|--|
| 1. | National Development Finance Corporation (NDFC) may be designated as the DFI for channeling soft term credit to industries for environmental investments.                    | State Bank regretted to extend the credit line to industry through NDFC for this purpose.        |
| 2. | Purchase of equipment for pollution abatement may be given the most favored treatment, i.e., 10% with regard to import duty, sales tax and with no regulatory duty.          | Presently, pollution control equipment is subjected to 10% customs duty with no regulatory duty. |
| 3. | Most favored tax treatment may be extended to those developing indigenous technology for pollution control.  | No action has been taken. Recommendations for the next financial year have been made.            |
| 4. | The amount collected from pollution charges and other sources for the Provincial Environmental Trust Fund (PETFs) may be matched by proportional grants from the government. | The proposal has been deferred due to the current financial constraints of the government.       |
| 5. | The use of the PETFs may be decided by the respective governing boards in accordance with the guidelines laid down in the  | This may be considered for incorporation into the draft rules.                                   |

|    |   |   |
|----|---|---|
|    | recommendations of the environmental standards committee.   |   |
| 6. | Provision of accelerated depreciation of anti-pollution equipment within three years for income tax purposes. | <p>The existing depreciation of plant/machinery is allowable as follows:</p> <p>Normal depreciation = 10%</p> <p>Initial depreciation = 25%</p> <p>Extra depreciation for double shifts=50%</p> <p>Extra depreciation for triple shift = 100%</p> |

Source: DG Pak. EPA's report to the ESC on March 10, 1998.

## Later Developments

A coordination meeting was arranged at SDPI in October 2000, on the initiative of the Minister for Environment, Mr. Omar Asghar Khan, in which senior government and industry representatives participated. DG, PEPA, Mr. Asif Shujah Khan, and Mr. Azharruddin Khan (FPCCI representative) also made presentations. Industry representatives raised the issue of financial incentives with the government again during this coordination meeting. Apparently, no further progress on this issue was reported from the government side. However, the Minister for Environment assured his full cooperation on this matter and advised industry representatives to prepare a detailed proposal with all details of on going and projected pollution control activities. This he said would facilitate approvals from Ministry of Finance and other government departments.

Before writing this paper, some more information on the progress made during this year was collected through personal meetings with key government and industry representatives and/or through phone calls.\* Information collected from these sources is reported below.

The Ministry of Environment kept regular contact with the Ministry of Finance and other government departments for getting the agreed incentives implemented. They also asked for a comprehensive proposal from FPCCI to support their case. However, industry representatives remain apprehensive on the progress made on this issue. They are of the view that provision of soft loans and suitable financial incentives would expedite the process of cleaner industrial production. During the ninth meeting of the Pakistan Environmental Protection Council (PEPC) held on February 3, 2001, DG Pakistan-EPA pointed out at 371 industrial units belonging to 17 industrial sectors had already made an investment of Rs. 2,784 million towards pollution control and planed to invest another Rs. 1,740 million during the coming year. However, industry representatives reiterated their earlier demand for reduction of import duty on the procurement of anti-pollution equipment from 10% to zero. They also requested for an early finalization of other incentives for encouraging early compliance with NEQS. The decisions of PEPC during its ninth meeting in this regard are as follows:\*

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\* Meetings were held with Mr. Asif Shujah Khan (DG, Pak EPA), Mr. Javed Ali Khan (Director, PEPC), Dr. Samiuzzaman (Chairman Committee on Environment, FPCCI) and Mr. Mehmood Ahmed (V.P, FPCCI).

\* Reference Minutes of the Meeting F.No.2 (2)/2000-(PEPC), Islamabad 10, March 2001, Vide Para Nos. 50(iv) and 54(iii), issued by Government of Pakistan

- FPCCI may work out its proposals regarding incentives to industry, to promote compliance with NEQS by industry, for further processing;
- Industry undertook to make an investment of about Rs. 800 million per annum for environmental improvements and better house keeping. It will be gradually raised to a range of Rs. 1.3 to 1.7 billion per year.

## **Status of Implementation**

Apparently, there has been no progress in this matter after March 1998. Contacts with FPCCI head office in Karachi revealed that their top management has changed as a result of recent elections. The new office bearers are in the process of obtaining the necessary information and deciding their position on different issues. FPCCI has not forwarded any fresh proposal for further processing.

## **Recommendations**

The National Environmental Quality Standards (NEQS) were issued in 1993. These were applicable on new industries from July 1994 and on old industries from July 1996. The implementation however has remained suspended for various reasons. Industry wanted a negotiated settlement of detailed modalities and more time for preparations whereas the government has remained soft mainly due to limited implementation capacity and financial resources.

A detailed and comprehensive process of stakeholders' consultation was completed through the Environmental Standards Committee (ESC) in about two-and-a-half years from March 1996 to August 1998. There was a total consensus to implement the agreed decisions, after PEPC approval, from January 1999. The meeting of the Council however took place in August 1999 and approved the implementation of these decisions from January 2000. The government then decided to implement the program in phases and started a pilot project for self-monitoring and reporting by industry on a voluntary basis, which was started during early 2000. During its eighth meeting in August 2000, PEPC decided to form an Implementation Committee to facilitate smooth implementation of agreed decisions. This committee would now discuss the details of the implementation process with industry representatives afresh. In view of all this, the following recommendations are made:

### **Recommendation-1**

It is recommended that the implementation committee should adopt all possible measures to ensure that the decisions on financial incentives for environmental investments to industry are implemented in letter and spirit. Since most of the issues are inter-connected, results at the national level would be only visible if the decisions are implemented simultaneously as a package.

### **Recommendation-2**

Several procedural difficulties on the eligibility are expected to come up when the decisions on financial incentives for environmental investments are actually implemented. The implementation committee may discuss all such possibilities in detail, and decide guiding principles and procedures for resolving these issues on a regular basis.

**(PB # 15, 2001)**

# Establishment of Provincial Sustainable Development Funds

*Abdul Matin Khan*

## Executive Summary

This paper provides details of the decisions made by the Environment Standards Committee (ESC) on the establishment of Provincial Sustainable Development Funds (PSDFs). It also documents the progress made so far in the implementation of these decisions. The Pakistan Environmental Protection Council (PEPC) constituted the Environmental Standards Committee on March 11, 1996. Dr. Shamsh Kassim Lakha, President Aga Khan University, was appointed as its chairperson while the members included senior representatives from government, industry and public interest organizations. The Committee held eight meetings up to August 1998, and made out with several important recommendations on the modalities for implementing National Environmental Quality Standards. Section 2 of this paper provides details on the agreements through the ESC on the above-mentioned issues. Section 3 provides details of the developments that took place from August 1998 to date. Section 4 of the paper provides the status of implementation to date.

## Introduction

This paper serves as a background document and provides details of the system and arrangements for the collection and disbursement of (PC) through the establishment of Provincial Sustainable Development Funds (PSDFs). The paper also documents the progress made so far in the implementation of these decisions.

The Pakistan Environmental Protection Council (PEPC) constituted a committee, called the Environmental Standards Committee (ESC), on March 11, 1996. Dr. Shamsh Kassim Lakha President Aga Khan University, was appointed as its chairperson. The members of the committee included senior representatives from government, industry and public interest organizations. Representatives from Ministry of Environment, Pakistan Environmental Protection Agency (PEPA), Federation of Pakistan Chambers of Commerce & Industry (FPCCI), Overseas Investors Chamber of Commerce & Industry (OICCI), All Pakistan Textile Processing Mills Association (APTPMA), and Pakistan Tanners Association (PTA) participated in the proceedings on a regular basis. Non-Government Organizations like The World Conservation Union (IUCN) and Sustainable Development Policy Institute (SDPI) also played very active role during this consultative process.

The Committee accomplished important tasks to review and rationalize the National Environmental Quality Standards (NEQS), recommend modalities for enforcing the NEQS, and suggest ways and means for financing implementation work. SDPI worked as the secretariat of the Committee and also provided technical support through its Swiss-funded Program of 'Technology Transfer for Sustainable Industrial Development (TTSID)'. The composition of the Committee was later expanded through mutual agreement to include representatives from government organizations and industry associations representing different sectors for wider participation. The ESC held eight meetings on May 6, 1996; May 16, 1996; June 24, 1996; July 2, 1996; July 15, 1996; September 23, 1997; March 10, 1998; and August 6, 1998. All decisions were taken through participation and consensus. The Final Report of the proceedings was prepared and presented to the Eighth PEPC meeting on August 26, 1999, which approved all its recommendations for

implementation. Details of the proceedings and the decisions on different issues are available in the PEPC Secretariat record.

### **Agreements through Environmental Standards Committee**

Details of the agreements on the technical procedures for the determination of pollution charge and the management of collected money are provided in an accompanying background paper.

#### ***Establishment of Provincial Sustainable Development Funds***

Throughout the negotiations in the ESC, industry representatives remained concerned about the system for the collection and disbursement of pollution charge money (see box-1 below). Detailed discussions were held to agree on an institutional arrangement through which industry representatives could ensure their participation and control over these funds.

#### **Box-1**

##### **Use of Pollution Charges**

Money collected will be used primarily for the activities that will help in abatement of environmental pollution through the following activities:

- Provision of soft loans for the purchase of pollution treatment equipment;
- Installation of combined treatment plants in industrial estates;
- Research and analysis in support of pollution abatement;
- Round tables, conferences, workshops for pollution abatement;
- Provision of incentives to develop indigenous technology for pollution control; and
- Training and advisory services for industry.

*Source:* ESC Recommendations to PEPC, May 20, 1996

Ever since it was agreed that the money collected as pollution charge would be made available for environmental services to benefit industry, the private sector has remained adamant that these funds must not be deposited into the national treasury, through Provincial Sustainable Development Funds (PSDFs). The concern has been that they are likely to be utilized for other purposes once they are part of the treasury monies. Instead, they have strongly advocated the creation of Provincial Environment Trust Funds (PETFs) that would be governed by a tripartite board of private sector, government and NGO representatives. Furthermore, the private sector recommended that industry associations collect these charges.

Although these arrangements received initial endorsement by the ESC and they were formally submitted as recommendations to PEPC, certain legal restrictions have prevented the establishment of such institutional arrangements. Article 11(2) of the Environmental Protection Act 1997 states that "The Federal Government (will) levy a pollution charge on any person who contravenes or fails to comply with the provisions of sub-section (1), to be calculated at such a rate, and collected in accordance with such procedures as may be prescribed". The Act, however, does not specify where these funds are to be deposited or for what purpose they are to be used. It is implicit nevertheless that, since the Federal Government is responsible for the collection of the pollution charge, they must be deposited as revenue of the Federal Treasury.

Article 9(3)(a, b) of the Act, calls for the establishment of Provincial Sustainable Development Funds (PSDFs). These Funds would be responsible for "Providing financial assistance to the projects designed for the protection, conservation, rehabilitation and improvement of the environment, the prevention and control of pollution, the sustainable development of resources and for research in any specified aspect of environment; and any other purpose which in the opinion of the Board will help achieve environmental objectives of this Ordinance". The government is of the opinion that the PSDFs can be used as the PETFs mentioned by the private sector through the framing of suitable and mutually acceptable rules. However, the anomaly is that the pollution charges have not been included as one of its sources in Article 9(2). The Article specifies the following sources:

- (a) Grants made or loans advanced by the Federal Government or the Provincial Governments.
- (b) Aid and assistance, grants, advances, donations and other non-obligatory funds received from foreign governments, national or international agencies and non-governmental organizations; contributions from private organizations, and other persons.

Industry representatives did not agree to any arrangements whereby the collected money becomes part of the provincial government funds. FPCCI also submitted their written suggestions as 'Proposed guidelines on Operational Mechanisms and Administration of PETFs' through the ESC (Annex-1).

It was agreed during the last ESC meeting that FPCCI would send their proposal in the form of a draft amendment in the Act and the Ministry of Environment would move the case on the basis of agreed amendments. It was also agreed that any proceedings in that direction would not be linked with the implementation of the pollution charge system.

## **Later Developments**

A coordination meeting was arranged at SDPI in October 2000, on the initiative of the Minister for Environment, Mr. Omar Asghar Khan, in which senior government and industry representatives participated. DG, PEPA Mr. Asif Shujah Khan and Mr. Azharruddin Khan (FPCCI representative) also made presentations during this meeting. They both confirmed that government and industry had remained in touch with each other, after August 1998, on important environmental issues including the pollution charge system. They also provided some details of the developments by that time. Before writing this paper, some more information on the progress made during these years was collected through personal meetings with key government and industry representatives and/or through phone calls<sup>4</sup>. Information on the progress made so far, as collected from these sources, is reported below:

Negotiations between FPCCI and the Ministry of Environment/ Pak. EPA continued during the year 2000. Legal aspects were discussed with the legal advisor, Mr. Zahid Hamid to incorporate the concerns of FPCCI. Both sides confirmed that a verbal agreement was reached between government and industry on not moving for an amendment in the Act, and on framing mutually acceptable rules and regulations under the existing law. In the light of these agreements, the government has already framed rules and regulations for Provincial Sustainable Development Funds (PSDFs) within the scope of the Act. These were developed through regular consultations with industry representatives to ensure

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<sup>4</sup> Meetings were held with Mr. Asif Shujah Khan (DG, Pak EPA), Mr. Javed Ali Khan (Director, PEPC), Dr. Samiuzzaman (Chairman Committee on Environment, FPCCI) and Mr. Mehmood Ahmed (V.P, FPCCI).

that all their concerns are fully addressed. Although the exact details were not made available, we were informed that the total amount collected in the PSDFs as the pollution charge money will be transferred to a sub-head within the Fund, which will be governed under the organizational arrangements and the rules suggested by industry. Industry representatives also added that the proposed rules and regulations would ensure a tripartite control by industry associations, government and NGOs.

## **Status of Implementation**

Rules and regulations framed by the Ministry of Environment under the Act, and agreed by industry representatives, have already been endorsed by the Law Ministry and are now in the process of being issued as statutory orders. This is expected any time. After this notification, the provincial governments would constitute and notify the Provincial Sustainable Development Funds in their respective provinces.

The decision of the Council (PEPC) during its ninth meeting on February 3, 2001, in this regard is as follows:

*"Collection of Pollution Charge as per agreed formula shall commence with effect from July 1, 2001. The rate of pollution charge from polluting industries shall be gradually increased equal to the cost of cleanup. The charges so collected shall be deposited in the Provincial Sustainable Development Funds. The administration of the levy of the pollution charges shall be overseen by Tripartite Committees comprised of representatives of Industrial Associations, EPAs and Non-governmental Organizations. Provincial Sustainable Development Funds shall be available for investment in the environmental friendly projects. Necessary notifications in this regard shall be issued by the Ministry of environment, LG & RD"<sup>5</sup>.*

## **Recommendations**

The National Environmental Quality Standards (NEQS) were issued in 1993. These were applicable on new industries from July 1994 and on old industries from July 1996. The implementation however has remained suspended for various reasons. Industry wanted negotiated settlement of detailed modalities and more time for preparations, whereas the government has remained soft on implementation mainly due to limited implementation capacity and financial resources.

A detailed and comprehensive process of stakeholders' consultation was completed through the Environmental Standards Committee (ESC) from March 1996 to August 1998. There was a total consensus to implement the agreed decisions, after PEPC's approval, from January 1999. The meeting of the Council took place in August 1999 and approved the implementation of these decisions from January 2000. The government then decided to implement the program in phases and started a pilot project for self-monitoring and reporting by industry on a voluntary basis, which was started during early 2000. During its eighth meeting in August 2000, PEPC decided to form an Implementation Committee to facilitate smooth implementation of agreed decisions. This committee mandate was to discuss the details of the implementation process with industry representatives afresh. In the meantime, PEPC decided during its last meeting in February 2001, that collection of pollution charge, as per agreed formula, would commence with effect from July 1, 2001. In view of all this, the following recommendations are made:

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<sup>5</sup> Reference Minutes of the Meeting F.No.2 (2)/2000-(PEPC), Islamabad 10, March 2001, Vide Para No. 54(ii), issued by Government of Pakistan

FPCCI played a major role in reaching consensus decisions during the consultative process through the ESC and in finalizing the Rules through subsequent negotiations. It is recommended that the implementation committee should now discuss only the implementation details, and guard against entering into negotiation process on the same issues once again.

## **Annex-1**

### **Proposed Guidelines on Operational Mechanisms and Administration of Provincial Environmental Trust Funds (FPCCI Proposal)**

#### **Introduction**

**Environmental Act 1997, under section 9 and 10 permits the establishment of "Provincial Sustainable Development Funds (PSDF)". The Fund will be managed by a Board. The composition of Board will be as follows:**

|   |   |
|---|---|
| Chairman of the Provincial Planning and Development Board | Chairman  |
| Six members of the government                             | Including secretaries in-charge of Finance, Industries and Environmental Departments                                      |
| Ten members of the private sector                         | Including representatives of provincial chambers of commerce and industry, non-government organizations and major donors. |
| Director General of the Provincial Agency                 | Member/Secretary  |

The Fund can drive finances from a wide base of sources. Its finances can be utilized for various environmental related activities and projects.

Private sector has taken a position that the proposed arrangements are too broad to be practical. It is stated that such establishments should be simple to operate and precise by functions. It is also commented that PSDF will predominantly be managed by the government. Past experiences of the private sector with government functionaries on such joint establishments were not positive.

As an alternative, Federation of Pakistan Chambers of Commerce and Industry (FPCCI) along with its members associations proposes the establishment of Provincial Environmental Trust Funds (PETF) under the auspices of FPCCI. Principle function of PETF will be to collect pollution charges. Management of pollution charges will be precisely done under the principles and arrangements stated below.

Under the present Environmental Act, 1997, there is no provision for the establishment of such trust fund.

## **Guidelines for the Establishment of PETF**

### **Guiding Principles**

The trusts will be established under the auspices of FPCCI and functions as no-profit entity;

The chairman of the Board of Directors will be Ex-Officio President of FPCCI;

Board will be comprised of six private sector members (four industrial associations, two local chambers in two years rotation)<sup>6</sup>, three provincial government representatives (one from P&D and two from Provincial EPA), and two non-government organization's representatives;

Trusts will only function - operate for the collection of pollution charges, and the disbursement of collected funds against the agreed expenditure heads;

Amendment will be made in the Environmental Act, 1997, to legalize the establishment of the Fund.

### **Arrangements**

#### **Establishment Arrangement**

The trust will be registered under Trust Act. Registration will be arranged by FPCCI. Ex-Officio President of FPCCI will be the Chairman of the Board. The President shall nominate six members of the private sector. The president will also request the provincial governments to nominate their representatives. NGO representatives will be jointly nominated by FPCCI and government representatives.

The Board will appoint the Chief Executives and other professionals and support staff for the establishment of trust's secretariats.

#### **Financial Arrangement**

Industrial Associations and Provincial Governments on equal basis will contribute three years working capital for trusts. It is envisaged that after three years the trusts can be run through pollution charges funds and its long-term investments. The trust can arrange finances through donations from local and international donors.

#### **Collection of Pollution Charges**

Pollution charges will be collected in collaboration with industrial associations. Non-complying industrial units will be followed by the environmental sub-committee of the respective industrial association. The collected pollution charges will be deposited in the trust's bank account. Receipt of the pollution charges will be issued by trusts.

#### **Disbursement of Trust Funds**

#### **Reimbursement to the Industrial Unit**

Those industries who after paying pollution charges, start the implementation of environmental management plan within a year time of the payment, the collected pollution charges from those industrial units will be reimbursed to them as incentive.

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<sup>6</sup> Registered Industrial Associations relevant to environmental issues and local chambers are 24 and 35 respectively. Representatives of these associations and chambers will serve the Board in a rotation of two years.

### **Secretariat Expenses**

Part of the secretariat expenses will be released from the financial pool of collected pollution charges.

Research and Development Projects in the field of Industry and Environment

Unclaimed pollution charges under the incentive scheme at the end of each financial year will be allocated to the R&D activities and their dissemination.

**(PB # 16, 2001)**

# Brief on Environmental Legislation in Pakistan

*Abdul Matin Khan*

## Introduction

1. This policy brief is being written for the Ministry of Environment in response to a letter from them. The ministry is compiling this information to prepare a country paper for a joint UNEP/SACEP/NORAD<sup>7</sup> project on environmental legislation in South Asian countries. The findings will be published in a handbook on environmental law and policy. The views expressed in this paper are entirely those of the author.
2. Environmental protection has long been a concern of the Government of Pakistan. However, the understanding of environmental issues, their relation to development and their translation into action is yet to be approached in a systematic and effective manner. The National Conservation Strategy (NCS) prepared in 1992 was a major step in setting goals for natural resource conservation and this led to the adoption of a plan of action for the next 10 years (1993-2002).

## Existing Policy Directives, Legislation and Institutional Arrangements

1. The NCS recommended visible and substantial institutional development to support implementation of identified programs in the action agenda for government, departments, districts, communities, corporations, communities, NGOs and individuals. It recommended focusing on incorporating sustainability criteria in mandates and objectives, just as are normally included financial and legal implications in policy decisions. As a result of some of these recommendations, an Environment Section in the Planning Commission, an NCS unit in the Ministry of Environment and Environmental Cells in provincial P&D departments have already been created. Two of these institutions at the federal level alongwith two NGOs (IUCN and SDPI) are the four partners in the Pakistan Environment Programme (PEP), funded by Canadian International Development Agency (CIDA).
2. The first major consolidated environmental legislation, the Pakistan Environmental Protection Ordinance (PEPO), was promulgated in 1983. It created a very high level policy making forum called the Pakistan Environmental Protection Council (PEPC) under the chairmanship of the Prime Minister. The law also created one Environmental Protection Agency (PEPA) at the federal level and four Environmental Protection Agencies (EPAs) at the provincial level. These institutions while founded, remained practically inoperative for more than a decade. The PEPO 1983 was improved after an extensive and prolonged consultative process with all stakeholders and a new law, the Pakistan Environmental Protection Act, was promulgated in December 1997. This law has included several provisions to enhance the enforcement powers of government. It also empowers all affected citizens to approach the courts for any environmental damage. Special tribunals at the provincial levels will be constituted to hear such cases.

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<sup>7</sup> UNEP: United Nations Environment Programme  
 SACEP: South Asia Cooperative Environment Programme  
 NORAD: Norwegian Agency for Development

3. At present, an independent ministry for the environment and five environmental protection agencies at the federal and provincial levels are functional. The PEPC has been constituted and notified, although it has not held its meetings very often. Two sub-committees: The Environmental Standards Committee (ESC) and the Experts Advisory Committee (EAC) were constituted by the PEPC in 1996, which have done very useful work for developing guidelines and regulations to implement environmental standards. The National Environmental Quality Standards (NEQS) were finalized and issued in 1983 but implementation had remained suspended due to some technical and institutional difficulties. Most of these issues have now been addressed through business-government dialogue in the ESC and a reasonably comprehensive set of regulations has been mutually agreed upon. The government is now planning to enforce the agreed system from July 1999. The NEQS have also been recently revised through private sector participation in the two sub-committees
4. Despite some shortcomings, the updated legislative framework is based on four essential principles: decentralization of environmental management in the form of delegation of monitoring and enforcement powers at the provincial level; prevention in the form of specific regulations for EIA to govern new economic activities; ‘polluters payment’ in the form of a pollution charge; and environmental improvement plans to be negotiated with major polluters.

## **Adequacy of the Existing Legal and Institutional Arrangements, Major Challenges and Suggestions for the Future**

1. The legal and institutional arrangements will remain ineffective as long as we do not have a credible monitoring and enforcement system in place. It is estimated that about 80% of the industrial units are medium and small size industries having limited technical and financial resources and very limited knowledge of environmental issues. They would require sustained technical assistance for self-monitoring their pollution levels and reporting the same to the regulatory bodies. The regulatory bodies in the four provinces will have to supervise the process in about 10,000-12,000 industrial units on a regular basis. Presently, these bodies have very limited resources and trained manpower to accomplish these responsibilities. It is therefore of key importance that the required human resources and technical capacity is increased in the government as well as in the corporate sector.
2. A sustainable funding mechanism is necessary for gradual improvement of environmental conditions in the country. It is obvious that government is not in a position to undertake this work at public expenses. Donors would also like to see a transparent and dependable system of environmental improvement. This objective may be achieved by implementing the polluters pay principle already agreed through business-government dialogue. Government and industry have, however, adopted very different positions regarding institutional arrangements for the collection and disbursement of these funds. This issue should be resolved through resumed dialogue at the policy level.
3. A regular process of engaging the public through awareness programs and participatory mechanisms is also very essential for effective implementation of laws and regulations. It is important that rules for proprietary and public information are clearly agreed upon, so that public pressure could be effectively and genuinely used.

4. The regulations and quality standards developed through business-government dialogue have yet to be field-tested through phased implementation. A stop-start phenomenon or selective implementation signals that the government has only cosmetic commitment towards the environment. It is important that the management team remains watchful of the flaws and difficulties during the implementation process and be prepared and equipped to revise some of the existing regulations and to develop new regulations for pollution prevention and pollution control. The present institutional arrangements are inadequate for this purpose. It is proposed that the technical and regulatory functions should be performed by two separate institutions within government.
5. The PEPC is headed by the chief executive of the country, who has to perform many other important state functions. Practical experience has shown that the Prime Minister has never been able to personally supervise the activities of this council and the proceedings have never been continuous and regular. A possible solution to this problem could be to nominate the minister of environment, who is the vice chairman of the council, as the acting chairman and be authorized to hold regular meetings as stipulated in the law.
6. In order to maintain the momentum and level of trust established through the consultative process in the recent past, government-business dialogue should be institutionalized at the national, provincial and local levels. It would require a clear set of rules to maintain a balance and ensure participation of the stakeholders as well as a movement in the right direction at the right pace.

## **Coordination among Central, Provincial and Local Levels and Integration of Environmental Consideration into Economic Activities**

1. There appear to be no functional arrangements for coordination between federal and provincial management teams. All the four provinces are at different stages of environmental management with different financial resources. There are practically no institutional arrangements at the local/district levels. The PEPC, which is a nucleus to coordinate and supervise the enforcement of the provisions of law, is practically non-functional. The Environmental Protection Agencies, which have the functional responsibility to implement laws and regulations, are looking towards the political leadership for signals. The National Environmental Coordination Committee, as provided in the law, has no public existence. Committees of members and advisory committees for various sectors, which could possibly take this process further, have never been formed. To begin with, it is suggested that the tools for coordination and consultation, already provided in the law, should be implemented in letter and spirit.
2. Economic development and environmental improvement are considered by many to be in conflict. This is not practically true. Due to win-win scenarios, developed and developing countries are successfully demonstrating that the economic growth can be sustained while environmental degradation is kept under control. Industrial processes, for instance, can be made more economical as well as environment friendly if wastage of chemicals is reduced to minimum. Chrome wastage in leather tanning and caustic wastage in textile processing are two important examples. Similarly, in agricultural sector, the economy as well as the environment can be significantly improved if use of pesticides is reduced.

## **Areas in which Legal and Institutional Arrangements have to be Developed**

1. There are some areas in which existing laws and regulations are either non-existent or inadequate. Some of these areas are: promotion of cleaner production activities through negotiated environmental improvement plans and mandatory audits; waste recycling and waste exchange programs; banning of certain chemicals, products and management practices; imposition of fees and penalties and awards/positive incentives for institutions meeting environmental improvement targets.

**(PB # 7, 1999)**

# Implementation of Convention on Biological Diversity in Pakistan<sup>8</sup>

*Tahir Hasnain*

Pakistan, covering a land area of 803,940 sq. km, is rich in biodiversity. It has been divided into 10 major ecological zones and contains species upto 5,700 of plants, 188 of mammals, 666 of birds, 174 of reptiles, 125 of freshwater and 400 of marine fish, and insects/invertebrates of 20,000. The pressures on biodiversity are reported to be: rapid growth in human population; increasing numbers of livestock; commercial forestry practices; increasing use of fertilizers and pesticides; expanding agriculture; increasing numbers of industries polluting land, water and air; expanding settlements encroaching on wildlife habitats; commercial fishing practices adversely affecting aquatic habitats; water-supply and energy-generating developments; transportation, tourism and harbour developments; and hunting at levels of exploitation.

Pakistan is signatory to the UN Convention on Biological Diversity (CBD) since 1992, with the Cabinet having ratified it in 1994. To implement the Convention, federal and provincial authorities have made significant attempts for the protection of biodiversity and natural capital of the country. The article-wise synthesis of the progress made by Pakistan on the implementation of the Convention is given below.

## **Article 6. General Measures for Conservation and Sustainable Use**

### **Develop National Strategies, Plans, etc.**

Pakistan's National Conservation Strategy (NCS) has been approved by the federal cabinet in March, 1992 and was launched in May, 1992. It was the product of a participatory design process involving the government and a broad spectrum of interested groups and individuals. Its major objectives include conservation of natural resources, sustainable development, and improved efficiency in the use and management of resources. Among its fourteen core programmes, conservation of biodiversity has been highlighted as a priority area for implementation. The NCS has focused on areas and species, which are under severe threat, on priority basis. As a result, the hunting and trade of endangered species are banned by law. Plans are underway to designate some of the national parks as a World Heritage Site to preserve unique alpine habitats, magnificent glaciers, and associated plant and animal communities.

The NCS recommended that a non-government policy institute be established to institutionalise the informal co-operation between government and independent experts that had developed during the preparation of the NCS. The creation of Sustainable Development Policy Institute (SDPI) was, thus, an important step towards the implementation of the NCS. It was founded in 1992 on the recommendation of NCS, which assigned it a key role for its implementation. SDPI is an independent, non-profit, non-government research institute, serving as a source of expertise and advisory services for the GOP,

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<sup>8</sup> This brief was prepared on the request of Ministry of Environment to facilitate them on a Government of Pakistan brief to be presented in the 4th Conference Of Parties (COP-4) to the Convention on Biological Diversity in Bratislava Slovakia 4-15 May 1998. The brief addresses only the COP-4 agenda Item no.11 (Synthesis of the Information Contained in National reports on the Implementation of the Convention). The brief was sent to Mr Mahboob Elahi, DG, on April 16, 1998.

private sector, and non-government initiatives supporting the implementation of NCS in general and the biodiversity conservation in particular.

The GOP's response to the operational shortcomings of the CBD was to develop an implementation framework. The Biodiversity Action Plan (BAP), developed by the IUCN & WWF in 1997, constitutes such a framework. It integrates the three types of initiatives called for under the Convention, namely, a country study, a national strategy and an action plan. It suggests as the first step in the implementation process that the Biodiversity Action Plan be formally reviewed and endorsed by the cabinet. Subsequently, a national policy on the conservation and sustainable use of biodiversity should be issued to provide a sound policy framework within which implementation of the Plan can take place.

## **Integrate Efforts into Sectoral/Cross-sectoral Plans and Policies**

The Biodiversity Action Plan aims at the integration of conservation efforts with the sectoral and cross-sectoral plans, programmes and policies. It emphasises the need to develop provincial conservation strategies to carry forward the NCS into implementation. The Sarhad Provincial Conservation Strategy (1996) has been completed and others (Balochistan and Northern Areas Conservation Strategies) are in preparation. At a more local level, the preparation of district biodiversity conservation strategies has commenced in Chitral and Abbottabad, and these are expected to provide ground-level support to the BAP. It further recommends the integration of biodiversity work into Perspective Plans, Five Year Plans and Annual Development Plans, and into sectoral plans, particularly those for wildlife, forestry, fisheries and agriculture.

The BAP endorses the establishment of a Steering Committee at the federal level and Provincial Steering Committees by inducting representatives of all the sectors (federal and provincial governments, research and training institutions, NGOs, the private sector, and local communities), and of a National Biodiversity Task Force comprising the major actors from the GOP and NGOs.

## **Article 8. In-situ Conservation Establish a System of Protected Areas**

Pakistan's statistics for establishment protected areas are very impressive, that include 14 National Parks, 101 wildlife sanctuaries and 96 game reserves. These are being run by the game departments of different provinces, each with its own jurisdiction. Protected areas cover 11.4% of the total area of country and special measures have been taken to conserve the biodiversity there. The Lal Sohanra National Park in Punjab has been declared as a biosphere and there are eight wetlands internationally recognised under the Ramsar Convention.

## **Rehabilitate and Restore Degraded Ecosystems**

Two of the national parks have also been used to reintroduce previously lost species into former habitats--notably the one-horned rhino and black buck in Lal Sohanra National Park, and the cheer pheasant in the Margalla hills National Park as well as the Kaghan Valley. The World Pheasant Association has been involved in managing the wild cheer pheasant population in Azad Kashmir, and the conservation of the western trogon. The Trogopan Programme is run in collaboration with Birdlife International and the NWFP Wildlife Department.

Furthermore, the Biodiversity Action Plan addresses almost all the issues mentioned in the 8th article of the Convention. It recommends various actions for strengthening the protected areas system in Pakistan and conserving biodiversity outside protected areas. The recommended actions include:

- Develop comprehensive protected areas legislation;
- Carry out a thorough protected areas system review to identify existing gaps. On the basis of the review, prepare a protected areas system plan for Pakistan;
- Expand Pakistan's protected area system to improve its representativeness, viability and connectivity;
- Enhance the management of existing protected areas;
- Restore degraded ecosystems within protected areas and in adjacent lands and corridors;
- Take measures to control invasive alien species of fauna and flora, and to prevent further introductions;
- Develop regional conservation programmes to integrate conservation activities and protected area management with regional land use planning;
- Adopt agricultural, forestry and fishery practices that will enhance the conservation of biodiversity;
- Enhance the capacity of local communities and NGOs to conserve, manage and sustainably use biodiversity;
- Ensure that protected areas and adjacent buffer zones are treated as a single planning unit;
- Ensure that activities in natural areas outside protected areas are governed by management plans that pay adequate attention to the conservation of biodiversity; identify the most appropriate management authority for buffer zone areas;
- Ensure that development personnel, land-use planners, aid agencies and the national and provincial planning authorities have access to information about biodiversity; and
- Promote the conservation of biodiversity on military bases and other land owned or managed by the defence agencies.

## **Article10. Sustainable Use of Components of Biodiversity Integrate Biodiversity Conservation into National Decision-making**

There are many laws in the country covering areas such as forestry and wildlife protection, for example, Sind Wildlife Protection Ordinance, 1992; Punjab Wildlife (Protection, Preservation, Conservation and Management) Act, 1974; Baluchistan Wildlife Protection Act, 1974; NWFP Wildlife (Protection, Preservation, Conservation and Management) Act, 1975; Northern Areas Wildlife Preservation Act, 1975; Azad Jammu and Kashmir Wildlife Preservation Act, 1975; and Islamabad Wildlife (Protection, Preservation, Conservation and Management) Ordinance, 1979. However, the Environmental Protection Ordinance, 1983 was the first piece of legislation, encompassing an overall approach to environmental issues.

On the policy front, Pakistan's NCS is an important policy document which attempts an evaluation of economic policies of the country for their impact on the natural resource base and to merge biodiversity concerns with the matrix of decision making. The NCS looks at the opportunities for improvements in various sectors of the economy with a view to steering the country towards a sustainable future.

The Pakistan Environmental Protection Act 1997 has been passed by the GOP and has started implementing its provisions. The act recommends the establishment of the Pakistan Environmental Protection Council, whose tasks include providing guidelines for the protection and conservation of species, habitats, and biodiversity.

#### *Support Local Populations to Develop and Implement the Remedial Actions*

A project on *Maintaining Biodiversity in Pakistan with Rural Community Development* by IUCN & WWF-Pakistan is in progress to support local populations to develop and implement remedial action in degraded areas where biodiversity has been reduced. The project aims to demonstrate how conservation of Pakistan's biodiversity can be enhanced by providing rural villagers with technical skills to manage wild species and habitats. The first phase of the project has focused on the mountain regions of the Northern Areas and the NWFP.

#### **Encourage Co-operation between Government and Private Sector**

GOP is encouraging its private sector in developing methods for sustainable use of biological resources. The Pakistan Forest Institute, for instance, carries out wildlife management training programmes with international organizations IUCN, FAO and UNDP.

IUCN has been involved in projects, such as, developing a national Biodiversity Action Plan, a Protected Areas Management Proposal and several provincial conservation strategies. Integrated resource management projects include one on Ziarat's juniper forests and an urban social forestry component for Orangi Pilot Project. A Coastal Zone Management Programme, aimed at protecting the creek ecosystem in the Korangi-Phitti Creek area, is also proposed.

WWF-Pakistan has also carried out a number of projects aimed at protecting ecosystems and species in various parts of the country. Since 1971, WWF has completed 87 projects, while 36 projects are in progress. The largest chunk of the WWF-Pakistan resources are invested on two fronts, namely, field conservation projects to protect the remaining wildlife and natural habitats, and education and awareness programmes in collaboration with the youth of the country.

Similarly, the Pakistan Wildlife Conservation Foundation, the World Pheasant Association and the Pheasant Conservation Forum are other NGOs involved in wildlife conservation in collaboration with the GOP.

**(PB # 2, 1998)**

## **High Level Segment of the 6th Session of the Commission on Sustainable Development**

Adil Najam

### **Background on the CSD**

The Commission on Sustainable Development (CSD) was set up following the United Nations Conference on Environment and Development (UNCED; held in Rio de Janeiro, Brazil in 1992). The CSD meets annually in New York. The Department of Policy Coordination and Sustainable Development (DPCSD) in the United Nations Headquarters in New York serves as the secretariat for the CSD. The CSD was established to serve two key functions:

- To monitor the implementation of Agenda 21 (the Plan of Action adopted at UNCED).
- To provide a policy forum for discussion of emerging issues relating to sustainable development.

Agenda 21—which was one of the principal outcomes of UNCED—is a 40 chapter document outlining actions that countries should take to incorporate environment and natural resources issues in their development planning. Substantive areas covered by Agenda 21 include climate change, depletion of the ozone layer, air and water pollution, desertification, deforestation, soil loss, toxic wastes, depletion of stocks of fish, etc. It also considers underlying patterns of development which cause stress to the environment, such as poverty, the external debt of developing countries, unsustainable patterns of consumption and production, the structure of the international economy, demographic pressures, etc.

### **Rio + 5**

1997 marked the fifth anniversary of UNCED as well as of the CSD. The fifth session of the CSD was part of a series of events and meetings (including a special session of the United Nations General Assembly) which were popularly referred to as "Rio + 5". This elaborate review of the implementation of the "UNCED Agenda" at the five-year mark was a sobering rather than a celebratory experience. Although a number of individual countries reported significant achievements at the domestic level, the general consensus was that the promise of a global compact on sustainable development that had been proclaimed at Rio has remained unfulfilled. In particular, the developing countries (South) were critical of the industrialized countries (North) for not having provided the type of financial and technological support that had been envisaged at UNCED. The discussions during the 1998 session of the CSD are likely to be heavily influenced by the debates of 1997.

### **Domestic Policy**

As during previous meetings of the CSD, Pakistan's main emphasis should be to highlight the progress on the implementation of the Pakistan National Conservation Strategy (PNCS). A formal presentation of the PNCS was made to the second meeting of the CSD in 1994. Each subsequent meeting has been informed of the progress on its implementation.

In essence, the PNCS is Pakistan's Agenda 21. Many of the innovative ideas for sustainable development being called for by Agenda 21 are already incorporated in the PNCS which was actually developed before UNCED. The PNCS is a comprehensive multi-sectoral strategy, which is designed

to foster sustainable development by identifying and analyzing environmental and natural resource issues and trends, and subsequently incorporating these into Pakistan's policy-making and development programs. Its unique multi-dimensional development process involved all major actors in civil society including government, NGOs, academia, mass media and the private sector.

In particular, there is a need to reiterate that the new atmosphere of cooperation created in the country as a result of the PNCS process has encouraged nongovernmental organizations (NGOs) to take the lead on environmental awareness and community involvement; business groups have begun to devise strategies for environmental conservation; schools and colleges have started incorporating environmental materials into their curricula; research institutions are undertaking policy research on environmental issues. These are highly robust, non-reversible processes which do not depend solely on one institution or one organization. These civil society processes—which were originally facilitated and encouraged by the PNCS momentum—are now themselves the best guardians of continued PNCS implementation.

The PNCS has also spurred the development of sub-national conservation strategies. The Sarhad Provincial Conservation Strategy (SPCS) has already been approved and is now in the early stages of its development. Regional strategies for Balochistan and the Northern Areas are in various stages of development.

The revitalization of the Pakistan Environmental Protection Council (PEPC) as the apex environmental policy-making body in the country, the passage of the Pakistan Environmental Protection Act in 1997 after a highly consultative and transparent process, the finalization of National Environmental Quality Standards (NEQSs) with the active participation of industry representatives, and the decision to establish environmental courts are amongst the other major advances that need to be highlighted. It should be noted that all of these follow directly from the Pakistan National Conservation Strategy and serve to fulfill the goals of Agenda 21 implementation in Pakistan.

## **Sectoral Issues**

In the run-up to the 6th session of the CSD, meetings of two sectoral working groups were held—on Freshwater Management and on Industry and Sustainable Development. Discussions in these areas will be continued at the CSD. Both of these areas are of great importance to Pakistan and are covered in detail in the PNCS.

In relation to the second of these, a particular mention may be made of the recent finalization of the NEQS. This was done through a process of consultation and dialogue with industry representatives through a government-business roundtable. These will be operationalized through the Pakistan Environment Protection Act, 1997 (PEPA-97). Important features of this law includes: self-reporting by industry; heavy fines (up to Rupees 100,000 per day) for non-compliance; the channelling back of fines to industry in the shape of soft loans to improve environmental compliance by industry; the setting up of Environmental Tribunals; creation of provincial sustainable development funds; and the right of citizens to monitor non-compliance.

## International Policy

Pakistan is fully committed to the CSD process. We should stress that we share with other nations our profound concern over the deterioration of the natural environment. We believe that sustainable development requires concerted action at both global and national levels. Global action is needed to implement the various international conventions and treaties signed in the last decade, to mobilize public opinion, to establish a framework that engenders cooperation and collaboration between countries, and to ensure that adequate financial and technical assistance is available wherever it is needed in order to fulfill these laudable goals.

As far as global issues are concerned, Pakistan has generally supported the position of the Group of 77 (G77). The G77 has strongly articulated the environmental and developmental interests of Southern countries. In particular, it has staunchly maintained that the historical responsibility for many global environmental problems lies with the industrialized countries of the North; that developing countries should not be asked to forego their legitimate developmental aspirations; that a just international economic order and poverty alleviation are key ingredients of sustainable development; that institutions for international environmental governance should be based on the principles of transparency and democracy; and that new international environmental responsibilities should not be imposed upon developing countries without the concomitant provision of additional resources.

Pakistan does not have an independent position from the G77 on any substantial issue and should support the positions taken by the G77. Moreover, Pakistan has been a leader of the G77—for example, during 1992 Pakistan was the Chairperson of the G77 and played a decisive role in shaping the decisions taken at UNCED in that capacity. Every opportunity should be taken to maintain this leadership role within the Group and support its consensus positions in plenary discussions.

Beyond the above, it should be noted that Pakistan has already ratified both the UN Convention on Climate Change (UNFCCC) and the Convention on Biodiversity (CBD). Particular mention may be made of the Convention on Biodiversity (CBD). A Biodiversity Action Plan (BAP) for Pakistan, prepared through a thorough consultative process, is now in final draft form in preparation for the next conference of the parties (COP) of the Convention. This may be used as an example of Pakistan's commitment to fulfilling its responsibilities under multilateral environmental agreements (MEAs).

However, it should also be highlighted that there is an obligation on the part of the rich countries of the North—which have been largely responsible for creating a number of global environmental problems (e.g. global climate change)—to transfer the required resources and technologies to the developing countries of the South. Given the pressing developmental priorities of the South (including widespread poverty and backbreaking external debts), the developing world cannot be expected to carry the ever-increasing burdens of the global environmental agenda without such assistance. It was abundantly clear at CSD-5 that the North to South flow of environmental assistance, particularly in relation to MEAs, has been well below the adequate or anticipated level. Unless this trend is reversed soon, the assessment of "Rio + 10" will be even harsher than that of "Rio + 5".

(PB # 3, 1998)



**SECTION B:**

**ECONOMY AND**

**TRADE**



## B-1: Economy

### Introduction

***Dr. Sajid Amin Javed, SDPI***

*July 7, 2017*

As of now when I am writing these lines, consensus exists that Pakistan is going through turbulent times at political fronts. However, the opinion is divided when it comes to economic performance of the country. Incumbent government claims the highest growth rate of 5.28 pc in last decade while voices from the other side highlight unprecedented debt accumulation, falling exports and widening saving-investment gap in last couple of years. Similarly, success claimed on highest tax revenue collection can be questioned on the basis of sources of these revenues-the indirect taxes.

Government claims the highest ever budget for federal Public Support Development Program [PSDP]. But at the same time, deteriorating social policy, widening inequalities, lower social mobility-indicating unequal distribution of social and economic opportunities- social exclusion of marginalized remain the realities. All this demands a careful examination of challenges the economy faces, strengths the country can build on and the way forward from now on. This note delves into couple of these challenges with particular focus on argument of sustainability economic growth and development.

Pakistan has presented a boom and bust economic performance historically, lacking any consistency. That the economy has stabilized over the time is a reality. Reasonable economic growth was recorded during 1958-1971 due to easy access of sufficient economic and military aid in the form of SEATO and CENTO pacts along with Korean War. The economy witnessed a phase of low growth then in 1971-77coupled with considerable fall in private investment and rising capital outflow due to a number of restrictions on industrialist as well as increase in petroleum prices and slump in the world market. During, 1979-1988, when Pakistan was a frontline state in the Soviet war against Afghanistan, massive foreign aid coupled with remittances from the Middle East helped accelerate economic growth.

Political instability, worsening law and order, financial sanctions following the end of Afghan war in 1989 and thereafter floods resulted poor economic performance during the 1988-1998. IMF squeezed funding to force the then government to lower the budget and current account deficits. Economic consolidation was the objective with no care to other social costs. Structural Adjustment Program [SAP] was later adopted to reduce fiscal deficit through higher taxes coupled with reduction in public expenditures. Under such prescriptions, the government imposed additional taxes without widening the tax base, whereas, on public expenditures side, largest cuts were made in public development expenditures. Higher military and economic aid injected into the economy to a high economic growth during late 90,s to late 2000.

The global financial crises in 2008 created challenges for economies the world over and Pakistan was no exception to the rule. The exogenous oil and food price shocks, judicial crises and policy failure to act after forming the new government was also the major challenges. Therefore, there was no other option except to return to IMF, World Bank and Asian Development Bank for the injection of funds into the economy. Finally, the incumbent government took in 2013-14 to lead the country within the internal and external crises. The newly formed administration succeeds only to achieve a growth rate of 4.14 pc in first fiscal year of 2013-14, this relatively high growth rate of GDP as compared to past six years (remain on average 3.7 pc) was mainly because of growth in industrial sector despite the fact that the service sector growth falls slightly from 4.85% to 4.29 pc. The overall economic growth of Pakistan according to latest economic survey reports remain 5.28 pc.

The preceding discussion highlights one and the most important aspect common in all regimes that foundations of economy were never sustainable. The good performances were based on foreign aid

[military and economic] and not based on any sound economic policy. Tax collections were coming from indirect taxes, trade deficits were rampant and the borrowing was taken as option to fill the void. Along with many others, ignoring the tradable sector has been the hall mark of economic policy over the time. Despite the fact that export sector growth makes foundations of economic sustainability, exports of the country were and continue neglected. Pakistan's total trade increased from \$2.2 billion in 1971 to \$66.34 billion in 2015 (about 30-time increase) while total trade of India and Bangladesh during the same period increased by 175 and 45 times respectively. This may reflect the lack of attention towards this sector.

The trend seems to be continuing which needs to be reversed. A decline of 20 pc in exports [in dollar terms] poses a serious threat to the sustainability of economic performance in present regime. As the economist noted, the major reason behind this decline is overvalued exchange rate. The stability of economic performance, as compared to 2013, is under threat from distortion in economic policy. Exports sector, facing all forms of in competitiveness including higher production costs, lower ease of doing business [higher cost of doing business], very lower labor productivity coupled with complicated tax systems, becomes most vulnerable to underperform if it goes price in competitiveness via overvalued currency-the present case.

If data from State Bank of Pakistan are guide, Real Effective Exchange Rate (REER) for Pakistani rupee has appreciated more than 25 pc in last four or five years (2010=100). More alarmingly, it appreciated 22 pc since June 2013). Currencies of other countries including Malaysia, Indonesia, India and Korea have devalued by 47pc, 38pc, 30pc and 7pc respectively since 2013 leaving Pakistan uncompetitive in external trade. And the result is secular decline of Pakistani exports, further strengthened by poor product diversification and poor trade diplomacy.

Looking forward, one can see some good opportunities. First and foremost, Pakistan seems moving away from indigenous growth framework and realizing the role of export sector in growth of neighboring countries. In this regards, the country needs to focus on promoting exports based on international competitiveness. A proper strategic framework needs to be put in place to improve labor productivity through skill development for innovation, ensure favorable working environment through a smoothening tax system and restore price competitiveness through letting the rupee take its equilibrium value based on economic fundamentals. This needs a clear short, medium and long run trade policy. A diversification in export products and trading partners is needed. New markets must be searched for through innovative product development. Intraregional trade may provide this opportunity. The reliance on agricultural exports needs to be down sized gradually and focus must be on value addition.

Second, along with stable economic performance in last half decade, China Pakistan Economic Corridor [CPEC] is also opening the opportunities for foreign investors. The confidence of investors needs to be respected and maintained through a well-designed investment policy guiding the investors. In this regard, the incentive package for Special Economic Zones can take the lead. In addition to investment from China, market efficiency based Foreign Direct Investment [FDI] from other parts of world must be the priority-presently it seems missing. FDI must be well tailored with domestic investment so that a productive economic base is formed.

Third, in a broader perspective, Pakistan needs to focus that tradable sector sets the foundation of sustainability and it must make sure to benefit from arrangements of WTO and other global organizations. Most important in this regard is the role of monetary policy-exchange rate policy to be specific. Inward looking growth policy of Pakistan has created an obsession with strong rupee. This needs to be ended. State Bank of Pakistan needs to take the charge and fiscal policy dominance must come to an end, as far as conduct of monetary policy is concerned.

Fourth and finally, base of the economy needs to be shifted from “consumption” to “investment”. Presently, odds are in favor of revamping the broader economic policy of the country. Social policy needs to be framed so as to ensure that maximum benefits reach to those who are most in need-equity at foundation. It is time to move from “inclusive growth” to “inclusive sustainable development” where social, environmental and economic costs of our actions are not imposed to generations to come.

The foregoing set of SDPI’s policy briefs on economy, provides a detailed run down of the issues and suggests relevant policy solutions as well.

# Pakistan Highly Taxed Telecom Market: Fallout and Impact

*Brig (Retd.) Mohammad Yasin*

## Introduction

Pakistan is considered to be among the highly taxed telecommunication (telecom) markets in the world. It ranks second highest in telecom taxation in South Asia. There are several taxes which have to be paid by an ordinary person, who uses a mobile phone. These include sales tax on mobile handset ranging from Rs300-1000, International Mobile Equipment Identity (IMEI) tax on mobile handset ranging from Rs300-1000, Subscriber's Identity Module (SIM) issuance tax of Rs250 and With Holding Tax (WHT) of 14 percent (%) have to be paid by the customer before they actually avail any telecom services. Federal Excise Duty (FED)/General Sales Tax (GST) ranges from 18-19.5%, and 16% FED on financial services is also paid by the consumers.

Total National Tax Number (NTN) holders are 3.5 million while active taxpayers are 0.8 million. In this manner, only 0.6% of mobile subscribers could be actual taxpayers. Taxing majority of Information Communication Technology (ICT) users is unfair. Out of 127 million active mobile users, only one million (0.8 %) are active taxpayers, so remaining 126 million users have no means to adjust their advance tax.

The re-introduction of SIM Activation Tax as the Supply of SIM Tax at Rs250 per SIM is burdensome after investing around US\$ 25 million in the Biometric Verification System (BVS) exercise in 2014-15 and investing in the purchase of US\$ 1.2 billion worth of 3G and 4G spectrum.

## Objectives

The study aims to create awareness among both the public and private sectors about the importance of exploiting useful information resources, address existing difficulties in this respect, foresee future developments which might have an impact on the national economy and provide appropriate recommendations to relevant agencies.

## Methodology

To deliberate on this vital issue, SDPI's Study Group\* on Information Technology (IT) and Telecom held a group discussion on March 3, 2016. The group comprised consultants, scientists, educationists and economists. Apart from the regular members of the Study Group, outside specialists and professionals also participated in the discussion. The group serves to devise policy and planning

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\* SDPI's Study Group on Information Technology and Telecommunications is an informal gathering of consultants, scientists, educationists and economists which meets periodically to discuss and evaluate current developments in the rapidly evolving fields of telecommunications, computers, data processing, networking, mass media, and other issues related to the generation, processing, management, and use of information. Apart from the regular members of the Study Group, outside specialists and professionals are also invited to these meetings to present their views on particular topics. The purpose of these meetings is to create awareness amongst both the public and private sectors of the importance of exploiting useful information resources, address existing difficulties in this respect, and foresee future developments which might have an impact on the national economy and society at large. Where appropriate, the Group serves to devise policy and planning recommendations that may subsequently be pursued with relevant agencies.

recommendations as well that may subsequently be pursued with relevant agencies. Some achievements of the study group have been given at the end (Annexure-A).

## **Discussion**

In Pakistan, there are federal and provincial taxes. Compared to other sectors of the economy, telecom taxes are on the much higher side and are discriminatory. Telecom subscribers who even fall below the threshold of taxpayers are also charged advance income tax on the usage of telecom services. Non-uniformity of taxation among the federation and provinces further aggravates the situation. This state of affairs not only lowers the consumption abilities of consumers, but also adversely affects the growth of telecom sector. It has also impacted the Spectrum Auction and further investment in telecom sector. Officials have been approached at the highest level of government forums for the rationalization of telecom taxes. However, the government remains indifferent to these requests. Resultantly, the telecom operators and service providers are shy of expanding the telecom market. Eventually, it's the government which suffers from lower tax collection.

During the discussion of the study group, speakers shared their observations with the participants about telecom taxation as given below:

**SDPI's Executive Director Dr Abid Qaiyum Suleri said:**

*"Heavy taxation not only discourages new investors intending to enter the market but also hurt the business interests of existing players in the sector. "*

**Telenor Vice-President (Corporate Affairs) Muhammad Aslam Hayat said:**

*"Contribution made by the telecom sector towards Pakistan's economy was Rs26 billion in 2014-15 and generation of Rs449 billion in terms of revenues contributed towards GDP. There are unforeseen taxes, i.e. imposition of 10% Advance Tax on Broadband Spectrum Fee and increase in import duty on telecom equipment from 5% to 20-25% immediately after spectrum auction."*

**Pakistan Telecom Authority (PTA) Director-General (Commercial Affairs) Dr Muhammad Saleem said:**

*"Majority of the subscribers are non-tax filers due to income below the minimum tax limit, hence, cannot get adjustment in their annual tax returns. Federal Board of Revenue (FBR) should either abolish/rationalize WHT or devise a mechanism to charge withholding tax from only those subscribers who are otherwise taxable and are liable to file a tax return."*

**International Consultant on IT and Telecom Pervez Iftikhar said:**

*"Developing countries need ICTs more because basic things like transport systems and service delivery mechanisms are not much developed. ICTs can facilitate in tax collection from consumers. Increase in taxes on importing user devices increases barriers and hence encourage smuggling. Raising taxes on ICT service also raise entry barriers, which give rise to bad practices such as grey traffic termination."*

## **Recommendations**

A number of policy recommendations of stakeholders are given below:

- a. Withholding tax (WHT) is collected from those who are not even liable to pay their Income Tax (as per law), which is illegal as per tax laws. A mechanism should be formulated to charge withholding tax from only those subscribers who are otherwise taxable and are liable to file a tax return. Furthermore, rate of WHT be reduced from 14 per cent to 10 per cent to make it at par with other sectors and peer economies.
- b. General Sales Tax (GST) on telecom services (ranging from 18-19.5 per cent) should be reduced to the average GST rates (i.e. 16 per cent) as in other sectors.
- c. Telecom sector be classified and given “Industrial Undertaking” under clause (b) of section 2(29C) of the Income Tax Ordinance 2001 as earlier promised by government during next generation mobile services (NGMS) auction in 2014.
- d. Federal Bureau of Revenue (FBR) should reduce increase in customs duty from 2-15 per cent to 0-5 per cent for facilitating telecom operators to expedite infrastructure roll-out hence encouraging them to provide quality broadband services to consumers.
- e. Subscriber’s Identity Module (SIM) Activation Tax must be removed as this tax was levied in lieu of tax on import of handsets. Now when another tax on import of mobile phone handsets (ranging from Pak Rs300 to 1000) has been imposed, tax on SIM activation/supply is unjustified.
- f. Owing to fear of immediate loss, government is reluctant to take any bold step in rationalizing the tax rates. Use of information and communication technologies (ICTs) for easy collection of taxes can be one way of overcoming this fear.
- g. Government should collect taxes but on lower rates. It will ensure higher collection.
- h. A focused effort be made to convince provincial governments to withdraw sales tax on broadband services.
- i. The revenues collected from consumers must be audited by some professional body.
- j. To reduce reliance on taxes, we should also explore other revenue streams such as exporting our services to foreign countries.
- k. A detailed incidence analysis of telecom taxes should be independently conducted to assess the burden on various segments of the society.
- l. A macroeconomic assessment is required to assess how current tax and regulatory regime has reduced the competition in the telecom sector. This may be undertaken by Competition Commission of Pakistan.

## **Annexure A**

### **Some Important Achievements of the Study Group on IT and Telecom**

1. During the last 24 years (August 1993 – to date) the Study Group held 60 meetings. The emphasis in the deliberations has been on the efficiency and efficacy of the information and communications services and infrastructure in Pakistan, the higher tariffs and duty structure, regulatory issues, the software industry, inadequate Internet connectivity, support to academics and researchers, and institutional development. The Study Groups has brought to bear the experience, opinions, and

ideas of important scientists, businessmen, academics and technical experts knowledgeable in computers, telecommunications, data networks and satellites.

**2. Early 1993 the Study Group formulated some important recommendations for the Federal Government for an overall improvement in the Information and Communications sectors.**

The Group felt that data networks in Pakistan needed urgent enhancement and improvement to enable Pakistan to reap the fruits of information revolution particularly the Internet. Accordingly the Study Group sent the *following recommendation to the Government:-*

- a. The country is in dire need of establishing "ELECTRONIC HIGHWAYS" with zeal comparable to the interest in building modern motor ways and road networks.
  - b. The private sector should be allowed free participation in the establishment and operation of private and public data networks to cater to a potentially very large demand for such services which is presently suppressed due to the poor service in this area.
  - c. Rationalize existing data tariffs of the Pakistan Telecom Corporation (PTC) for data transfer, which are extremely exorbitant by international standards and improve its service which is unreliable at best.
  - d. Encourage the use of electronic information interchange by government agencies and facilitate the use of these services by the private sector, banks, travel and hotel businesses, and traders. Establishing network links between universities, research establishments, and libraries would be an important step in strengthening our abysmal educational facilities and is a prerequisite for supporting first-rate academic and scientific research.
  - e. Government policies on computer and communication equipment must be further rationalized. The present surcharges on equipment and duties on spares should be removed in order for the country to truly benefit from the electronic revolution which can immediately open up enormous economic and employment opportunities.
3. The Government's response was positive which is discernable from the various steps it has taken in the direction of privatization and liberalization of this sector.
4. The Study Group agitated for the establishment of Regulatory body to respond to the changing needs of the society. The Government established the **Pakistan Telecommunications Authority**.
5. We have been endeavoring to meet the Parliamentary Committees for Information and Communications to explain to them the requirements of the changing times in the context of information and communications and suggest various policy actions to catch up with the time.

**In 1995, Study Group sent a memorandum to the President of Pakistan depicting the prevalent scenario and making important recommendations.**

6. The Study Group has provided a platform for face to face meetings between the data network operators, service providers and officials of the Pakistan Telecommunications Corporation and Pakistan Telecommunications Authority. These meetings have helped understand each other's problems, criteria for government policies and future planning etc. These meetings have also helped in the solution of some problems.

7. As a result of in-depth deliberations, the Study Group has framed policy recommendations which are submitted to the Government after further discussions.

**8. Some of these recommendations appear below:**

Recommendations:

Access to international networks of information and knowledge must become one of the top priorities of the nation. It is an essential prerequisite for moving into the 21st century with dignity. This goal needs urgent attention from the highest levels in the country. In view of this, the following actions are recommended:

**8.1. President's task force on electronic communications**

The task force should be constituted to frame policy on electronic communications, with the following mandate:

- a. To take stock of the current status of the telecommunications infrastructure in Pakistan and other related issues, including the relevant policies and plans.
- b. To formulate a course of action, taking into account the market forces and with a view to making rapid acquisition of new technologies in the field of telecommunications.
- c. To recommend an appropriate legislative framework to regulate future telecommunications services.

**8.2. Creation of a regulatory body**

A regulatory body i.e. the Pakistan Telecommunications Authority (PTA) has been created. However, its membership and mandate is not as yet clear. It should be an independent body, consisting of eminent professionals in telecommunications, engineering, law, finance, economics and other related disciplines, which could respond to the changing needs and requirements of society.

**8.3. Full INTERNET connectivity**

Full INTERNET connectivity should be provided immediately.

- a. Establishment of a high speed international link

The planned link between Karachi and the submarine cable at Fujairah should be installed at the earliest possible opportunity. This should be followed up by the establishment of the link to the Trans Asia Europe terrestrial cable.

- b. Lowering of data transmission tariffs

The entire PTC tariff structure, and in particular the tariffs on international data transmission and cost of leased lines, should be lowered and brought in line with other countries. Access to the international networks by academics should be free. The cost for this should be met by the universities who should be given liberal grants for this purpose.

**8.4. Free or subsidized access for universities, research organizations, libraries and public institutions to international databases and on-line information services should be provided.**

#### 8.5. Elimination of import tariffs on computers and communications equipment

Although computers are subject to lower tariffs, they are still liable to various surcharges amounting to 30 per cent of the value. Besides this, computer software, computer peripherals (such devices as printers, data storage units and modems), and up gradation accessories are subject to higher tariff duties. These duties and surcharges should be eliminated to encourage the information industry.

#### 8.6. Rationalization of licensing agreements for private data networks

Present licensing agreements have too many flaws and impose harsh conditions which would hinder rather than facilitate the progress towards the establishment of information and communications infrastructure in the country. The standard agreements should be reviewed to produce more balanced arrangements.

#### 8.7. Support for the software development industry

Such support can take the following forms:

- a. Declaring software development to be an industry, in order to enable it to access financial support from the financial sector.
- b. Providing software industry with fiscal incentives.
- c. Establishment of technology parks, with high quality services at low cost.
- d. Support for training of professionals in this area.

#### 8.8. Removal of restrictions on use of data communication equipment

Unless directed otherwise, all equipment approved by the US FCC should automatically be considered approved for use on PTC lines.

#### 8.9. Removal of restrictions on public information sources

Many public information sources are subject to restrictions, mainly obsolete, on grounds of security. These sources include satellite and aerial photographs, detailed maps, and even statistical information on electronic format (e.g., government statistical, meteorological, and financial data). Since these data are available from many sources, they do not prevent any large organization from accessing or converting them for its own use. They only obstruct research scholars, analysts, and others who may be interested in these sources.

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**(PB # 57, 2017)**

# Demystifying Exchange Rate

*Sajid Amin Javed and Vaqar Ahmed*

## **1. Introduction**

Exchange rate refers to the value of one currency in terms of another and serves as an aggregate indicator of economic performance and international competitiveness (Bah & Amusa, 2003).

*A prudent exchange rate policy and efficient exchange rate is essential for macroeconomic stability and economic growth. Impulsive exchange rate policies may compromise economic growth of a country through generating persistent balance of payments problems, currency crises and overall macroeconomic insatiability.* Fluctuations in the exchange rate, therefore, have serious bearing upon all sectors of economy but, unfortunately, go almost unnoticed in Pakistan<sup>9</sup>. There is very little public awareness about exchange rate, exchange rate fluctuations and implications thereof. The issue remains less debated and understood in masses, unstated in policy realms and relatively less contested amongst academia and research community of Pakistan. This may be partly because of the complex nature of the issue and partly for not comprehending associated implications fully.

This policy brief is intended to increase the awareness of public about exchange rate and implications of exchange rate fluctuations. The purpose is to generate a debate which can facilitate the formulation of prudent exchange rate policy. We believe that a better understanding of working of exchange rate means a better understanding of monetary policy. This shall help better realization of effective role of the central bank-State bank of Pakistan (SBP) in this case- in formulating and conducting monetary side of economic policy of the country. We anticipate that the debate can add also to the autonomy of the bank once its role is comprehended and recognized. We further believe that an increased understanding of exchange rate policy means enhanced know-how about macroeconomic policy of the country. Overall, a better understanding of working and implications of exchange rate would ignite the process leading to formulation and conduct of efficient exchange rate policy.

## **2. Managing Exchange Rate**

The central banks keep influencing exchange rates even if the declared policy is fully flexible exchange rate regime. It is in this context that International Monetary Fund (IMF) looks into an exchange rate regime on two different grounds to keep a good track of the exchange rate policy i.e. de jure and de facto (Von Hagen & Zhou, 2005). Under the first classification, the central bank of every country announces any of three exchange rate regimes, as shown in figure 1 (above), to the IMF as well as to its citizens. This is known as the official exchange rate regime or de jure classification of exchange rate regime. But sometimes, depending on the policy objectives, the bank may deviate from the announced regime (Alesina & Wagner, 2016). The regime diverging from the announced policy is called de facto exchange rate regime; regime actually practiced.

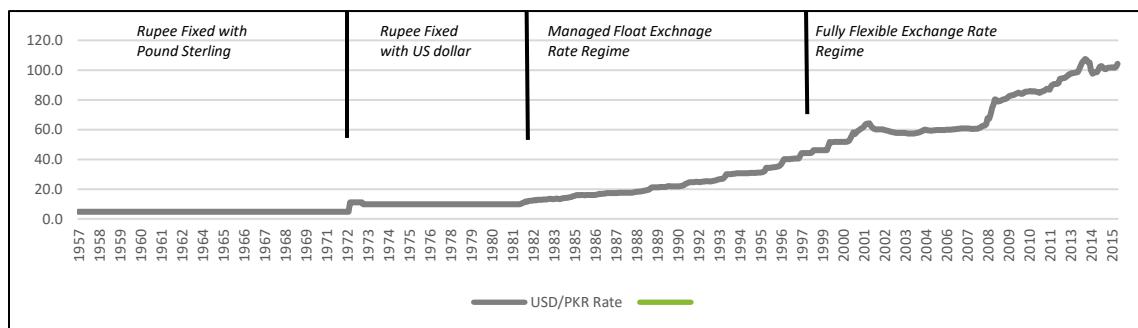
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<sup>9</sup> The range of exchange rate affects extends to export growth, resource allocation, consumption patterns, private investments and employment (Aron et al., 1997; Edwards, 1989; Edwards and Savastano 1999), inequality and poverty (Clements & Lan, 2007).

Take the example of a country which announces that it will follow a fully flexible exchange rate policy. But its central bank may, implicitly, keep intervening in the market to manage supply and demand of currencies hence influencing the exchange rate. These interventions predominantly are motivated by political concerns (Hagen & Zhou, 2002). Exchange rate, in this case, does not reflect the strength/weakness of that particular economy. This creates a situation wherein the practiced exchange rate is different from the one based on actual performance of the country<sup>10</sup>. The difference between two rates is called exchange rate misalignment (Montiel, 2003; Hyder, & Mahboob, 2006).

Since its inception, Pakistan has been through different exchange rate management policies. Figure 1 exhibits the exchange rate regimes for Pakistan. Initially, Pakistan pegged its rupee to pound sterling with the rate of pound sterling 1 equal to PKR 11.43. This peg lasted till 1972. Thereafter, PKR was pegged with US dollar wherein US\$ 1 was equal to PKR 9.90. Pakistan adopted managed floating in 1982 which ended in 1998. Since then, the country has announced policy of following a flexible exchange rate regime.

**Figure 1: Exchange Rate Regimes in Pakistan (USD/PKR rate)**



Source: State Bank of Pakistan Statistics & DWH Department Monthly Average Exchange Rates

One can clearly observe from figure 1 that exchange rate becomes volatile (or unstable) under flexible exchange rate regime and that PKR denoted a depreciation of more than 1057% since Pakistan moved to floating exchange rate i.e. 1982<sup>11</sup>. In other words, the value of Pakistani rupee in 2016 is 10 times lower as compared to 1982. This may make many of us believe that pegging is associated with a strong PKR and brings stability and that it should be a suitable exchange rate regime for the country. But, it is to submit here that the pegged rate may not reflect the competitiveness of country<sup>12</sup> and that linking value of local currency to some foreign currency may be harmful. For example an appreciation in US\$ may artificially overvalue PKR, if both are pegged. This may decrease competitiveness of Pakistan thus affecting the economic performance of the country negatively. It is therefore very important to adopt an exchange rate regime and policy wherein value of currency is reflective of country's economic performance. The evidence,

<sup>10</sup> Known as exchange rate based on economic fundamentals

<sup>11</sup> US\$1 was equal to PKR 9.90 in 1982 while the value of US\$1 is PKR 104.67 today May 6th, 2016. The depreciation equals about 225% since we moved to fully flexible float from managed float as US\$1 was equal to PKR 46.13 in 1998.

<sup>12</sup> Competitiveness here refers to the ability to compete other countries in international trade market. For example a country producing goods for export at low cost than other countries has higher competitiveness as it can sell its products at lower prices as compared to other countries.

in this context, suggests that exchange rate of a currency based on flexible exchange rate regime reflects economic performance of the country (Hussain, 2006).

### **2.1. Manipulating the Value of Currency**

Currency manipulation has become routine business of monetary policy the world over. Central banks, across the globe, keep intervening in exchange rate market to influence the value of currency (Mussa, 1981). Countries with strong export sector prefer “weak currency” so that they can out-compete other countries in export market. China and Japan present the best example and keep their currencies “devalued”. Particularly, China devalued its currency (Renminbi Yuan) to US\$ so consistently that it came to be known as “currency wars”<sup>13</sup>. On the other hands, some countries may prefer strong currency (overvalued). For example, countries with exports which are relatively inelastic and make major share of GDP may also prefer strong currency. Oil exporting countries present such an example. Holding to higher pegs may benefit these countries as these countries generally operate as cartel and don’t compete on oil prices. Also, given the nature of export, the oil, other countries cannot put a competition as they don’t have the product. The peg their currency with US\$ at higher rate so that oil exports can generate higher amounts of revenues.

Developing countries particularly misalign the currency toward upper side and prefer overvaluation. An overvaluation of currency may initially sound good as it increases the purchasing power. This may generate some political gains in short run (Bonomo & Terra, 1999) as the government may claim improved purchasing power of people an outcome of its successful economic policy. It is however important to note that overvalued currency, along with other implications<sup>14</sup>, makes the exports of the country expensive. Some other country may supply the same products at cheaper rate resulting in lost exports for the economy with overvalued currency (Shatz & Tarr, 2000)<sup>15</sup>. Further, a strong currency may also increase imports (Auboin & Ruta, 2011)<sup>16</sup> creating current account deficit<sup>17</sup> as it increases import bill while reduces exports receipts. An efficient exchange rate therefore plays primary role in economic performance of any country. It is in this context that a prudent exchange rate policy lies at the heart of economic policy.

### **3. Factors Causing Movements in Exchange Rates**

Movements in exchange rate are a complex outcome of interactive play of plethora of economic and non-economic factors. This brief primarily discusses the economic factors. The most significant factor in this list is the interest rate. Interest rate can influence the exchange rate through affecting capital inflows/outflows across the countries. Inflation can also produce shifts in exchange rates through affecting exports of a country. Current account balance and terms of trade also serve as source of fluctuations in the exchange rate depending on the fact if a country is a borrower or

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<sup>13</sup> Rodrik (2008) provides excellent evidence on growth effects of undervaluation. The paper is accessible at [http://www.brookings.edu/~/media/projects/bpea/fall-2008/2008b\\_bpea\\_rodrik.pdf](http://www.brookings.edu/~/media/projects/bpea/fall-2008/2008b_bpea_rodrik.pdf)

<sup>14</sup> Detailed set of implications is discussed in section 4 of this brief

<sup>15</sup> Razin and Collins (1997) and Subramanian et al. (2007) provide evidence on negatives of overvaluation.

<sup>16</sup> The paper is available at SSRN 1955847

<sup>17</sup> Current account records the net income from international trade of the country i.e. earning from exports and payments on imports. Exports and imports here refer to trade made in goods and services. A deficit in current account, therefore, means that a country’s spending (payments) on imports is larger than its earning from exports.

lender of foreign capital. The stock of the government debt also affects currency value. Political stability also shapes exchange rate movements through influencing investments. Lastly, perceptions about future can also cause short run movements in exchange rate. A brief description of these channels is provided below.

### **3.1. Inflation, Interest rate and Exchange rate**

Inflation, interest rate, and exchange rate are strongly interrelated (Gupta, 2013). In the presence of higher inflation rate, central bank increases the interest rate to control the aggregate demand through reducing investment<sup>18</sup>. A higher interest rate in home country, say in Pakistan, relative to any other country say USA, attracts more foreign capital, as investors earn higher rate of return on capital (investment). Demand for, hence price of, local currency rises leading to an appreciation of PKR in the short run.

On the other hand, higher inflation means higher costs of production in local market and higher prices of locally-produced goods and services consequently. Country will lose its exports in international market as some other country with lower inflation will provide these products at lower price. This decreased demand for exports lowers the demand for domestic currency as compared to its supply; thus local currency depreciates. Also the increased purchasing power backed by persistent lower inflation may also result in appreciation of currency as real value of currency increases. This makes exchange rate, interest rate, and inflation triangle inextricably entangled.

Further note that impact of interest rate on capital inflows depends on the conditions for mobility of foreign capital and that non-economic conditions like political stability also shape the flow of capital into the country. In case of lower inflation and resultantly lower interest rate in home country, the opposite relation will hold between interest rate and exchange rate (Chortareas & Driver, 2001). Final impact, therefore, depends on the net gain in currency value from interest rate and net loss in it from higher inflation.

### **3.2. Current Account Deficit and Exchange Rate**

Current account deficit also causes fluctuation in the country's exchange rate<sup>19</sup>. A country with deficit in current account demands more foreign currency than it receives (or supplies more of its own currency) and the result is fall in the value of local currency. For example, if we import more from USA than we export to USA, our current account will be in deficit and we need more US\$ to pay for imports. This raises the price of US\$ relative to PKR and PKR depreciates. The current account deficit is most often behind depreciation of PKR. Same holds for terms of trade which is the ratio of export prices to import prices. Better terms of trade for a country refer to a situation where export prices of that country are higher than its import prices. This will increase the demand for domestic currency and hence its exchange rate appreciates (Bailliu & King, 2005). The opposite is true for adverse terms of trade and depreciation of currency takes place.

### **3.3. Foreign Exchange Reserves and Exchange Rate**

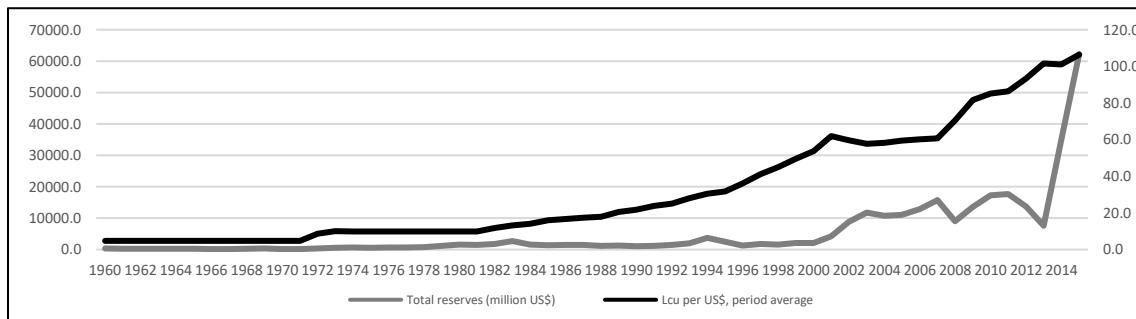
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<sup>18</sup> This is known as tight monetary policy.

<sup>19</sup> The impact of exchange rate on current account deficit itself is discussed in section 4.

The current account balance is also another concept which relates to Foreign Exchange Reserves also known as FOREX reserves (hereafter FOREX). FOREX refer to the reserves of various foreign currency (mostly US\$ in case of Pakistan) held by central bank (SBP in case of Pakistan) of a country. These reserves are kept with the motive to meet the immediate demand of foreign currencies to pay for imports; to intervene in foreign exchange market (maintain supply and demand of foreign currencies); and to pay for foreign loans. The primary objective of all these interventions is to control inflation and exchange rate<sup>20</sup>. A very strong positive association between FOREX reserves and value of PKR is evident from figure 2.

Figure 2: Foreign Exchange Reserves (left) and Nominal Exchange Rate (USD/PKR) (right)



Source: International Monetary Fund, International Financial Statistics and State Bank of Pakistan.

As is evident, an increase in accumulation of FOREX resulted in appreciating PKR against US\$. Nonetheless, it is argued here that this association may not be based on economic fundamentals in terms of sources of accumulation of FOREX reserves. Presently, a rise in Pakistan's FOREX reserves may be primarily attributed to fall in oil prices, remittance inflows and foreign loans<sup>21</sup>. Most importantly, very less of FOREX reserves are coming from exports of the country as the exports are falling over the time actually<sup>22</sup>.

### 3.4. Public Debt and Exchange Rate

A higher debt discourages investments on the one hand and increases the inflation on the other (Nguyen et al., 2005). Both these factors jointly lower the value of local currency i.e. depreciation takes place. Higher debts signal poor economic performance (Westphal & Rother, 2010) which may serve as disincentive for investors as they do not expect reasonable returns from investment in that particular country. Simultaneously, an expected rise in inflation further squeezes the investments as the cost of production for foreign investors goes up. A government facing large debts needs money to pay the loans back. The options left with governments are to take more loans or to print money. With foreign debts already piling up, further availability of loans shrinks and government has to opt for printing of new money.

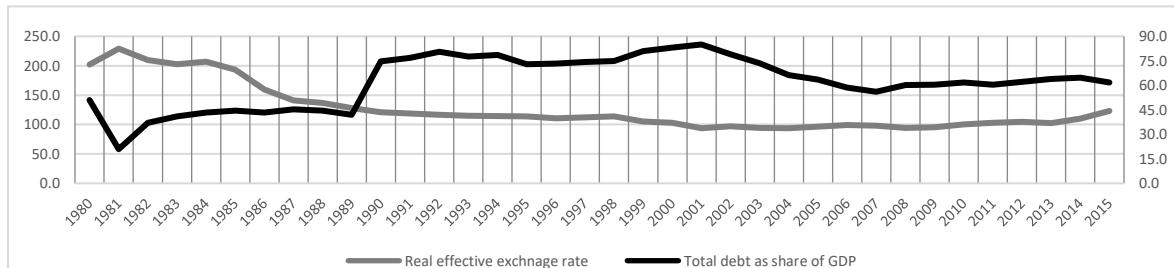
<sup>20</sup> For detail see <http://economics.fundamentalfinance.com/exchange-rate-and-inflation-in-pakistan.php>

<sup>21</sup> More about Pakistan reserve accumulation can be found at <http://tribune.com.pk/story/972449/sbps-reserves-pakistans-journey-from-6b-to-over-15b/>

<sup>22</sup> According to Pakistan economic survey 2014-15, the trade deficit increase by about 0.7 percent because of decline in exports.

Figure 3 shows a strong association between debt and exchange rate for Pakistan. A prominent rise in debt is followed by a fall in real exchange rate of PKR in the 80s and the nexus continues thereafter. It must also be noted that the nexus may go other way round also and a fall in the value of PKR (depreciation) may increase the debt of country. This is known as debt burn impact of depreciation. Either is the case, the argument here is that both are strongly interrelated.

**Figure 3:** Real Exchange Rate of PKR (left) and Total Debt as Share of GDP (right)



Source: Economic Survey of Pakistan, Various Issues and WDI

It is important to document here that depreciation of currency increases the debt of a country, as it has to pay more in terms of local currency (Rehman et al., 2012)- the debt accumulation. Fear of debt accumulation may serve as barrier for debt ridden countries and not let the currency depreciate. For instance, at US\$ to PKR exchange rate of 104 the total external debt of Pakistan during the last quarter of 2015 was US\$ 68,550 million which is equal to PKR 7,129,200 million. Now assume that the PKR depreciates and new exchange rate goes up to PKR 105 per US\$. The total external debt, in this case, will jump to PKR 7,197,750 million; an addition of PKR 68,550 million to debt which we have not borrowed at all. Debt rises as we have to pay more PKR now for the same amount of debt denominated in US\$. This further pressurizes the value of local currency downward.

In this case, depreciation of PKR against US\$ may cost more to the economy in terms of debt burden than favourable impact on balance of payments. Situation can be worst if exports are less sensitive to exchange rate. This may be partially because of nature of exports (primary goods) or other constraints like energy crisis in Pakistan. In this situation, no significant improvement is observed in current account at the one hand, but on the other, debt burden rises. It is important to note that during 2000-2005, Pakistan showed a loss of PKR 60 billion in trade balance whereas the debt burden during the same period increased to about PKR 200 billion<sup>23</sup>.

#### 4. How Does Exchange Rate Affect Us?

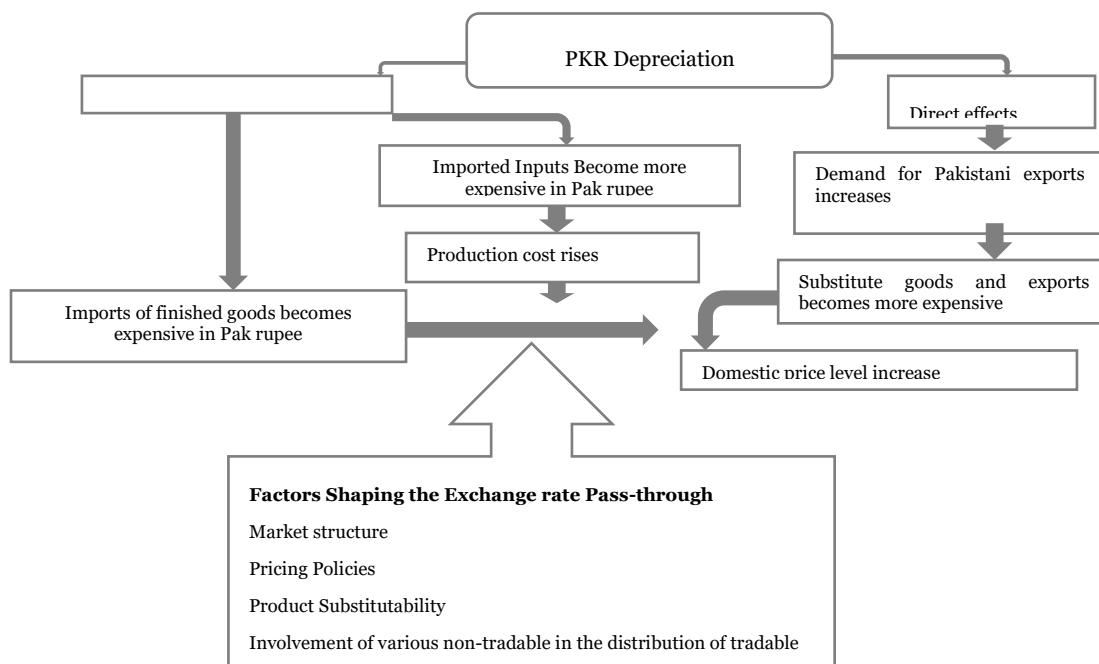
Interestingly, most of the people go without worrying about exchange rate and think that this is the problem of central bank, government or of importers and exporters. It is asserted here that implications of exchange rate fluctuations are wide spread. This section briefly outlines some major impacts of exchange rate and mechanisms thereof.

<sup>23</sup> Details are available at <http://pu.edu.pk/images/journal/pesr/PDF-LES/3%20REHMAN%20Exchange%20Rate%20J%20Curve%20and%20Debt%20Burden.pdf>. In addition to the variables discussed above, remittances and foreign aid also may appreciate the currency. Currently remittances seem to be generating an upward pressure on value PKR; Ductch Disease effect (Farid & Mazhar (2011)).

#### 4.1. Changes in Spending Patterns

The direct and indirect channels through which exchange rate can affect a common man's spending are shown in figure 4 below. Depreciation raises the prices of domestically produced goods through higher prices of imported raw material and capital goods. On the other hand, it increases exports which, through enhanced aggregate demand, may exert upward pressure on prices. A fall in real value of currency further increases prices. Depreciation also leads to a fall in real purchasing power of consumers. Their real income and wealth decreases, and consequently consumption declines<sup>24</sup>, which may result in fall in prices (Edwards, 1989). In general, demand increasing impact of depreciation is stronger. It is however important to note that the net impact may be different for different economies based on the structural and policy factors listed in the bottom block of figure 4.

Figure 4: Exchange Rate Pass-Through to Domestic Prices<sup>25</sup>



#### 4.2. Changes in Saving Patterns

Exchange rate movements are strongly linked with domestic savings (Feldstein, 1983). Exchange rate, through interest rate, affects saving behavior of households. Higher interest rate also motivates households to save more. Also, an increase in the value of local currency (appreciation) encourages domestic residents to spend abroad (either on foreign visits or on imports) which lowers the domestic savings (Lemgruber, 2010). Conversely, higher domestic savings are associated with depreciation of

<sup>24</sup> It is important to note that if the assets are denominated in foreign currency then devaluation may also have a positive wealth effect and expenditures may increase as the devaluation increases values of cash deposits held in foreign currency. The detail transmission mechanism can be found in the paper reachable at <http://economics.fundamentalfinance.com/exchange-rate-and-inflation-in-pakistan.php>

<sup>25</sup> The detail transmission mechanism can be found in the paper reachable at <http://economics.fundamentalfinance.com/exchange-rate-and-inflation-in-pakistan.php>

local currency. Also, depreciation makes exports less expensive in international markets and demand for tradable increase. Tradable refers to goods and services produced for international trade. This leads to higher profits in tradable goods and services resulting in higher investment in the sector. Higher profits are realized in these sectors creating higher domestic savings.

#### **4.3. Changes in Investment Patterns**

Fluctuations in exchange rate also influence investment (Ito, 1996). Appreciation may decrease the cost of production as imported raw materials will cost less now in local market. Investors have incentive to invest more in the production of goods and services using these imported raw materials as inputs (Campa, & Goldberg, 2002). The opposite is true for depreciation. As discussed in previous pages, a fall in the value of currency generates a demand for local goods and services in international market. To meet this increased demand, additional investment is made in the production of these goods and services (Campa & Goldberg, 1999). It is in this context that exchange rate fluctuations can alter level and patterns of investments.

#### **4.4. Changes in Employment and Wage Patterns**

Exchange rate movements have far-reaching implications for labour market. Depreciation or devaluation in currency is associated with increased exports, which generate demand for additional labour. New job opportunities are created. Aggregate demand, therefore, is likely to rise which further generates additional economic activity. This is called demand expansionary effect of fall in currency value. On the other hand, a fall in the value of currency may also reduce employment as real wages of labour declines reducing aggregate demand. Hence less job opportunities are available (Frankel, 2004). Importantly, even if the new employment opportunities are created but are relevant to lower skilled or unskilled labour, income shifts to poor households. These households have lower saving capacity. Lower saving may result in lower investment and in lower employment opportunities eventually. A shift of income towards poor households is however found to be decreasing income inequality. The final impact of depreciation on employment, therefore, depends on the dominance of demand-increasing effect over demand decreasing-effect.

As discussed, real exchange rate significantly affects the prices of imported input used in production process. Amid fall in the value of currency, prices of goods using these inputs increase and the demand thereof falls (Krugman & Taylor, 1978). So does the demand for the labour employed in the production of these goods. Producers will fire labour to reduce output or they will cut the wage level down as the prices of their products have declined. Resultantly, economic growth may decline if the country has production sectors chiefly dependent on imported raw materials. Labour demand is reduced in this case and wages further decline.

A direct outcome of fall in the value of currency is lower real wage. But, exchange rate variability can also affect the labour wages and employment through perceptions about inflation in future. For instance, if producers expect higher input prices in the future, they will rush into international market and will demand more of the inputs before expected rise in prices take place. Production of related goods and services increases breeding new employment opportunities. Demand for labour increases and so does their wage (Campa & Goldberg, 2001). Conversely, opposite will be the case if producers expect lower input prices of raw materials in future.

#### **4.5. Exchange Rate Movements, Inequality and Poverty**

Going beyond economic implications, movements in exchange rates have also social effects. However, the impacts are unevenly distributed. Depreciation in currency, for example, increases exports. But increase in demand for labour may be higher in one particular sector of economy as compared to other sectors. For example, if the country exports industrial products, the demand for labour in this sector increases. Wages of the labour working in this sector increase while those of working in other sectors such as agriculture remain unchanged. Consequently, wage inequality rises. Exchange rate movements may also create income inequality between urban and rural households, which ultimately drives poverty (Clements & Lan, 2007).

As exports rise, income of labour increases and they consume more which leads to increase in aggregate demand. At the same time, increased exports generate demand for local currency and it appreciates. Both, increased aggregate demand and appreciation in currency exert a pressure on price levels, and prices increase. This rise in consumer prices decreases the real value of income of rural households predominantly because wage increased only in urban areas. It increases income inequality between rural and urban households as well as between different sectors of economy (industrial and agriculture for example). Moreover, wages in urban areas are higher, therefore, movements in exchange rate hurt the rural areas more because of low wage rates in rural areas (Jeanneney & Hua, 2001). Exchange rate can also increase inequality based on currency held with households. Rich households may keep deposits in foreign currency such as US\$. Depreciation of PKR will increase the value of deposits as US\$1 is worth more PKR now while the value of deposits held in local currency erodes.

## 5. Conclusion

Movements in exchange rate have far-reaching economic and social implications. Much has been said in literature about macro level implications in terms of exports, investments, and capital inflows, etc. It is however important to note that fluctuation in the value of currency has serious bearing upon common man in various dimensions ranging from spending on health and education to saving and investment from food prices to travel costs and from job opportunities to wage level. Fluctuations in exchange rate, through affecting labour wages and cash deposits, also affect income inequality and poverty. Given the complex nature of the issue, drawing straight forward impact of exchange rate movements is difficult. Nonetheless, some implications emerge.

Appreciation of currency may have short run gains but it adversely affects economic performance in the long run through decreased competitiveness internationally. It may further widen the current account deficit through increased imports and decreased exports. It is noted that short run gains can motivate governments to manipulate exchange rate and overvalue the local currency, as it wins political following through improved purchasing power. Also net importers of goods and services may have incentive to have favourable view on overvaluing of currency as it makes imports less expensive. The incentives are particularly higher for businesses selling the final products in local market. Exporters, on the other hand, face a loss in overvalued currency as they are not able to compete in international market.

It is argued that depreciation may increase debt burden in short run but enhances economic competitiveness in the long run. It increases exports, decreases imports and thus reduces trade deficit. The gains from depreciation, however, need to be transferred to citizens as they are distributed unequally. We conclude that a prudent exchange rate policy lies at the heart of economic policy and

shapes the economic performance of any country. Monetary authorities in the country must ensure a prudent exchange rate policy optimizing the performance of the economy. An impulsive exchange rate policy needs to be avoided. It is in this context that SBP has a great role to play in conduct of monetary policy leading to an efficient exchange rate. Fiscal prudence can make the job of central bank easier. Financial awareness is becoming increasingly important and SBP needs to take steps to raise financial awareness of public and policy offices particularly on working and implications of exchange rate. Doing so, the bank can ensure penetration of its policy steps into large segment of population

### **Key Messages**

1. Fluctuations in the exchange rate have serious bearing upon all sectors of economy but, unluckily, go almost unnoticed in Pakistan. There is very little public awareness about exchange rate, exchange rate fluctuations and implications thereof. (S-1)
2. Developing countries particularly prefer overvaluation. An overvaluation of currency may initially sound good as it increases the purchasing power and may win political following in short run. An overly strong currency, however, may create current account deficit as it increases import bill while reduces exports receipts (S-2)
3. Fear of debt accumulation and short run gains from strong local currency can motivate governments to manipulate exchange rate and overvalue the local currency. (S-3)
4. Fluctuation in the value of currency has serious bearing upon common man in various dimensions ranging from spending on health and education to saving and investment from food prices to travel costs and from job opportunities to wage level. Exchange rate movements have a social dimension also and affect income inequality and poverty through affecting labour wages and cash deposits. (S-4)
5. A prudent exchange rate policy lies at the heart of economic policy and shapes the economic performance of any country. Monetary authorities in the country must ensure a prudent exchange rate policy optimizing the performance of the economy. It is in this context that SBP has a great role to play in conduct of monetary policy leading to an efficient exchange rate. Fiscal prudence can make the job of central bank easier. (S-5)
6. Financial awareness is becoming increasingly important and SBP needs to take steps to raise financial awareness of public and policy offices particularly on working and implications of exchange rate. Doing so, the bank can ensure penetration of its policy steps into large segment of population. (S-5)

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**(PB # 52, 2016)**

# Political Economy of Exchange Rate Misalignment:

## A Synthesis of Lessons for Pakistan

*Sajid Amin Javed, Vaqar Ahmed and Wajid Ali<sup>26</sup>*

### **1. Introduction**

This policy brief makes three important points regarding exchange rate misalignment in Pakistan<sup>27</sup>. Firstly, that the Pakistani Rupee (PKR) has historically remained deviated from its equilibrium value. Secondly, that political and institutional set up has strong association with nature and magnitude of exchange rate misalignment and that overvalued PKR is preferred by the policy offices in general. And thirdly, that the academic and research circles in Pakistan ignore the political and institutional drivers of misalignment of PKR. This has implications for monetary policy of the country as the State Bank of Pakistan assumes no misalignment in exchange rates while setting its policy objectives including inflation targeting and output growth. A misalignment in PKR can therefore distort effective monetary policy formulation. We further argue that assessments of misalignment of PKR while ignoring the political and institutional fundamentals produce erroneous estimates and incomplete analysis for policy formulation.

In this context, the issue demands a careful examination. Misaligned exchange rate distorts the relative prices resulting in misallocation of resources. The evidence exists that PKR has always been misaligned from its value. Misalignment is particularly damaging when the currency is overvalued- this is the present case for PKR. Persistent overvaluation signals a currency crisis (Kaminsky et al. 1998) and it is associated with lower levels of GDP per capita growth, falling exports and imports (in long run), declining investment and savings and decreasing productivity (Ghura & Grennes, 1993)<sup>28</sup>. Experts find the overvaluation of PKR to have caused the balance of payments crises, deteriorated terms of trade and deficit in current account of the country. Against this backdrop, this brief draws the attention of policy makers towards the role of political and institutional drivers of exchange rate misalignment. An appraisal of scholarship on exchange rate misalignment in Pakistan is provided highlighting that it fails to educate public on the role of political and institutional factors in shaping exchange rate policy.

### **2. To Devalue or To Defend- Political Economy of Making a Choice**

In the face of pressure on exchange rate policy, governments have two options 1] to devalue the currency 2] to defend overvaluation of the currency. Classical political economy dilemma of “purchasing power” or “competitiveness” is faced here. Mostly, with a short run horizon limited to ruling period duration, governments pick the former at the cost of later one (Broz & Frieden,

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<sup>27</sup> Exchange rate misalignment is deviation of value of currency from its equilibrium value wherein equilibrium values is estimated using economic fundamentals of the economy which include but are not limited to growth, budget deficits, trade etc.

<sup>28</sup> Latina American and African countries present best case study

2006)<sup>29</sup>. The second option involves increasing interest rates and to sell foreign currency reserves-known as tight monetary policy<sup>30</sup>.

What option shall be exercised? This depends on the type of political regime<sup>31</sup> and announced exchange rate regime. Taking the first option- devaluing the currency- generates two types of costs. Firstly, there is an economic cost. Devaluation tends to raise import prices and hence increases inflation. It decreases the purchasing power of the consumers and adversely affects firms' productivity through increased inflation (Frieden, 1991; Walter, 2008, Javed & Vaqar, 2016). Devaluation of currency also increases the debt of a country, since it has to pay more in terms of local currency towards debt settlement (Rehman et al., 2012, Javed & Ahmed 2016)<sup>32</sup>.

Most importantly, devaluation has political implications via negative signaling effect. For instance, it negatively affects politicians' reputation. A fall in the value of currency is considered a sign of failing economy (Walter, 2008), which may lead to shorten or terminating the term of ruling party. Also, the public perceives it as the government reneging from its commitment of maintaining stable exchange rate. This set of chain of events (potential or otherwise) usually pushes the democratic governments to defend the overvaluation.

To keep the exchange rate stable, the policymakers may raise interest rate and sell foreign exchange earnings in order to defend the overvalued exchange rate while facing the speculative pressures. Significant adjustments have been made in Pakistan exchange rate during the 1980s by keeping State Bank of Pakistan policy rate (discount rate) as high as 10 percent on average and by selling reserves. Pakistan's reserves as percent of GDP fell from 6.62 in 1980 to 3.10 in 1988.

The preceding discussion suggests that both the available options have contractionary effect on the economy. Concerns which can influence the next election outcomes are common in both democratic and autocratic regimes (Shi, 2006). Democratic regimes are, however, more sensitive to devaluation as they have to go to public for votes. The cost of devaluation is even higher if people perceive strong currency as an indicator of good economic policy (which is generally the case in developing countries). Furthermore, devaluation of currency near elections may even lead to failure in elections if voters perceive it as an indication of incompetent policy of the incumbent government. Therefore, incumbent governments most frequently choose the option of postponement of devaluation till the election is over so that it may not affect the election outcomes (Walter, 2008). Evidence corroborates that Pakistani PKR has always depreciated soon after each election (Malik & Asghar, 2013).

### **3. Exchange Rate Misalignment: A Case of Pakistan**

Central banks can keep influencing exchange rates even if the declared policy is a fully flexible exchange rate regime. As previously discussed, these interventions are predominantly motivated by political concerns. Figure 1 below shows exchange rate misalignment for Pakistan. Thick/bold

<sup>29</sup> Available at <http://scholar.harvard.edu/files/jfrieden/files/PEofERHandbook.pdf>

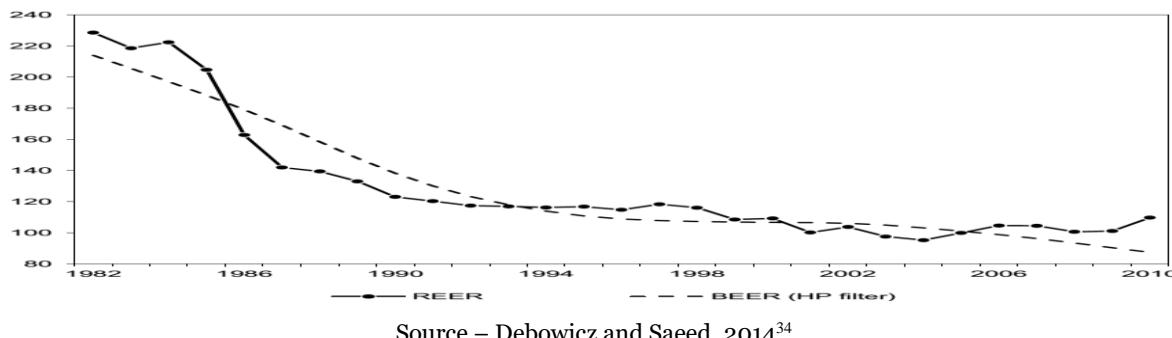
<sup>30</sup> This is very important to note that sticking to this option for longer periods may put the economy to recession

<sup>31</sup> Autocratic vs. democratic

<sup>32</sup> Fear of debt accumulation may serve as barrier for debt ridden countries and they do not let the currency depreciate (Javed & Ahmed, 2016).

curve exhibits Real Effective Exchange Rate (REER) which actually is practiced while dotted line depicts exchange rate estimated based on economic fundamentals<sup>33</sup> of Pakistan. Difference between the two lines gives exchange rate misalignment. As is evident, PKR is found to be overvalued in the 80s (1980-85) and undervalued during 1986-1994. Most importantly, PKR is found to be overvalued after 2006. According to the recent estimates of IMF (2015) Pakistani currency is overvalued between 5-20 percent during the past two years. It is interesting to notice that two lines do not overlap suggesting that PKR is always misaligned in either direction-overvalued or undervalued.

**Figure 1:** Misalignment of the Real Exchange Rate in Pakistan (1982-2010)



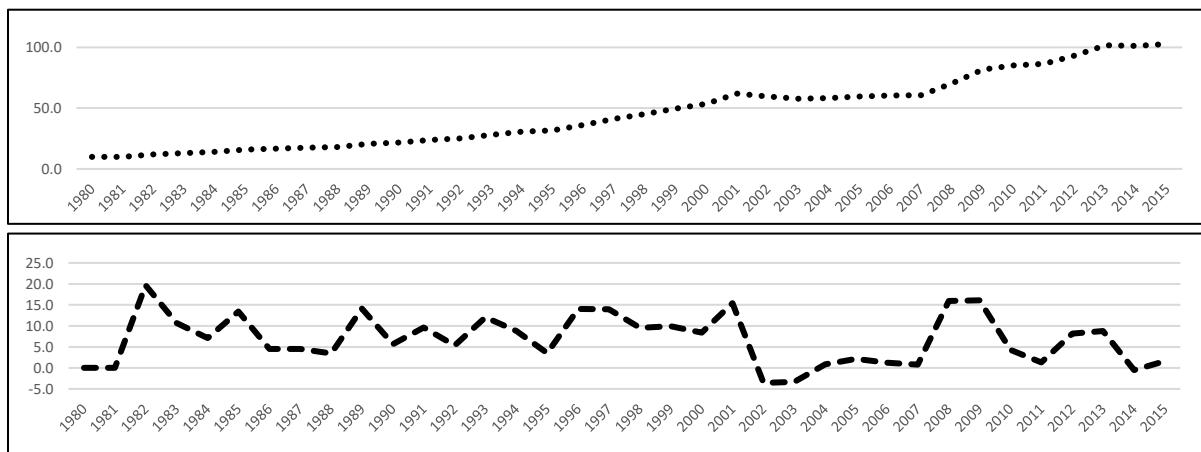
Source – Debowicz and Saeed, 2014<sup>34</sup>

It is argued here that explaining misalignment in the context of economic fundamentals may be misleading. Because of its redistributive effects, the decisions about the exchange rate regime and level remains a political priority. Domestic political and institutional structures influence the choice of monetary policy by changing the policymaker's preferences in favour of political motives<sup>35</sup> and incentives. It is in this context that it is biased to ignore the role of political factors in determining the value of domestic currency (Bernhard & Leblang, 1999). The exchange rate policies significantly affect the sustainability of reforms and hence decide the fortunes of politicians (Markiewicz, 2006).

<sup>33</sup> The fundamental includes the difference between the domestic and the trade-weighted foreign real interest rate, fiscal deficit as percentage of GDP, the relative terms of trade i.e. the unit price of exports to the unit price of imports, the Balassa-Samuelson effect i.e. productivity growth differentials between the tradable and non-tradable sectors within and across countries and net foreign assets of Pakistan as percentage of GDP.

<sup>34</sup> Full length paper is available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2442023](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2442023)

<sup>35</sup> The institutional factors, for example, central bank independence are very crucial in exercising the influence on the conduct of monetary policy

**Figure 2:** Y-O-Y Exchange Rate of PKR/US\$ (Panel A) and Its Growth Rate (Panel B)

Source: State Bank of Pakistan

Evidence suggests that autocratic regimes prefer stable exchange rate regime because they have small “selectorates” (Broz, 2002 & Hall, 2008) and that democracy and exchange rate stability are negatively related. An examination of exchange rate policy of Pakistan implies this connection. Historical observation of exchange rate of PKR with US dollar highlights that PKR was most stable during Musharraf’s autocratic regime (2000-2007) with average growth rate of 2.2 percent. This is in contrast to average growth<sup>36</sup> in exchange rate of 9.69 percent during democratic regime of Nawaz’s and Benazir’s (1989 to 1998) as shown in figure 2 above (Panel B). The higher growth in exchange rate during democratic regime is associated with larger devaluation due to transformation of economy from a semi-closed to a more open or market-oriented economy along with the crisis created by nuclear test in 1998 (Janjua, 2007).

As mentioned earlier, misalignment, particularly overvaluation, is found dissuading the economic growth. Major indicators for Pakistan by periods of overvaluation and undervaluation in Rupee are provided in table 1 below.

Table 1: Performance of major macroeconomic indicators (Period average) in periods of over/under valued exchange rate

|   | 1986-93<br>(Undervalued) | 1993-99<br>(Overvalued) | 1999-2005<br>(Undervalued) | 2005-15<br>(Overvalued) |
|---|--------------------------|-------------------------|----------------------------|-------------------------|
| Real GDP growth                                       | 5.4                      | 3.4                     | 4.7                        | 3.7                     |
| Total external debt stock (growth rate) <sup>37</sup> | 7.9                      | 5.8                     | 0.10                       | 7.2                     |
| Current account deficit (% GDP)                       | -3.4                     | -3.9                    | 1.3                        | -3.1                    |
| Inflation (annual % of CPI)                           | 8.1                      | 9.4                     | 5.1                        | 10.2                    |
| Exports of goods and services growth                  | 13.0                     | -2.2                    | 12.4                       | 2.1                     |
| Imports of goods and services growth                  | 4.9                      | -1.4                    | 7.7                        | 0.9                     |

Source: The statistics are taken from different editions of economic survey of Pakistan

<sup>36</sup> Higher growth in exchange rate means PKR depreciate against the dollar at greater extent.

<sup>37</sup> The total external debt includes the concessional external debt from official lenders at concessional terms defined as loans with an original grant element of 25 percent or more, loans from major regional development banks--African Development Bank, Asian Development Bank, and the Inter-American Development Bank--and from the World Bank and long-term debt outstanding and disbursed at year end.

Note: The periods of under/overvaluation are identified based on misalignment of rupee as given in figure-1

From table 1, one can clearly observe that Pakistan performed better in periods of undervalued exchange rate than with an overvalued<sup>38</sup> currency. The average growth rate of real GDP is higher in periods of undervalued currency as compared to the episodes of an overvalued PKR. Furthermore, the highest growth for exports is documented in the periods when PKR was undervalued. A higher growth in imports suggests an increased economic activity. Over all, we can conclude that devaluation spurs economic activity and growth and that overvaluation dissuades the both.

#### 4. A Synthesis of Literature from Pakistan

It is well established that exchange rate misalignment has serious implications for the economy and that Pakistani PKR has historically remained misaligned from its equilibrium value. But the literature on the issue is scant in Pakistan. Available literature is limited to economic fundamentals-based identification of the drivers of misalignment (Hyder & Mahboob, 2006; Qayyum, et al. 2004; Debowicz & Saeed, 2014; Janjua, 2007; Zakaria, 2010). No study incorporates political and institutional factors involved in the process. Furthermore, assessment of impact of misalignment is limited to growth (Zakaria, 2010; Javed & Farooq, 2009; Azid et al., 2005), exports (Mustafa & Nishat, 2004; Humayon et al., N.A; ), and imports and trade (Janjua, 2007; Saqib & Sana, 2012; Khan et al., 2014; Alam, 2015; Afzal, 2007).

The most significant drivers of exchange rate misalignment analyzed in Pakistan include terms of trade<sup>39</sup> , trade openness<sup>40</sup>, net capital inflows<sup>41</sup>, relative productivity differential<sup>42</sup> and current government consumption<sup>43</sup>. Some of the studies report workers' remittances<sup>44</sup>, interest rate differential and fiscal deficit<sup>45</sup> and net foreign assets as major drivers of misalignment of PKR. Few researchers have identified capital accumulation, capital inflows, foreign exchange reserves and domestic credit as the major drivers of exchange rate misalignment in Pakistan<sup>46</sup>.

Looking into the literature available in Pakistan, we find conflicting evidence regarding the direction of misalignment. Hyder & Mahboob (2005) conclude that exchange rate remained undervalued and overvalued during 1978 and in 2005 respectively while Janjua (2007) finds evidence for undervalued PKR in 1978. Qayyum, et al., (2004) and Janjua (2007), report that PKR was overvalued in 2006<sup>47</sup>. Similarly, Debowicz & Saeed (2014) find that the rupee was overvalued in 2010: however, Zakaria, (2010) reports it to be undervalued. Hussain, (2008) maintains that exchange rate was overvalued during (1970-1978), close to equilibrium during (1978-1988) and again overvalued in (1989-1999 and 2000-2007).

<sup>38</sup> Refer to Javed & Vaqar (2016) for details on Interlinkages

<sup>39</sup> Debowicz & Saeed, 2014; Hussain, 2008; Janjua, 2007; Hyder & Mahboob, 2005

<sup>40</sup> Janjua, 2007; Hyder & Mahboob, 2005

<sup>41</sup> Debowicz & Saeed, 2014; Hussain, 2008

<sup>42</sup> Debowicz & Saeed, 2014; Janjua, 2007; Hyder & Mahboob, 2005

<sup>43</sup> Zakaria, 2010; Hussain, 2008; Janjua, 2007; Hyder & Mahboob, 2005

<sup>44</sup> Hussain, 2008; Janjua, 2007; Hyder & Mahboob, 2005

<sup>45</sup> Debowicz & Saeed, 2012 report interest rate differentials and net foreign assets also.

<sup>46</sup> Zakaria (2010)

<sup>47</sup> Findings are consistent with Hyder & Mahboob, (2006)

A similar disagreement on explanations of misalignment is evident. Hyder & Mahboob, (2005) conclude that undervaluation was because of fall in the value of the dollar against major currencies while overvaluation was because of excess foreign exchange liquidity. Zakaria, (2010) reports that undervaluation is the result of sanction imposed in wake of nuclear test. Janjua (2007) finds appreciation of the real effective exchange rate behind misalignment of PKR. According to Hussain (2008), deterioration in terms of trade and inflation explain the overvaluation<sup>48</sup> between the periods of 2000-2007.

The set of conflicting findings on nature, direction, magnitude and the drivers of misalignment can be attributed to the use of very varied sets of specifications/explanatory variables and estimation techniques. Examination of modeling and estimation techniques applied in these studies clearly indicates that much of the literature ignores the structural issues. Economic series adapt to different regimes such as financial crisis and unexpected changes in economic policy. The true model of exchange rate in a dynamic economy like Pakistan may be changing over the time leaving the relationship between exchange rate and other macroeconomic variables varied and difficult to define<sup>49</sup>.

A look into the extant literature clearly shows that the drivers of exchange rate misalignment are limited to economic factors only, while ignoring the political and institutional factors that cause misalignment. Finally, we find that the existing studies do not provide a contextual explanation of deviation of PKR from its equilibrium value. The discussions are only limited to macro fundamentals. More so to the set of fundamentals used in the particular study.

## 5. Conclusion and Way Forward

Exchange rate policy faces substantial challenges in Pakistan. Evidence shows that structure of domestic political institutions influence the choices of monetary policy by changing the policymakers' preferences in favour of political will. Political factors have prevailed in determining exchange rate for PKR also. Faced with the trade-off between purchasing power and competitiveness, governments seem choosing the former. The cost is the lost competitiveness. And episodes of overvaluation have brought the poor economic performance to the economy.

An overvaluation of currency may initially sound good as it increases the purchasing power. This may generate some political gains such as debt stock should look small in quantity in terms of domestic currency. Also, the government defends the overvaluation-avoids devaluation- to maintain its credibility even though it harms the economy in the long run. It is however important to note that overvalued currency, along with other implications makes the exports of the country expensive. An overvalued exchange rate makes domestic produce uncompetitive in foreign markets, increase their cost of production, lower profits and remove the incentive to produce more. Exports and economic activity fall. In long run, imports may fall also. It is in this context that a prudent exchange rate policy lies at the heart of economic policy.

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<sup>48</sup> These mixed results in drivers, nature and sources of misalignment come from different set of specifications, alternative controls and the varied estimation techniques.

<sup>49</sup> Markov Regime Switching Analysis is used to capture the structural shifts by Terra, & Valladares. (2010, Takagi, 2010; and Valladares, 2002 among others

The loss of competitiveness resulting from overvaluation needs to be corrected. It can be done on two fronts. First, the government can use internal devaluation policy<sup>50</sup>. Second, maintaining the equilibrium value of PKR and avoiding the overvaluation. The competent authority needs to initiate such a set of policies that reduces the cost of production which will in turn enhance productivity e.g. the costs of electricity and transport. Also, the government needs to focus on the cost of doing business in sectors like manufacturing and energy. Real depreciation in exchange rate could be assured via removing the trade restriction to liberalize the trade.

In the context of second option of maintaining equilibrium value of PKR through prudent exchange rate management, strengthening effective autonomy of SBP is essential. We propose including greater number of independent members in Monetary and Fiscal Policy Coordination Committee (MFPCC). Furthermore, the Senate and National Assembly Standing Committees on Finance and Commerce should take a pro-active approach in the oversight of exchange rate management. The committees can invite the SBP Governor for a detailed briefing on how exchange rate is being managed to help exports, consumer and producer surplus. We propose that both the committees should have the provision to consult and seek advice from independent policy research organizations/institutions on improved ways of managing exchange rate, export competitiveness and long term productivity in real sectors.

Finally, scholarship on exchange rate misalignment in Pakistan needs to model the political and institutional factors behind fluctuations in the value of PKR. Future literature on the issue needs nesting the domestic political economy of exchange rate with the models based on economic fundamentals. Only then, we can ensure the usefulness of research for an informed monetary and exchange rate policy. A strong collaboration between SBP, research scholarship, policy offices and civil society research organization can create an environment which ensures the efficient conduct of monetary policy to restore stable exchange rate for PKR which is compatible with international competitiveness of the country.

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<sup>50</sup> Set of Policies that reduce the cost of production by initiating the productivity boosting measures is called internal devaluation policy.

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# CPEC: A Chinese Dream Being Materialized Through Pakistan

*Shakeel Ahmad Ramay*

## 1. Introduction

Sustainable growth and development in China during the last four decades has assigned the country a special status in the world economy. The financial crisis of 2007-08 not only strengthened the Chinese economy but also enhanced its role and say in global governance. Though China has started redefining its role in the 1990s, war on terror gave it an ample time to think and devise its strategies in accordance with the new world scenario. During this period when the world was engaged in war on terror and was hit by financial crises, China increased its trade and international recognition, revisited its old relations, and ventured in new partnerships and friendships. President Xi Jinping for the first time raised the slogan of constructive engagements across the world.

South Asia, being the neighbour of China, has a special significance in enhancing the agenda of constructive engagements, which is now evident from the active engagement of Chinese leadership in South Asia. Mr. Xi visited South Asian countries, and announced huge investment packages and trade enhancement programmes for them. China has become actively involved in Afghanistan for peace building and development.

In line with its defined strategic order, China has now started working more closely with Pakistan in areas of new investments and partnerships. The process started way back in the 1990s; however, a joint declaration in this regard was the concrete outcome after a meeting between President Hu Jintao and President Gen. Pervez Musharraf in 2003 at Beijing<sup>51</sup>. The declaration highlighted the areas of cooperation for future. A joint statement in 2006 further strengthened the cooperation when Free Trade Agreement (FTA) was signed during the visit of President Hu Jintao to Islamabad in 2006. It gradually expanded the trade volume between Pakistan and China from \$1 billion in 1998 to \$15.15 billion in 2015<sup>52</sup>. This enhanced cooperation then laid the foundation of China-Pakistan Economic Corridor (CPEC).

These days, CPEC is a hot topic and the most debated subject in Pakistan, South Asia, and Asia and to some extent in other parts of the world. In Pakistan, there is confusion about the corridor's route, as provinces have shown their concern over it. South Asian countries are divided on the subject while some look at it as an opportunity for development and prosperity. Others look at it as an alliance against their interests. Asian countries and global community have mixed opinion. Keeping in view all the perceptions, this paper demystifies the confusion and presents the facts.

## 2. Historical Background of Pak-China Relations

Pakistan and China has been enjoying cordial and friendly relations since 1950. The first decade of relations was not as smooth as it were after 1960 especially after the China-India war, and Pakistan-

<sup>51</sup> Ministry of Foreign Affairs, Peoples Republic of China, China-Pakistan Joint Deceleration, November, 2003, [http://www.fmprc.gov.cn/mfa\\_eng/wjdt\\_665385/2649\\_665393/t40148.shtml](http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/2649_665393/t40148.shtml)

<sup>52</sup> Laurence VANDEWALLE, June,2015 In-depth Analysis Pakistan and China: 'Iron Brothers' Forever? Directorate-general for external policies, policy department European Parliament 549.052

India war. At first, Pakistan was reluctant to accept China due to differences between communist and capitalism blocs. The two countries also did not know much about each other, which hindered their bilateral cooperation. Fortunately, at that time the then minister for foreign affairs, Sir Zafarullah Khan, had some knowledge about Chinese mindset, which paved the way for Pakistan-China relations<sup>53</sup>.

Relations between the two countries later strengthened after the devaluation of Indian currency in 1949, which impacted Pakistan's economy badly. Pakistan was importing coal for its nascent industry but the devaluation halted the trade leaving Pakistan with no choice except to enter into an agreement with China on barter trade of coal for cotton. Pakistan also supported the permanent seat of China at United Nations Security Council<sup>54</sup>. Relations further enhanced after the two countries signed a trade agreement in 1953<sup>55</sup>.

Signing of SEATO and CENTO in 1954 and 1955 respectively created some suspicion among Chinese, as they conceived it as a threat to regional and national security. However, Pakistan clarified China that it only signed these as a safeguard against the threat from India<sup>56</sup>. Pakistan also utilized the Bandung Conference to clarify the doubts and China endorsed Pakistan's seven pillars of peace at the conference<sup>57</sup>.

President Ayub Khan's statement in 1959 about Tibet again created problems for Pakistan with regard to relations with China<sup>58</sup>. Fortunately, the damage was controlled by the then commerce minister Zulfikar Ali Bhutto and foreign secretary S. K. Dehlavi. Signing of agreement on border demarcation by Mr. Bhutto in 1963 gave an impetus to Pak-China relations. Moreover, China also helped Pakistan during the war of 1965, which brought two nations very close to each other. However, China's neutral stand during 1971 was conceived by many Pakistani leaders as a sign of no interest<sup>59</sup>.

From 1970s onwards, the relations between Pakistan and China strengthened more in all sectors. China has generously supported Pakistan in military, missile and nuclear program, and economic sector, even during the sanctions imposed by the US. This led to confidence building between Pakistani and Chinese policy makers and people. As a result of this long-standing friendship, we see a big achievement in the form China-Pakistan Economic Corridor (CPEC).

<sup>53</sup> Chaudhri, Muhammad Ahsen. (1987). 'Strategic and Military Dimensions in Pakistan-China Relations'. In *Pakistan and World Society*. Karachi: Royal Book Company, 67-94.

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<sup>58</sup> Jain, R. K., (ed.). (1981). *China South Asian Relations 1947- 1980*, vol. 2. New Delhi: Radian Publishers, 1981)

<sup>59</sup> Umbreen Javaid, and Asifa Jahangir Pakistan-China Strategic Relationship: A Glorious Journey of 55 Years ,JRSP, Vol. 52, No. 1, January-June, 2015

### 3. China Emergence as Global Leader

China has been working since decades to restore its lost glory. Since Mao's time, China has devised a policy of cosmopolitanism and made it the most important pillar of its all policies. First, China worked with group of Non-Allying countries and gradually enhanced its role. Bandung Conference as launching pad and strengthened its relations with many developing countries. China also remained neutral in international affairs and focused gradually on the economic development and building economic relations with the world.

The first step on this direction was its economic assistance for South East Asian Countries during the economic and financial crises of 1990. It was also the beginning of change of relations with South East Asian Countries<sup>60</sup>. President Hu Jintao, during his tenure, remained focused on economic development opportunities and building more close ties. During that period, China emphasized its relations with Middle East, Central Asia and Africa.

President Xi, gave a new direction to foreign policy and initiated "Constructive Engagement" policy. Economic engagement was given the prime focus to move forward the agenda of constructive engagement.

Mr. Xi is aggressively pursuing this idea through the Silk Route, which comprises roads, rail networks and maritime routes. It is also known as "One Belt One Road". China is promoting Silk Route as a trade and financial initiative.

However, many experts believe that it is not only a trade or economic initiative but also a plan for the expansion of China's role in the world. China is building its leading role in Asia and beyond for economic and political cooperation through "One Belt One Road"<sup>61</sup>. Asian Infrastructure and Development Bank, and Naval bases in different countries are being quoted as examples. Creation of Asian Infrastructure and Development Bank is being taken as competitive to existing financial system and supremacy of USA in the international financial sector<sup>62</sup>.

String of Pearls, a term which is being used to describe a series of Sea Ports, i.e. Sri Lanka, Bangladesh, Burma and Pakistan has been considered as strategic investment to curtail India<sup>63</sup>. Construction of Djibouti base is another example. Moreover, recently China also marked the vast area in South China Sea as its territory and claimed it as part of China. USA<sup>64</sup> has strongly opposed this move along with South East Asian partners. However, China is moving ahead on this.

<sup>60</sup> Bruce Vaughn, Wayne M. Morrison April 4, 2006) China-Southeast Asia Relations: Trends, Issues, and Implications for the United States, Congressional Research Service ~ The Library of Congress

<sup>61</sup> wang, J. (2015). China's 'new Silk road': a case study in Eu-China relations. in

a. amighini& a. Berkofsky (eds.) Xi's policy gambles: The bumpy road ahead (pp. 92–109). Beijing: iSpi. [http://www.ispionline.it/it/EBook/CHina.poLiCY.2015/CHina. poLiCY\\_Cap.6\\_EBooK.pdf](http://www.ispionline.it/it/EBook/CHina.poLiCY.2015/CHina. poLiCY_Cap.6_EBooK.pdf). accessed 12 november 2015

<sup>62</sup> Xu, S. (2015). Visions and actions on jointly building Silk road Economic Belt and 21st Century Maritime Silk road. national Development and reform Commission, Minis- try of Foreign affairs, and Ministry of Commerce of the people's republic of China, with State Council authorisation. Beijing, 28 March. [http://en.ndrc.gov.cn/newsrelease/201503/t20150330\\_669367.html](http://en.ndrc.gov.cn/newsrelease/201503/t20150330_669367.html). accessed 12 november 2015

<sup>63</sup> Rosheen Kabraji December 2012 The China-Pakistan Alliance: Rhetoric and Limitations Chatham House Asia Programme Paper ASP PP 2012/01

<sup>64</sup> State Department, United States of America,

International media, academicians, many western countries and India believe that CPEC is a strategic corridor, which covers the trade and development needs of Pakistan. It has become one of the highly debated issues within the country and internationally. Debate has generated some controversies among different stakeholders in Pakistan, which is negatively impacting the CPEC progress.

Therefore, we have designed this study to demystify the myths about CPEC.

#### **4. China-Pakistan Economic Corridor**

The history of Pak-China relations can be traced back since 1950. Both China and Pakistan managed their relationship in a very productive and articulated way. Although confusion over some issues, especially during the first half 1950s and 1970s, impacted the ties but the two nations never let them altogether spoiled. Both of them helped each other at the crucial times. Pakistan helped China to connect to the world. Pakistani air space was opened for Chinese airline and PIA made travel easy for Chinese.

Pakistan also advocated and supported the admission of China in UN system and permanent member of UN Security Council. Furthermore, Pakistan played the role of facilitator to arrange visit of Henry Kissinger to China, which laid the foundation for the visit of President Nixon in 1972.

On the other hand, China also supported Pakistan during the times of need and helped Pakistan built its military and economic capabilities, especially Heavy Mechanical Complex, Taxila in 1968, Ordnance Factory in East Pakistan in 1970 and Aeronautical Complex<sup>65</sup>. During the sanctions imposed by USA in 1980s, 1990s and 2000s, China helped Pakistan in every field. USA also left Pakistan after the Afghanistan war and Pakistan had to face many problems on economic front. At that time China came forward to help Pakistan. During the 1990s, USA imposed sanction on Pakistan and China after the alleged deal on missile and nuclear programme. China resisted to this pressure and continued to help Pakistan.

Andrew Small (2015) was of the view that most of the deals and cooperation were kept secret in efforts to avoid criticism. He coined a term “Cooperation in Shadows” to describe the relation<sup>66</sup>.

Over the years both countries developed a strong bond of trust. Trust always has been key element of strong relations. Building on the past, Chinese foreign policy gives a special focus to Pakistan in future endeavors of China. China-Pakistan Economic Corridor is one of the most prominent examples of that.

The two governments had been working on the concept for a long time (almost two decades). Both countries tried to move on bit-by-bit and smooth the process to implement the final phase. Joint Deceleration of 2003, after the visit of President Musharraf, is first document, which outlined the future cooperation plans of two countries. Later, Free Trade Agreement was signed in 2006, which

<sup>65</sup> Umbreen Javaid, and Asifa Jahangir Pakistan-China Strategic Relationship: A Glorious Journey of 55 Years ,JRSP, Vol. 52, No. 1, January-June, 2015

<sup>66</sup> Andrew Small, 7 April 2015 China-Pakistan: A Strategic Relationship in the ShadowsYaleGlobal,<http://yaleglobal.yale.edu/content/china-pakistan-strategic-relations-shadows>

helped boost the trade. Trade reached to \$15.15 billion in 2015 from \$1 billion in 1998<sup>67</sup>. Further both the governments have plans to increase the trade up to \$18 billion till 2018 (See Annexure).

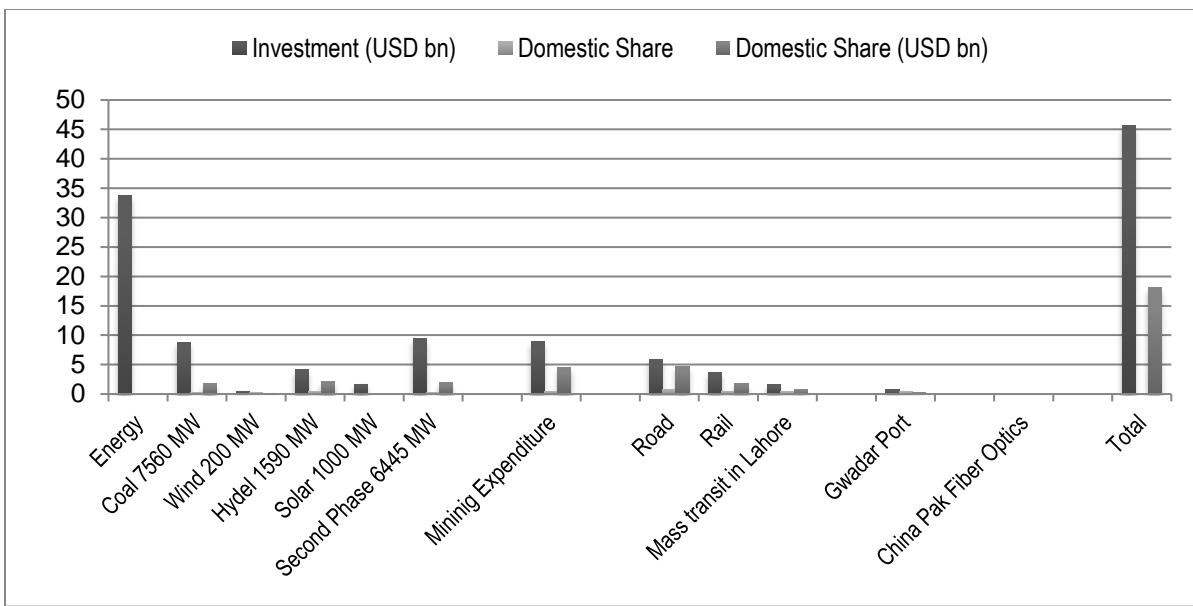
Former President Asif Ali Zardari also pursued the whole development very actively to secure CPEC and cooperation from China during the last PPP-led government. Present government has been keeping the momentum and is actively engaged with Chinese government. President Xi during his visit inaugurated some projects along with Prime Minister Nawaz Sharif.

Economic significance of the CPEC is very high. It will give an impetus to economic growth and development. BMA capital did an analysis of CPEC on national economy. First they disintegrate the total investment in two categories, Local and Chinese investment (Table- and Graph-).

| <b>Estimation of Local Component in CPEC</b> |                                |                           |                                    |
|--|--------------------------------|---------------------------|------------------------------------|
|  | <b>Investment<br/>(USD bn)</b> | <b>Domestic<br/>Share</b> | <b>Domestic Share<br/>(USD bn)</b> |
| Energy (Breakup is given below)              | 33.8                           |                           |                                    |
| Coal 7560 MW                                 | 8.8                            | 20%                       | 1.8                                |
| Wind 200 MW                                  | 0.5                            | 20%                       | 0.1                                |
| Hydel 1590 MW                                | 4.2                            | 50%                       | 2.1                                |
| Solar 1000 MW                                | 1.7                            | 0%                        | 0                                  |
| Second Phase 6445 MW                         | 9.5                            | 20%                       | 1.9                                |
| Mining Expenditure                           | 9                              | 50%                       | 4.5                                |
| Road   | 5.9                            | 80%                       | 4.7                                |
| Rail   | 3.7                            | 50%                       | 1.8                                |
| Mass transit in Lahore                       | 1.6                            | 50%                       | 0.8                                |
| Gwadar Port                                  | 0.7                            | 50%                       | 0.3                                |
| China Pak Fiber Optics                       | 0                              | 0%                        | 0                                  |
| <b>Total</b>                                 | <b>45.7</b>                    |                           | <b>18.1</b>                        |

*Source: BMA Capital Management Limited*

<sup>67</sup> Laurence VANDEWALLE, June, 2015 In-depth Analysis Pakistan and China: 'Iron Brothers' Forever? Directorate-general for external policies, policy department European Parliament 549.052



Second, they analyzed the potential impact of investment on national GDP. According to a study, for one unit incremental growth in GDP, there is need for 3.6 units of incremental investment. CPEC will increase GDP growth rate at 1.5 per cent in next three years. Moreover, it will also enhance the private investment due to positive environment, economic opportunities, improved infrastructure, stable economy and generation of much needed energy. Private investment will add 0.5 per cent to the GDP of country (Table-). Cumulative impact of investment would be 02 per cent during 2016-2018. It is expected that growth rate during that period would be beyond 6 per cent<sup>68</sup> per year<sup>69</sup>.

| Impact on GDP growth potential            |                   |       |
|---|-------------------|-------|
| GDP-FY15                                  | USDbn             | 287   |
| Total Investemnt Size                     | USDbn             | 46    |
| Total Investment Size                     | % of GDP          | 16%   |
| Time Period                               | Years             | 3     |
| Annual Addition to Inv/GDP ratio          | % of GDP          | 5.30% |
| Addition GDP growth Potential (ICOR=3.6x) | "                 | 1.50% |
| increment Private Sector Investment       | "                 | 1.80% |
| Addition GDP growth Potential (ICOR=3.6x) | "                 | 0.50% |
| Total Increase in GDP Growth Potential    | Percentage Points | 2.00% |

Source: BMA Capital Management Limited

<sup>68</sup> Azfer Naseem, CFAetal, 19 May 2015, Impact of China Pak Economic Corridor - A Bird's Eye View, BMA Capital Management Limited, Karachi Pakistan

<sup>69</sup> Assumption is based on the growth rate of 2014, (4.1)

Despite this enormous potential, CPEC is surrounded by the controversies on the route. Balochistan and KPK argue that the government has changed initial route. Controversy started to emerge by the end of 2013 and start of 2014. PSDP allocation in 2014-15 made it sharper and the government remained silent on the issue. Later, the government insisted that there would be no change in route and maintained this stance for quite a while. Meanwhile, an advocacy campaign started that there would be two routes, Eastern and Western, and Western route will be given the priority.

Budgetary allocations were/are contrary to the government claims for giving the priority to western route. Allocation shows that the government is focusing more on Eastern route and is giving less preference to the Western route. Dr Qasir, tried to sum up the debate and presented rationale for action on any route. He did an analysis on basis of land, population and production factors (Table-). He also included the central route in the debate. According to him, the first presentation on the subject in 2005 only contained the central route

|  | <b>Central Route</b> | <b>Eastern Route</b> | <b>Western Route</b> |
|--|----------------------|----------------------|----------------------|
| <b>Average Population Density</b>                  | 156                  | 264                  | 98                   |
| <b>Total Area under cultivation (000 ha)</b>       | 5829                 | 10322                | 2933                 |
| <b>Production of four major crops (000 tonnes)</b> | 13754                | 30928                | 7430                 |

*Source: Dr Qasir Bengali, Paper for Chief Minister of Balochistan*

He concluded that Eastern route would be costly on the basis of production loss, population displacement and loss of productive land<sup>70</sup>. He also talked about the Central route and according to him Central route original route. This route was proposed and presented by Deputy Chairman of Planning commission, in his first ever presentation to President Musharraf in 2006. He emphasized on the revival of first route. Moreover, he proposed that in the present debate of Eastern and Western routes, priority should be given to Western route or at least it should be treated like Eastern route.

Apart from the importance of CPEC for Pakistan, there is another dimension. It also has a special significance for China and its future role as great power at global level. China considers regional connectivity as a fundamental element and first step to rise at global level. President Xi, during his address to Foreign Affairs committee at Communist Party meeting in 2014, said that we will give priority to neighbours in our diplomacy on all fronts<sup>71</sup>. Other part of policy is to build relations with developing countries and resource rich, including energy rich, countries. It will help china brand as the development partner and non-interfering ally<sup>72</sup>.

President Xi's visit to Saudi Arabia and Egypt (and Iran will be final destination) is another step to enhance the periphery of friend, on the lines defined in foreign policy. China has offered to invest

<sup>70</sup> Dr. Kaiser Bengali, et al, May 2015 China-Pakistan Economic Corridor and Route Controversy, Chief Minister Policy Reform Unit, Government of Balochistan,

<sup>71</sup> President Xi Jinping Speech at Communist Party meeting 2014

<sup>72</sup> Francois Godement, "China's Neighbourhood Policy", European Council on Foreign Relations, Asia Centre, China Analysis, February (2014), <http://www.ecfr.eu/page/->

\$55 billion to the Middle East as loan for development of industry, road, infrastructure, and energy exploration. Mr. Xi was present at the opening of joint oil refinery venture in Saudi Arabia. Both countries have agreed to work on “Comprehensive Strategic Partnership” framework. However, the most important statement of Mr. Xi was in Egypt, as he said: “We are not setting up proxies or building a sphere of influence in the region”<sup>73</sup>. This is exactly in line with the policy of China to enhance the constructive engagement. These investments in region will boost trade ties and Chinese products would be in great demand.

After having a brief look at above-mentioned developments, it would be easy to understand the importance of CPEC. Strategic location of CPEC is cortical, as it is located at the meeting point of Road Belt and Maritime Belt<sup>74</sup>. It will provide opportunity to China to establish and strengthen its position in Indian Ocean. It will also help secure the energy route from Middle East and Africa, which is critical for China’s future development. Route of energy will also be shortened considerably<sup>75</sup>. It would also be easy and cost effective for China to reach the Middle East and North African Markets, along others.

Analysis of facts and figures shows that CPEC is critically important for both countries. Pakistan needs it to overcome its economic, development, social and energy problems. China needs it to expand its periphery of influence, consolidate its global presence and securing future supply routes of energy and trade goods. However, important point to note here is that concept was developed by China, as part of its policy “Go Global 2001”. Pakistan is one of the beneficiaries of Chinese dream. Therefore, it is advisable for Pakistan to remain focused on development of the country rather than wasting time on petty issues. Provincialism should not be given the chance to hijack the development agenda by any stakeholder, including the federal government.

## 5. Recommendations

1. Government must make decision on the basis of economic gains and multiplier impact on the economy
2. Route prioritization must decided on the basis of population density (directly relates to population displacement), productive land under the route, loss of production
3. Strategic importance and its relevance for Pakistan in short and long run must given due importance
4. Transparency must be ensured for smooth functioning and equal distribution of benefits
5. Government must use the existing institutions (Council for Common Interest) for resolving all controversies related to CPEC
6. Last, but the most important aspect, all stakeholders must have good understanding of Chinese needs, as China is investor of the project.

(PB # 48, 2015)

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<sup>73</sup> <http://www.abc.net.au/news/2016-01-22/china-president-visits-middle-east-inks-deals-worth-billions/7106292>

<sup>74</sup> Saeed Shah, “China’s Xi Jinping Launches Investment Deal in Pakistan”, The Wall Street Journal, April 20, 2015, <http://www.wsj.com/articles/chinas-xi-jinping-set-to-launch-investment-deal-in-pakistan-1429533767>

<sup>75</sup> Dr. Dhrubajyoti Bhattacharjee , 12 May, 2015, China Pakistan Economic Corridor (CPEC) Indian Council of World Affairs, <http://www.icwa.in/pdfs/IB/2014/CPECIB12052015.pdf>

## Poverty and Social Impact Analysis of Stipend Program for Secondary School Girls of Khyber Pakhtunkhwa

Vaqar Ahmed , Muhammad Zeshan and Muhammad Tahir Ali

### 1. Introduction

The provincial government of Khyber Pakhtunkhwa initiated a stipend program in 2007, which aimed to increase female secondary school enrolments. The target area of this program comprised seven backward districts, such as Batagram, Bonair, Hangu, Kohistan, Shangla, Tank, and Upper Dir. Stipend money of Rs 200 per month was given to each girl from the year 2006 onwards (between class 6-10). A preliminary analysis indicates that educational gender gap is much high at all levels of education, including primary, middle and high. For an indepth analysis, the present study has also conducted the household surveys and employed Probit regression technique. Table 1, as mentioned below, specifies some basic facts of education system in Khyber Pakhtunkhwa.

**Table 1:** Gender-wise Educational Statistics of Khyber Pakhtunkhwa

| <b>School Level</b>            | <b>No. of Schools</b> |        | <b>Participation Rate</b> |        | <b>Budget Allocation</b> |
|--------------------------------|-----------------------|--------|---------------------------|--------|--------------------------|
|                                | Male                  | Female | Male                      | Female |                          |
| <b>Primary<br/>(Class 1-5)</b> | 14,600                | 7,583  | 98%                       | 66%    | 51%                      |
| <b>Middle<br/>(Class 6-8)</b>  | 1,436                 | 920    | 51%                       | 25%    | 15%                      |
| <b>High<br/>(Class 9-10)</b>   | 1,069                 | 310    | 40%                       | 17%    | 34%                      |

Source: PC-1 Document, 2011

### 2. Issues Highlighted in the Stipend Program

This research highlights the following important issues related to the stipend program.

- Impact of outputs and outcomes associated with the program
- Change(s) required in program design and compensatory schemes to enhance the progress
- Transmission channels and their capacity to reach the poor
- Role played by the program in reducing the gender gap in educational indicators
- Monitoring & evaluation mechanism in the program
- Process of stipend distribution

### 3. Key Research Findings

Based on its survey findings and regression results, our research highlights the following facts:

- 93% households have availed the stipend program
- 35% girls might drop-out in the absence of stipend money
- 80% of the households were aware of the stipend program
- 84% households has reported that schools provide basic facilities like furniture, chairs, tables and desks
- 94% female schools have trained and qualified teaching staff
- Communal constraints restrict 14% girls to attend the secondary school
- Financial constraints increase school dropouts by 32%
- Household work and non-farm activities increase school drop-outs by 10%.
- Female schooling decreases by 0.7% with an additional family member.
- One additional year of education of household head increases the chances of female schooling by 1.8%.
- One additional year of education of household head's spouse increases the chances of female schooling by 3.3%.
- The chances of female schooling decreases by 2.8% if the distance of home from school increased by 1%.
- The chances of a female schooling increases by 11% if a family is satisfied with the educational services provided by the school.
- A 1% rise in family incomes increases the chances of female education by 0.3%.
- Socio-economic awareness of education increases the chances of female education by 5.2%.
- Improved economic conditions of a household increase the chances of female education by 4.7%.
- Improved economic conditions of an area increase the chances of female education by 1.1%.

### 4. Recommendations

In the light of its findings, the present study proposes the following recommendations:

- The current procedure of developing annual program (PC-1) is based upon arbitrary assumptions and should be carried out by scientific budgetary forecasting.
- A definite procedure for the monitoring and evaluation of stipend program is required. Government of Khyber Pakhtunkhwa is responsible for laying down clear monitoring and evaluation mechanism for development budget in the province after the 18th Constitutional Amendment.
- It is proposed that a high powered committee should meet before the formulation of PC-I in order to identify the issues, which are causing delays in the receipts of stipend.
- A documented grievance redressal mechanism is needed, which should explain and publicize its output. Transaction costs of grievance redressal can be minimized through the use of IT, toll-free telephone lines and SMS service.
- There are no synergies between the stipend program and other transfer programs for school going children in Khyber Pakhtunkhwa. Systems may be identified through which resource

(human, physical and financial) sharing may be possible across transfer programs so that economies of scale could be achieved in service delivery.

- The stipend amount did not reach to the needy persons dwelling in terrains with issues of physical access and areas hit by conflict. It still remains a challenge to address the problems of these deprived households.

**(PB # 32, 2013)**

# Poverty and Social Impact Analysis of Workers Welfare Fund

Vaqar Ahmed , Muhammad Zeshan and Muhammad Abdul Wahab

## 1. Introduction

The Government of Pakistan (GoP) has been facing many challenges in ensuring the welfare of industrial workers. It also finds difficulties in bringing about macro-level labour reforms such as the implementation of minimum wage – revised annually. Within the overall ambit of social protection, the federal government has retained the Workers Welfare Fund (WWF) even after the 18th Constitutional Amendment, which requires social sector programmes to be devolved to the provincial governments in order to improve service delivery at provincial and sub-provincial levels. The provincial governments have, however, been urging the federal government to hand over the reins of WWF to them. The present study is based on our recent research to analyze the operational efficiency of WWF. The following Flow Chart 1 indicates evolution in the operations of WWF over the time.

Flow Chart 1: Evolution in the operations of WWF over the time



Source: Ministry of Human Resource Development

## 2. Problems in the operations of WWF

Our research highlights the following problems in the operations of WWF:

- Lack of access and uncertainty to education grant
- The colossal amount of documentation required to claim the right
- Delays involved in fee disbursement
- Slower pace of new housing schemes with compromised quality
- Maintenance of labour colony houses (repair work) is not being done on regular basis
- Sanitation and sewerage issues in labor colonies are creating health and environmental hazards
- Common places such as parks and playgrounds for children have been encroached
- Health facilities are provided with discrimination and rent-seeking

## 3. Recommendations

In the light of our focus group discussions and key informant interviews, it is recommended that

- Education grants investment having far-reaching impact on economic growth. The scale and scope of these grants should be increased.

- The amount of welfare grants increases on arbitrary basis, and a scientific base with the help of dynamic micro-simulation is more desirable.
- Modern skill development centers for females should be increased.
- The families of workers should be provided respectable post-retirement living standards.
- Quick rehabilitation of educational infrastructure, social security hospitals and the housing colonies is required for earthquake and flood hit areas.
- Finance division should not divert WWF savings towards its budgetary financing.
- Strong synergies should be created with other social safety nets on-ground to achieve efficiency, particularly with Benazir Income Support Programme (BISP), Zero-Hunger Programme, Provincial cash transfer programmes etc.
- Evasion from rules, law and malpractice can be reduced through the biometric system connecting both Federal Board of Revenue (FBR) and National Database and Registration Authority (NADRA).
- There is a need to improve the process of grant disbursements, as introduction of online system can expedite this slow process.
- Currently, high transaction costs are attached in filing of claims. There is a need to squeeze the number of documents required for claiming grants.
- It is recommended that WWF should follow the examples set by Emergency Relief Cell, BISP and NADRA in automating their processing and disbursement procedures. One window operation and e-governance can imply a faster assessment on regular basis.
- A formal grievance redressal mechanism should be introduced using easy and cheap technology such as the Short Message Service (SMS) in order to register a complaint.
- For better monitoring and evaluation purpose, verification of workers should be interlinked with national identification system.
- A compliance unit should be formulated to ensure future feedback on reforms.
- A set of dedicated foreign and local trainings should be designed, it would give exposure to the WWF management of similar programmes abroad.
- To increase the efficiency, WWF staff should be regularly evaluated through result based management and key performance indicators.

(PB # 33, 2013)

# Population Dynamics in Pakistan: Past, Present and Future

*Muhammad Asif Wazir*

## 1. Introduction

Pakistan is one of the largest and fastest growing countries in the world. In 2010, it ranked 6th most populous country and will stand at 4th in 2050. Pakistan's rapid population growth, during the second half of the 20th century, can largely be explained by the conventional demographic transition theory i.e. rapid decline in mortality rate combined with a gradual decline in fertility rate. Consequently, the country's population has been growing untamable since independence in 1947 i.e. from 34 million reported in the first census in 1951 to 132 million in 1998 and estimated at 183 million inhabitants in 2012.

Since the 1950, Pakistan has experienced a significant population growth rate ranging between two to four per cent per annum. During the period of 1950-1985, the country's population had grown at the average rate of 3 per cent per annum. However, it declined to an average of 2.6 per cent per annum during the period 1986-2000. In 2010, the population growth rate in Pakistan was 1.8 per cent. Pakistan is likely to continue experiencing population growth in the near and distant future at least until 2050 and more so than any other world region except sub-Saharan Africa. Thus, rapid population growth in Pakistan hindered the socio-economic development in the past and it will have to adopt the development model capable to absorb the increase. If country fails, it will be confronted with several major risks, including political instability and poverty trap.

Pakistan has remarkably young age structure. In 2010, nearly two-thirds of the Pakistani population was less than 30 years old with a median age of 21.7 years. The young age structure has been persistent in Pakistan for the last five decades. The share of school age population (0-14 years old) was on the average 40 per cent from 1950s to 2000 and estimated at 36 per cent (61 million) in 2010. The share of working-age population (15-64 years old) has been growing from 54 per cent in the 1950s to 61 per cent in 2010 (See table 1). Currently, the South Asian region along with Sub-Saharan Africa is the only region in the world with a young age structure and significant population growth. Within South Asia, Pakistan stands out with the highest population growth rate and very young age structure.

The fertility transition did not keep pace with the mortality decline in the past. In Pakistan, it was expected to start in the 1970s as a response to mortality transition. However, due to political instability, low socio-economic development and ineffective population policies, the targets for reducing fertility were not accomplished, even until recently. Thus, fertility level in the decades of 1970s and 1980s in Pakistan had remained exceptionally high and fluctuating between six and seven children per women. It is a well accepted fact that fertility decline in Pakistan started only in the late 1980s and later gained momentum in the 1990s.

Several factors contributed significantly to the fertility decline during the last decade of 20th Century in Pakistan such as overall socio-economic development, increased literacy and educational attainment particularly for female, and strengthening of family planning programmes. However, Pakistan had the highest fertility rates in 2006 among South Asian countries and most of

the nations across the globe, except for Sub-Saharan Africa. Pakistan still has very high fertility rate i.e. 4.1 children per women. It is worth mentioning here that female education has a significant effect on fertility. Women having higher education have a fewer children as compared to women with less education and so is the case of Pakistan. Women with tertiary education have already attained below replacement level fertility<sup>76</sup>.

The mortality transition in Pakistan started in the 1950s. Several studies show that the country's mortality improved quite significantly during the first two decades following independence. Life expectancy at birth for both sexes has improved over the last five decades from 41.2 years in 1950-55 to 64.6 years in 2005-2010. It is interesting to note here that life expectancy at birth in Pakistan has improved linearly during the last six decades for male and female alike. For instance, during the last two decades, life expectancy at birth increased by 2.4 years for female and 2.2 years for male in Pakistan. The country has enacted substantial progress in infant mortality in recent decades. Infant Mortality Rate (IMR) has declined significantly following the independence from 177 in 1950-55 to 71 deaths per 1000 live births in 2005-10.

Pakistan has witnessed a high fertility in the past and population growth is beginning to level off as part of the demographic transition. Hence, Pakistan will experience a demographic bonus — a period of time when the share of working age population is prominent. In the next 30 to 40 years, a majority of its population will be of working age with fewer younger and still few aged citizens. In 2010, 35 per cent population of Pakistan aged below 15 years and 60 per cent of the population was in the working-age (15-64). This rising share of the working age population could be translated into subsequent rise in the rate of economic growth if country can employ them effectively. In this context, human capital will be central to the realization of this window of opportunity for rapid economic growth.

The educational achievement and literacy in Pakistan has not been impressive in the past. In a recent study, Goujon and Wazir (2011) have clearly shown that, the Pakistani educational system has failed to provide the basic infrastructure, eliminate gender imbalances and the quality of education, which would be required to enjoy the full collateral benefits of demographic bonus such as high levels of economic growth and well-being.

## **2. Future Population of Pakistan**

The future population is projected by using multi-state population projection methodology. The projection model is based on the base year population with defined educational categories and differentials of each demographic component of change i.e. fertility, mortality and migration. The projection results show that the population of Pakistan will be growing significantly in the next five decades i.e. from 174 million in 2010 to 281 million in 2060 though Pakistan will manage to achieve replacement level fertility by 2035-40. The substantial population growth in the future is

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<sup>76</sup> Replacement level fertility is the level of fertility at which a population exactly replaces itself from one generation to the next. In numerical term, replacement level fertility assumes 2.1 children per women.

due to “population momentum”<sup>77</sup>. It may be mentioned that approximately half of the population growth in 2010 is due to population momentum, which will continue during the next five decades. This momentum would lead to further increase in the working-age (15-64) population i.e. from 105 million in 2010 to 157 million in 2030 and 186 million in 2060 (See Table 1). Thus, Pakistan will need to adopt effective labor force policies to absorb the working age population. This large labor force, if well educated, skilled and sufficiently employed could be a key asset for the socio-economic well-being.

Owing to rapid fertility decline in the future, the proportion of population aged 65+ will accelerate from 7 million in 2010 to 42 million in 2060. The proportions of population aged 65+ are likely to increase six times. This rapid population aging poses many challenges for policy makers and for institutional adaption, including the financing of pension and health care system for elderly. As evident from figure 1, this large uneducated and unskilled young population along with significant proportion of aged population in the future would place extreme burden on economy, if not invested in education and health. Furthermore, the school age (below 14) population will be stagnating during the next three decades (until 2030-35) i.e. approximately 61 million. This implies that until 2035, more children will need to be enrolled in schools. More schools will be needed and more teachers to be trained and hired, particularly in the rural areas. The share of young population would however decline after 2035 i.e. from 61 million in 2035-40 to 50 million in 2055-60.

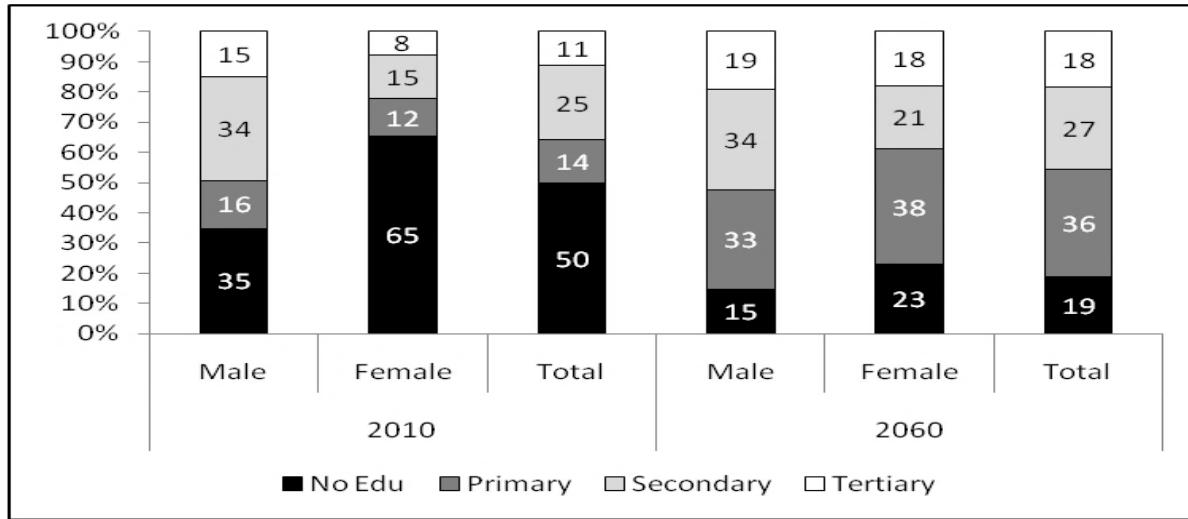
**Table 1:** Population of Pakistan by broad groups from 1950 to 2060

| Years | Population (in millions) |             |            |
|-------|--------------------------|-------------|------------|
|       | 0-14                     | 15-64       | 65+        |
| 1950  | 15.1 (40%)               | 20.3 (54%)  | 2.1 (5.6%) |
| 1975  | 29.6 (43%)               | 36.0 (53%)  | 2.5 (4%)   |
| 2010  | 61.3 (36%)               | 104.3 (61%) | 6.4 (4%)   |
| 2030  | 63.6 (28%)               | 154.6 (67%) | 12.9 (6%)  |
| 2060  | 54.2 (19%)               | 189.5 (68%) | 34.7 (12%) |

Source: UN 2012 World Population Prospects,

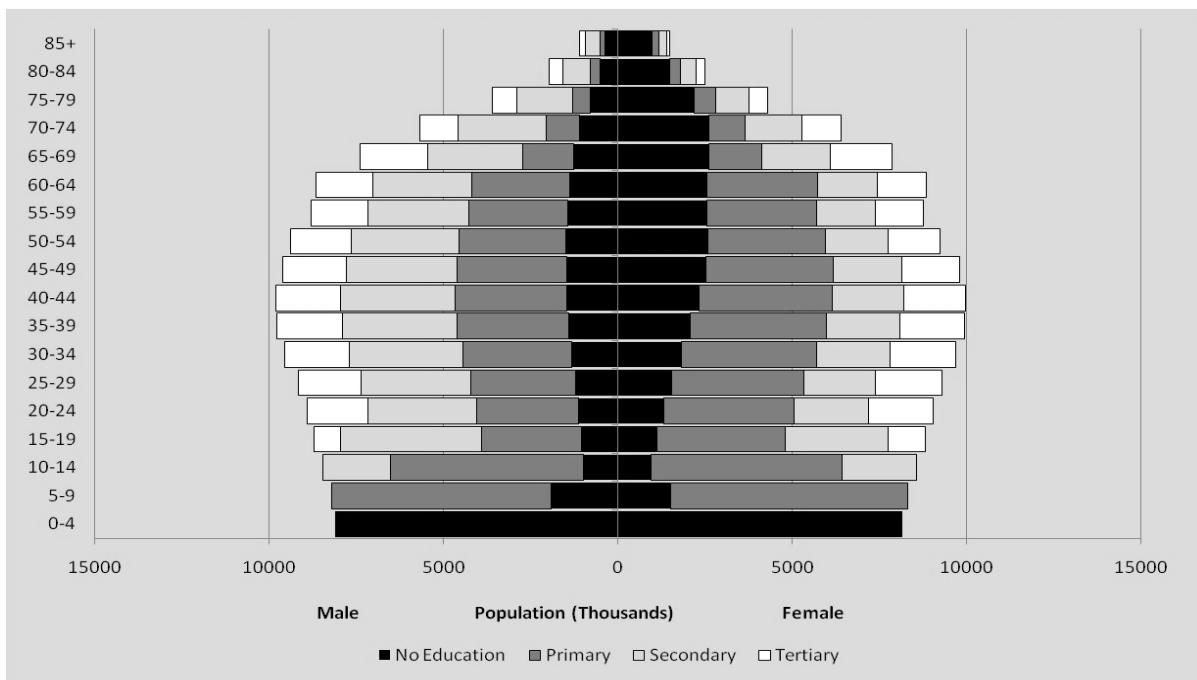
<sup>77</sup> Population momentum typically referred as, for countries that have undergone the middle phase of the demographic transition, the population is growing significantly even though the fertility has fallen to or below the replacement level.

**Figure 1:** Share of Working-age Population by level of education in Pakistan for 2010 and 2060 according to trend education and medium fertility scenario



Source: Wazir, A., et al. (2011)

From figure 1, it is evident that 35 per cent of males and 65 per cent of females of working age population had received no education in Pakistan in 2010. The projection results show that percentage of uneducated will decline to 15 per cent for male and 23 per cent for female in 2060. The low proportion of secondary and tertiary educated male and female in the future reflect the lack of investment in education in the recent years. The share of primary level of the working age population in 2010 was 16 per cent for male and 12 per cent for female. According to the trend, this would increase to 33 per cent for male and 38 per cent for female in 2060. Moreover, it is expected that the share of overall population (male and female) with secondary and tertiary education attainment would remain stable from 2010 to 2060. However, the share of secondary educated female in Pakistan would increase significantly in next 50 years i.e. from 15 per cent to 21 per cent. Since the women enrolment in secondary and tertiary education has increased in the last decade, this would result in a doubling share of women in tertiary education of working age population i.e. from 8 per cent in 2010 to 18 per cent in 2060.

**Figure 2:** Population pyramid by age, sex and level of education of Pakistan in 2060

Source: Wazir, A., et al. (2011)

As expected, Pakistan will not be able to meet the Millennium Development Goals (MDGs) regarding education (goal 2 and 3), if it does not increase primary enrolment at a rate significantly higher than in the recent past. Figure 2 illustrates there would still be 23 per cent of boys and 18 per cent of girls of the age group 5-9, who would not be enrolled in school by 2015. These targets would not be reached even by 2060. This calls for an effective educational policies and further investment in education sector particularly in the rural areas. Moreover, the gender gap would not be eliminated at all levels of education in the next two decades and even far from being eliminated in 2060. However, the gender disparities would be eliminated at one level i.e. tertiary education. These projections show the tremendous improvement in favour of girls rather than boys due the fact that girls' enrollment in Pakistani universities has been amplified in the last decade.

### 3. Conclusion and Policy Implications

In Pakistan, the progress in education sector lags behind those found in most of other countries with similar level of development. Faced with the rapid population growth and consequently its labour force, Pakistan will have to adopt a development model capable of absorbing the increase. If the country fails, it will be confronted with two main risks: political instability, and a poverty trap. At present, Pakistan's development is highly dependent on its capacity to educate its population so that 300 million Pakistanis in 2050 may live prosperous lives. Education has mostly failed so far in terms of provision and quality because of the poor performance of the state machinery. That's why, Pakistan will fail to achieve the Millennium Development Goals in terms of universal primary education for both sexes and other objectives on the national and international agenda. The scenarios that we looked at show that the speed of change in advancing education has to be dramatically increased if the country would like to achieve all these goals by mid-century. This is

more urgent because the age structure will become more and more favourable and as of 2025, the large labour force, if well educated, could be a major asset in the government hands.

The study points out two areas of particular concern: illiterate adult population and female education where investments will be highly needed.

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**(PB # 35, 2013)**

## Tax Reforms in Pakistan

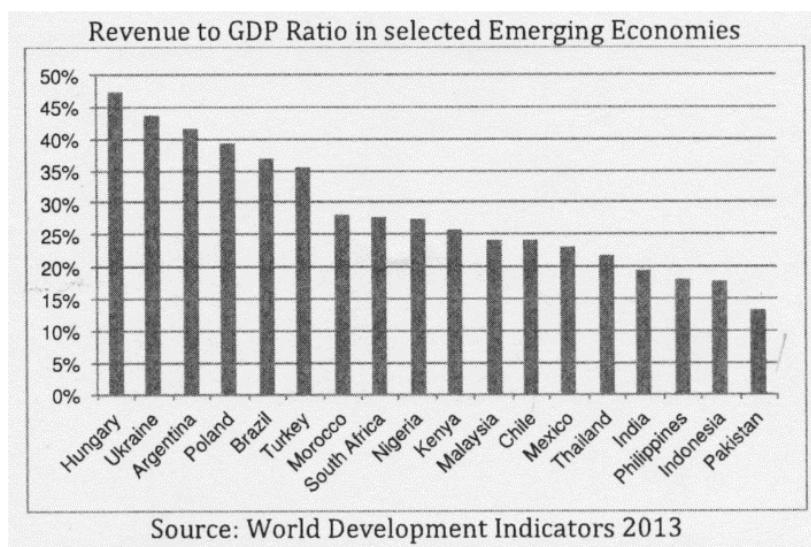
*Vaqar Ahmed et al*

Taxes matter. Taxes affect citizens, economy of the country, businesses, and delivery of public services. If a government is unable to collect adequate taxes and use them effectively then the result is economic instability and poor service delivery to the public.

Pakistan's taxation system has been receiving increased attention due to its inability to collect enough revenues required for improving lives of Pakistanis.

Pakistani government spends around 0.7 percent of GDP on health. This is less than half of what other governments in lower middle-income countries spend on health. On elementary education, Pakistan spends less than 2 percent of GDP. This is also low when compared with other regional countries.

One of the main reasons for low investment in social services is low revenue collection. Total revenue collected by the Pakistani Government, using tax and other measures, is around 13 percent<sup>78</sup> of GDP, which is the lowest among all emerging economies. No country can afford basic government services with such low levels of revenue.



The revenue collected is not nearly sufficient to meet public expenditure, which has averaged 20 percent of GDP over the past five years. The result is high government borrowing that has led the country into a 'debt-trap' (in 2012-13 the Federal Government paid over 60% of its revenue as interest on loans). Expenditure beyond revenue has also created economic imbalances, forcing Pakistan to repeatedly seek assistance from the IMF. In its latest programme, the IMF has advised the Pakistani government to reduce its budget deficit. Without radical increases in revenue, this must mean spending cuts and further deterioration in public service delivery.

The Government collects more than 80 percent of total revenue by imposing taxes. This is around 10 percent of GDP, of which 9 percent of GDP is collected through Federal Board of Revenue (FBR).<sup>79</sup>

<sup>78</sup> World Development Indicators

<sup>79</sup> Average of past 5 years. For 2012-13 the FBR collected tax equivalent to 8.3% of GDP

This is amongst the lowest rates of tax collection by Federal Government in the World - excluding oil-producing countries. The tax to GDP ratio has decreased from around 14 percent in the mid-eighties to 10 percent. By contrast, China has increased its tax to GDP ratio from 10 percent to over 20 percent since the early nineties.

The Constitution of Pakistan specifies the type of taxes that the Federal and Provincial Governments can collect. For example, taxes on individual incomes and on company profits are Federal taxes, while taxes on property and agriculture are provincial taxes. At the provincial level taxes are collected by provincial Excise and Taxation departments (that collect taxes from urban areas), Boards of Revenue (that largely collect taxes from rural areas), and Revenue Authorities / Boards in Sindh and Punjab (that were recently established to collect sales tax on services).

Provinces have struggled to increase their own tax revenue in recent years. On average 0.4 percent of GDP is collected through provincial taxes. The three main reasons for low revenue generation are: 1) politicians find it difficult to justify increase in taxes to their constituencies, primarily because of poor public services, and hence there is lack of political will; 2) provincial tax collection machinery - especially in rural areas - lacks administrative skills; and 3) the 7th NFC Award<sup>80</sup> increased the provinces' share of FBR's taxes from 47 to 57.5 percent, with the rather mild condition that provinces should work with Federal government to enhance national taxes. This condition was never taken seriously and the agreement with the provinces under the Award to increase taxes to 15 percent of GDP by June 2015 is highly unlikely to be met.

The new government has announced its intention to increase the tax to GDP ratio to 15 percent by 2018. This is a big challenge and will require considerable effort by both federal and provincial governments. To achieve this target, fundamental shifts in tax policy and tax administration will be required. We highlight three key issues:

## **1. Exemptions, Concessions and Preferential Treatment**

For many years, different governments have allowed extensive tax exemptions, concessions and preferential treatments. Exemptions are provided in the tax laws, and through a legal instrument called 'Statutory Regulatory Order' (SRO) issued by the Federal Board of Revenue. To date FBR has issued 1,920 SROs. Independent studies estimate revenue leakage at 3-4 percent of GDP due to: 1) the amount of tax liability faced by taxpayers that is not paid on time; and 2) revenue loss resulting from preferential treatment. Losses in 2012 are estimated at between Rs.600 and RS.800 billion. If tax evasion - also estimated at 3-4 percent of GDP - is added to this, the total loss in the present taxation system is roughly equal to total government borrowing each year.

As per Article 77 of the Constitution, Federal taxes will be levied by an Act of Parliament. However, the tax laws grant the government power to give exemptions, concessions and preferential treatment without Parliamentary approval. This is almost unheard of in other parliamentary systems, meaning parliament can be over-ruled by bureaucrats and Ministers. There is not even a requirement in the law to report the total value of these exemptions to Parliament

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<sup>80</sup> The mechanism through which tax revenues collected by FBR are distributed between Federal and Provincial governments, applicable from July 2010

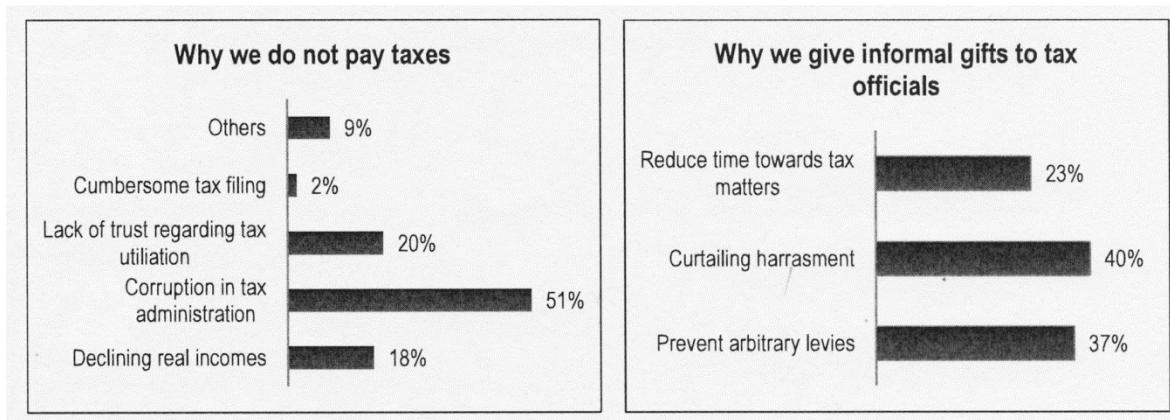
What is needed is a phasing out of these exemptions and concessions. A number of exemptions were removed in the Budget 2013-14 and the government has agreed to review and remove all exemptions through SROs within three years.

We recommend an exemption phase-out plan to be designed by the Government, including necessary amendments in taxation laws. We also recommend that any proposed future exemptions and concessions should be subject to Parliamentary approval so that public representatives have a say in matters that affect tax revenue. The value of exemptions and concessions should be calculated using internationally recognised methods and reported in the budget each year so that Parliament and the public are aware of the resulting revenue losses.

## 2. Weak and Inefficient Tax Administration

Tax collection in Pakistan remains non-transparent with substantial instances of rent-seeking. A 2004 World Bank study found that the FBR suffered from deep institutional and management weaknesses. The 2005 'Tax Administration Reform Project' had largely failed to achieve its objectives by 2012. Tax administration organisations (both federal and provincial) have suffered from inefficient and fragmented management, weak human resources, lack of supporting systems, and excessive scope for discretion and rent seeking behaviour. Weak tax administration results in high tax avoidance and opens avenues for corruption as indicated in the figure below.

SDPI's Household Survey conducted in May 2013 reveals taxpayers' lack of trust and perceived corruption in tax administration as major reasons for not paying taxes.



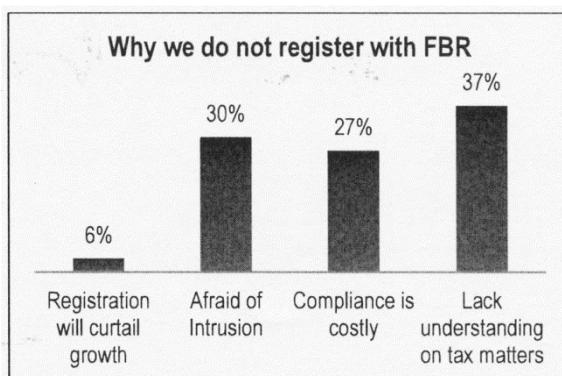
We recommend that; 1) consideration should be given to full autonomy of FBR along the lines of State Bank of Pakistan - having its own human resource structure and management to create a professional workforce - independent from the direct influence of the Government, 2) FBR should be restructured to create functional expertise, 3) FBR should upload its medium-term strategic plans on its website and monitor and report key performance indicators on a regular basis, and 4) at the provincial level, newly formed provincial revenue authorities should take over the functions of existing revenue departments and focus on enhancing collection of agriculture, property and services taxes.

### 3. Narrow Tax Base

Very few Pakistanis pay income taxes. Out of a total workforce of 58 million less than 2 million are registered taxpayers, and last year only 0.7 million people actually paid income tax. This is roughly 2 people in 100 employed. Of all the lawmakers in the National and Provincial Assemblies 61 percent did not pay taxes in the year they contested the elections. 51 percent of Senators did not pay tax. 62 percent of Cabinet Ministers did not file tax returns<sup>81</sup>.

Of the total income tax collected, more than 60 percent is collected through 'withholding tax'<sup>82</sup>. Withholding tax is not a good international practice. Pakistan's exceptionally high dependence on the tax signifies an unusually high proportion of 'hard-to-tax' individuals. Only 28 percent of income tax is collected through deduction at source, or through voluntary payments by taxpayers. The remaining 12 percent is collected through tax inquiries by the tax officials.

Pakistan ranks 162nd in the global 'paying taxes' index compiled by the World Bank. There are many reasons why people do not pay income taxes. As per the survey, it takes an average of 560 hours (highest in South-Asia) to comply with tax. Another reason is rent-seeking behaviour of tax officials. SOPI's survey of informal sector businesses in 2013 found that almost 22 percent do not intend to register with the tax authorities, with a large proportion afraid of intrusion by tax officials.



Another reason is weak enforcement. Hardly anyone gets convicted for tax crimes. In 2011 the FBR announced that it had access to a list of around 3 million people who do not pay taxes yet enjoy a lavish lifestyle including frequent foreign visits, more than one bank account, and number of vehicles and property registrations. The lack of convictions, discretion for tax officials and lack of documentation together make it easy for people to evade taxes. Independent studies point to losses due to tax evasion of between 3-4 percent of GOP each year.

It is essential that Pakistan's tax system should be seen as fair, adequate, simple, transparent, and administratively easy to comply with. People's perceptions regarding revenue collecting authorities and the Government that provides them with services are also important. Tax avoidance must be made costly and compliance cheap. If tax leakages (as identified above) are removed, an extra 6 -

<sup>81</sup> This was reported in the international media and strongly criticised in the UK Parliament.

<sup>82</sup> A system in which advance tax is collected at the time of a transaction - e.g. when paying a mobile phone bill - and it is assumed that the person paying has an income of more than Rs.400,000 per annum - the minimum amount above which income tax is applicable

8 percent of GOP of revenue can be realised. But Pakistan has a long way to go to improve its tax system and until this is accomplished one cannot expect much improvement in poverty and welfare at grassroots level.

(PB # 39, 2013)

# **US and EURO Zone Debt Crisis: A Perspective from Developing Countries**

*Syed Ul Asif and Vaqar Ahmed*

## **1. Introduction and Background**

The European Union (EU) is currently faced with a sovereign debt crisis which started in November 2009 and became acute during mid 2010 in turn putting many European countries on the brink of default. Due to this crisis, commodity-producing as well as the service sectors have come under pressure. The banking sector now faces a paralysis for the foreseeable future. The low economic growths combined with poor forecasts are contributing to rising unemployment levels. Countries such as Greece, Ireland, Italy, Spain and Portugal are the most affected countries due to this crisis. The worst aspect is that EU faces this milieu at a time when the world was barely getting out of the debris of the global financial crisis that started in 2007.

While many developing countries managed to insulate themselves from the global financial crisis it is suspected that it will be difficult to escape the direct and indirect effects of the EU debt crisis. Already India and Bangladesh have reported the cancellation of export orders from EU. Similarly many conflict-prone countries are foreseeing slashing of aid inflows originating from EU. There is also a contagion effect that is expected if this crisis prolongs. This has already started happening within EU to some extent. For example France is closely integrated with the Italian financial markets and a default to Italy will have a huge negative impact on France and its trading partners. EU as a whole will impact US which has its own on-going debt crisis which is not being helped by the rising expenditure on the war on terror.

It is public knowledge now that several EU countries misreported their debt levels in violation of the international financial rules. In order to become a Euro zone member one of the conditions was that government debt to GDP ratio should not exceed 60 percent. However in the interest of European foreign policy several member states were given entry into Euro zone who did not meet this criterion. In fact this lesson is extremely important for other regional blocks now contemplating a single currency (e.g. ASEAN). Monetary unions must be careful in the manner in which they select their members.

## **2. Sources and Channels of Crisis**

Before moving onwards it is important here to clearly identify the sources and channels through which the Euro zone crisis has come about. First is the shortage of liquidity that was created in EU banks during and after the global financial crisis. This is despite the fact that several EU governments had put in place bailout packages in anticipation of such a shortage of liquidity and instability of the financial sector. In the smaller EU member states it was seen that harsh austerity packages were put in place without a pro-growth strategy or a transition plan explaining how painful reforms will pave the way for future economic growth and redeeming lost jobs. Further

evaluation is needed to see how the entry of IMF in EU member countries such as Greece impacted the regional macroeconomic dynamics.

The second is the manner in which the banking sector's reactive policy measures impacted the factors market in particular the situation in the labour market. In several cases skilled and unskilled workers have been laid off with severance packages promised for the future. This implied a sudden reduction in aggregated demand and piling of inventories.

### **3. Crisis Economies**

EU member countries had a varying magnitude of impact at least in the beginning of the crisis therefore in order to capture this heterogeneity of economic influence it is important to see the performance of these economies individually in a brief manner.

Greece is the most critical which is now on the brink of default. Violent protests due to painful fiscal measures are now a usual occurrence. The debt to GDP ratio is in the vicinity of 160 percent. What is more surprising is that Greece already had a debt to GDP ratio as high as 100 percent at the time of joining EU in 2001<sup>83</sup>. According to some sources<sup>84</sup> the Greek government misreported its country's official budgetary statements and paid hundreds of million dollars to banks for hiding actual debts and deficits. At one point Greece was running a fiscal deficit to GDP ratio of around 13.6 percent which is one of the highest in the world. Similarly Greece is paying 12.6 percent of yield on its 10 years bond which is expensive by any comparison regionally or globally.

After becoming a full EU member Greece witnessed a lower debt servicing burden as the bond markets did not fear inflation or devaluing currency value. However the economy could not build upon this windfall confidence. More recently EU had to rescue Greece twice by giving € 110 billion bailout package on the first occasion and € 109 billion the second time to put Greece out of the crisis. While this support to Greece imposed a pressure on already ailing economies of EU it did not substantially help Greece either. Its debt rating reduced to CCC which is the lowest for any government in the world. Moody's had declared Greece default virtually certain by mid 2011. The only hope at that time was that Greece would privatize key public sector assets and raise \$40 billion. Some respite came for the Greeks when Euro zone leaders recently met to give Greece another € 100 billion loan and the banking sector which was holding Greek debt are agreed to share a 50 percent loss on bonds. These measures are projected to help reduce debt to GDP ratio to 120 percent by 2020<sup>85</sup>.

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<sup>83</sup> Dylan Matthews, Everything you need to know in one post series, Washington Post, 28 Sep, 2011, can be found on below link: ([http://www.washingtonpost.com/2011/02/25/ABjfEJ\\_category.html?blogId=ezra-klein&tag=Everything%20you%20need%20to%20know%20in%20one%20post%20series](http://www.washingtonpost.com/2011/02/25/ABjfEJ_category.html?blogId=ezra-klein&tag=Everything%20you%20need%20to%20know%20in%20one%20post%20series)).

<sup>84</sup> According to Washington Post: Greece hired Wall Street firms, most notably Goldman Sachs, which helped to hide its debt, so as not to run afoul of E.U. rules. In October 2009, the conservative government was voted out, and the new socialist government announced that deficits were more than double previous estimates.

<sup>85</sup> Gavin Hewitt, Leaders agree eurozone debt deal after late-night talks, BBC NEWS Europe, 27 Oct 2011. (<http://www.bbc.co.uk/news/world-europe-15472547>)

Spain is a five times bigger economy than Greece and contributes 11.5 percent to overall EU GDP<sup>86</sup>. It is the 4th largest economy of the EU and 14th largest of the world. The collapse of Spain will therefore imply greater adverse impacts for EU and the world. Currently, unemployment is high at around 23 percent, budget deficit in 2009 was 9.97 percent of GDP. Total public and private debt stands at 270 percent of GDP. There is no sign of growth in the economy after a sharp 3.6 percent negative GDP growth in 2009<sup>87</sup>. Spain has recently passed a constitutional amendment with a rule to keep the budget deficit within strict limits, however the government has faced protests and social unrest for cuts in public expenditures and tax raise. The challenge now will be to revive domestic resource mobilization which seems difficult as tax revenues cannot be expected to increase under a milieu of depressed growth.

Italy is another country which carried up debt up to 120 percent of GDP which is the double of the euro zone criteria of 60 percent, but debt sustainability indicators were ignored as Italy is the 3rd largest economy and Europe and there were little chances of its failur<sup>88e</sup>. It is the 7th largest economy in the world and a member of G-20 - a group of the world's major economic powers. Already it is being said that Italy's failure will be impossible to bail out and can have severe contagion and knock on effects on other economies inside and outside EU. The German and French banks have invested \$150 billion in Italy's debt while USA banks and financial institutions have \$ 36.6 billion. This implies that any default by the Italian government can lead to severe strains in the banking sector in EU and US. Italy has € 500 billion bonds maturing in the next three years which is double of € 256 billion three year aid given to Ireland, Portugal and Greece put together. Italy's € 1.8 trillion debt is higher than the combined debt of Portugal, Ireland<sup>89</sup>, Greece and Spain.

Economists are of the view that despite these high debts, Italy has substantial private sector savings. Last year its budget deficit was 4.6 percent of GDP which is half of Greece, Ireland and Spain<sup>90</sup>. Due to these relatively better macroeconomic fundamentals European Central Bank had announced in August 2011 that it will buy Italian and Spanish governments' bonds to reduce their cost of borrowing and put the larger countries out of crisis.

Portugal which quickly recovered from the global financial crisis of 2007 found itself hit by Greek debt crisis in late 2009. Its lower productivity levels on the supply side and strict labor market regulation make it harder to generate and then sustain economic growth. In April 2011 Portugal asked for a bailout from EU and became the 3rd European Union country to get a bailout after admitting it could not deal with its deficit and debt problem. In May IMF and the Euro zone agreed

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<sup>86</sup> Brian Sullivan, The Real Threat Is Spain, Not Greece, CNBC Business News, Tuesday, 10 Apr 2012, can find on ([http://www.cnbc.com/id/47008853/The\\_Real\\_Threat\\_Is\\_Spain\\_Not\\_Greece\\_Sullivan](http://www.cnbc.com/id/47008853/The_Real_Threat_Is_Spain_Not_Greece_Sullivan))

<sup>87</sup> <http://spaineconomy.blogspot.com/2008/08/spains-budget-deficit-rising-sharply.html>

<sup>88</sup> Bruno mascotelli, As Italy debt crisis deepens is Berlusconi turning a blind eye, The Conversation, 5th Aug 2011 (<http://theconversation.edu.au/as-italys-debt-crisis-deepens-is-berlusconi-turning-a-blind-eye-2674>)

<sup>89</sup> The Telegraph (<http://www.telegraph.co.uk/finance/financialcrisis/8880481/Debt-crisis-as-it-happened-November-9-2011.html>)

<sup>90</sup> Roger Bootle, For all italy's attraction, there is good reason for concern, The Telegraph, 18th July 2011, see at (<http://www.telegraph.co.uk/finance/comment/rogerbootle/8643297/For-all-Italys-attractions-theres-good-reason-for-concerns.html>)

to provide €78 billion to Portugal. Moody's reduced Portuguese<sup>91</sup> rating to junk and said it's on a high risk of second bail out requirement. Portugal had 9.1 percent deficit to GDP ratio in 2010 and planned to reduce it to 3 percent by 2013 by reducing government spending, increasing taxes and supporting the banking system<sup>92</sup>, but Moody's predicted it may not be able to achieve its targets.

Ireland maintained a balanced budget up until the crisis started. One of the major reasons of the crisis in this country was the real estate bubble. It had 25 percent of its economy involved in this sector while in the case of other EU economies this activity represented under a 10 percent share<sup>93</sup>. Some experts assume that Ireland along with Spain should be temporarily taken out of the euro zone. The common feature between both these economies is that they had a budget surplus at the time of joining but suffered due to the property bubble. In 2007 the Irish government had announced that it will cover all bank losses but this promise became impossible with continued banking sector exposure and was very difficult for the government to rescue banking sector debts on its own. Ireland nationalized one of its major banks and bailed out some others. Consequently Ireland's budget deficit to GDP ratio rose to 32 percent. Moody's downgraded Ireland's rating and Ireland became the 5th country with highest default probability. The IMF and Euro zone agreed to bail out Ireland with € 110 billion and observe how macro and microeconomy responds. The 10 years' bond yield reached 12.43 percent which is limiting the chances of Ireland to return to the targets planned until 2013<sup>94</sup>.

The euro zone still has no comprehensive plan to face these problems in an integrated manner. It will be a long time before the investor's confidence is fully restored. The need for structural reforms still remains. Not everyone has blamed the single currency for the spread of this crisis. Although Poland's example is an example where it is a member of EU but it does not use Euro as a legal tender. The country is still experiencing better economic prospects in comparison to its neighbors. Still it is important to understand that going forward the major challenge will be the stability of the banking system in Europe. This is a bigger concern compared to the management of a single currency.

There are two remedial strategies for getting rid of this crisis. First is a radical reform where the member states have more financial freedom. This should be combined with an increase in the overall budget of EU, redistribution of wealth through taxation measures, guarantee of minimum wage and employment protection schemes and cross border investment for revival of labour intensive sectors particularly the industrial sector. Some have also welcomed the revival of the industrial policy which had disappeared after the liberalization of trade and investment across the globe. These reforms will be challenging in political terms as the value of the euro will slide down in turn increasing the costs of debt servicing and value of imports.

The second remedial measure and a more radical one is to break up the euro zone, nationalize crisis-ridden banks, and introduce country-specific industrial policies. This strategy will also involve a

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<sup>91</sup> The term "junk" is reserved for all bonds with Standard & Poor's ratings below BBB and/or Moody's ratings below Baa.

<sup>92</sup> Dylan Matthews, Everything you need to know about the European debt crisis in one post, The Washington Post, 28/09/2011

<sup>93</sup> ibid

<sup>94</sup> ibid

downward valuation for the euro however the euro may not slide in comparison to the first remedy mentioned above.

Recently EU has increased the European Financial Stability Facility (EFSF) from €440 billion to €1 trillion, and European banks have been urged to accept losses of up to 50 percent on Greek debts and to raise €106 billion capital by 2012, which will protect European countries in the danger zone from any future defaults<sup>95</sup>.

#### **4. Link with US Debt Crisis**

In August 2011 the US announced that it may have to default on its public debt obligations unless the current ceiling limit was raised. Debt ceiling is the legal limit on the total amount of the debt which the US government can borrow to pay its bills. This limit was \$14.3 trillion which was then increased by \$ 2.4 trillion due to the current US debt crisis. A US default would have created panic of a larger magnitude in comparison to the global financial crisis<sup>96</sup>. Many economists are considering this debt crisis; the worst since 1930s great depression.

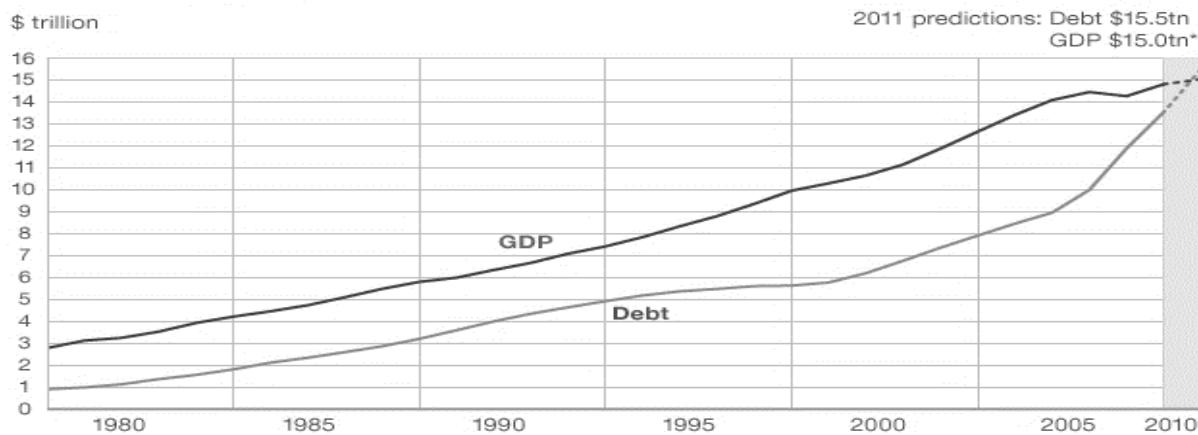
Today the US is today borrowing and spending more than ever in anticipation of lifting the economy out of the current slowdown. Some tax cuts to the rich have been allowed assuming that if the tax burden is lowered for the top 10 percent wealth holders they may end up saving and investing more.

The fact that the US debt crisis followed the global financial crisis has further exacerbated the problem at hand. The large inflow of global funds in the boom period of 2000s and lower interest rates made the credit conditions very easy which encouraged debt consumption, especially in the housing market where various types of loans were easily available. But as the house prices declined some major financial institution faced heavy losses which damaged the confidence of investors in turn also reducing credit availability. IMF had already predicted in 2009 (Figure 1) that US debt will soon take over the value of GDP.

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<sup>95</sup> Gavin Hewitt, Leaders agree Euro zone debt deal after last night talks, BBC News, 27th Oct 2011, see at (<http://www.bbc.co.uk/news/world-europe-15472547>)

<sup>96</sup> <http://www.bbc.co.uk/news/business-14204527>, Bill passed by the House of Representatives after an agreement between the Republican and Democratic leaders on 2nd of Aug,2011.

**Figure 1:** The Narrowing Margin Between US Debt and GDP

\*GDP prediction from IMF figures

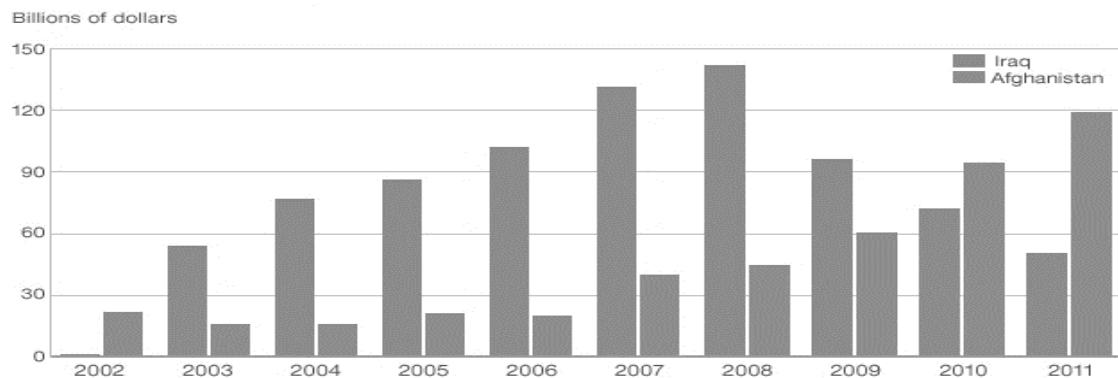
Source: IMF, Whitehouse.gov

## 5. Continued Reasons for Crisis in US

Though official reports state that the recession is over in the US, prospects for growth in the near term still remain low. The demand for commodities still remains low and in turn (at the time of writing of this brief) the unemployment rate was as high as 9.2 percent with 14.1 million Americans jobless<sup>97</sup>.

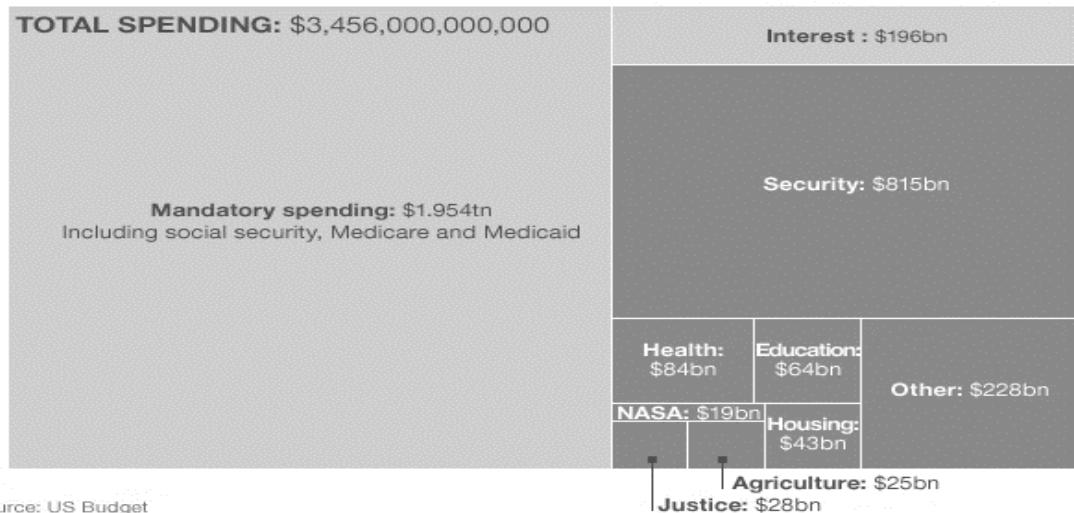
The growing concern is the ballooning social safety expenditures which have to be covered. Spending in health insurance programmes medicare and Medicaid continue to grow. The rate of growth in these expenditures is higher than the percentage rate of inflation. On the revenue side the US governments kitty stands weak after two substantial tax cuts in the Bush era in 2001 and 2003. This tax cut increases the national debt and deficit and its duration has been extended for two more years and is now due to expire in 2013. This extension itself will cost \$3.3 trillion. This has now implied that the US will not be able to make necessary investments in maintaining existing infrastructure and creating new one which is necessary for maintaining global competitiveness. Finally the US is still fighting hard in Afghanistan. It has only recently exited from Iraq however continues to finance the home grown government. Given that there are no deadlines attached to these foreign war operations it becomes difficult to forecast the potential savings from reform of government budget. Although Congressional Research Service has indicated that war expenditures will decline after 2008 however it has increased again (Figure 2) since relatively reduced level in 2010.

<sup>97</sup>[http://townhall.com/tipsheet/katiepavlich/2011/07/08/more\\_jobless\\_americans\\_unemployment\\_jumps\\_to\\_9.2\\_percent](http://townhall.com/tipsheet/katiepavlich/2011/07/08/more_jobless_americans_unemployment_jumps_to_9.2_percent), US rate of unemployment has a lot of ups and downs, current rate is 8.2% but this figure is taken when the US debt crisis were on peak as well as the unemployment rate was on high.

**Figure 2: Estimated War Funding**

Source: Congressional Research Service

The US government plans to cut the deficit by at least \$3 trillion over the next 10 years. There is a lot of speculation on how these cuts will come with some suggesting students will get less support for their education while others are talking about cuts in defense and social securities. However international aid from US government can be easily defended on political grounds. Figure 3 indicates the limited space available with the policy managers to maneuver curtailing the deficit.

**Figure 3: US Budgetary Expenditures**

Source: US Budget

More than half of the US annual budget is mandatory with social security and health programs which are difficult to cut. On the discretionary side more than half goes to security which is also not an easy task to reduce. So without a tax rise or some sudden spurt of economic growth it would not be easy to reduce the deficit.

President Obama offered his plan for curtailment of deficit which relied on \$1.5 trillion tax increase from 2013. The incidence of tax will be greater on high income earners. \$800 billion will come by letting Bush era tax cuts expire while remaining \$700 billion will come from changing tax rates and limiting deductions. Republicans have already opposed this proposal of increasing tax on

wealthy suggesting that this may hamper the much needed restoration of economic growth and creation of jobs. US may be able to save \$1.1 trillion by ending the wars in Afghanistan and Iraq.

In order to meet the increasing health budget needs, President Obama has also proposed a \$580 billion adjustment program by 2013, which includes \$248 billion from Medicare and \$72 billion from Medicaid. Opponents view this proposal as a further burden on economy<sup>98</sup>.

## **6. Fears of a Double Dip and Potential Impact on Developing Countries**

In the aftermath of the global financial crisis the economic growth rate in developed economies has slowed down from 3.1 percent in 2010 to 1.5 percent at the time of writing of this brief. The unemployment rate in advanced countries continues to increase while credit rating of businesses declines. Even China which played a key role in economic recovery from the financial crisis in 2008-09, had seen a decline in growth for the third consecutive quarter and this has a significant impact on developing countries as China for many is a leading provider of aid and trade flows<sup>99</sup>.

The Chief Economist of the World Bank Justin Yifu Lin while commenting on the current financial and debt crisis has said that “Developing countries should hope for the best and prepare for the worst”.

We try to list below the main challenges which developing countries may face as the debt crisis in the West deepens:

- Advance economies and specially EU provides trade opportunities to developing countries under preferential market access arrangements. During the 2000s economies such as India, Pakistan and Bangladesh have greatly benefited due to expansion in EU import demand. These benefits helped in augmenting foreign exchange reserves via exports receipts, creation of new jobs in industry and helping millions to come out of the poverty trap.
- A reduction in the value of the Euro against the dollar is putting more pressure on developing countries dollar-based exports. Even otherwise a fall in value of Euro vis-à-vis currencies in developing countries will imply rising in prices of exports from developing countries and thereby implying a reduction in demand for exported goods. The austerity measures put in place by many EU economies have already led to a reduction in export orders from developing countries.
- The falling value of the Euro will significantly impact the value of remittances sent by the Diaspora working in EU.
- EU is a key provider of foreign aid under both bilateral and multilateral arrangements. The aid inflows to developing countries will be affected. UK has imposed the biggest cut in government spending since WWII amounting to £83 billion by 2014-15. France and Germany are cutting €45 and 80 billion respectively. These slashed categories include aid assistance to developing economies. UN in 2008-09 had indicated that the achievement of MDGs in

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<sup>98</sup> The guardian Monday 19 September 2011, See at(<http://www.guardian.co.uk/world/2011/sep/19/obama-deficit-cuts-main-points>),

<sup>99</sup> Isabella Massa, How the Euro zone debt crisis could affect the developing countries, The Guardian(bolg) Friday 21 October 2011, see at (<http://www.guardian.co.uk/global-development/poverty-matters/2011/oct/21/eurozone-crisis-developing-countries>)

developing countries is being affected due to a reduction in commitments by the developed countries.

- Another potential negative impact comes in the form of reduced foreign investment by EU businesses in developing countries. During the earlier part of 2000s there was a renewed spree by EU investors who entered East Asian, Latin American and South Asian markets. The shrinking corporate savings in EU will imply lesser investible funds and this impact will be felt in the above mentioned regions as foreign direct and portfolio investment may see a decline.
- The debt crisis has increased the unemployment rate in Euro zone to 10 percent and in the US to 9.2 percent. It affects the labor markets of the developing countries as a substantial number of people from the developing world work in developed countries or in outsourced concerns from developing countries. Both the US and EU have now further tightened their immigration policies in order to reduce the number of workers entering their boundaries. This will not only result in the falling rate of migrants going abroad from developing countries but also lead to some reverse migration into developing countries as laid of expatriates come back to their native countries. This is bad news for poor countries in particularly as on average remittance of lower income countries are 8 percent of GDP. Some countries such as Tajikistan, Nepal and Gambia are dependent on remittances to the extent of 39, 22 and 14 percent of GDP respectively.
- Although the effectiveness of putting more finances towards war on terrorism is ambiguous, the reduced budget availability with US and EU governments will imply lesser funds towards this goal. The countries affected by the US initiated war on terror require substantial investment for relief, rehabilitation and the reconstruction process. Such sudden shortage of funds may result in a premature end to fight against terror in several parts of the world which then may be affected by civil war. This phase can then also provide a safe time and space for terrorist to reorganize themselves.
- A debt crisis in the West which is the main contributor towards development funds maintained at IMF, World Bank and other multilateral agencies could affect the operational strength of these institutions. It will decrease their development administration capacity globally. It will tighten the conditions of loans from these institutions and will imply an additional resource mobilization burden on poor countries. Several developing countries are already reeling under IMF conditionalities which were imposed amid food, fuel and financial crisis of 2007-08.
- It has been observed that uncertainties associated with US and EU debt crises has led to volatility in oil and food prices which can push millions of more people further below the poverty line.

## 7. Conclusion

To end this note it is also important to look at some of the positive changes which are starting to take place as this crisis deepens. The BRICs countries are now starting to have a leading role in the international monetary finance. These countries due to their large foreign exchange reserves and factors of production are balancing the governance of global institutions. A change has been seen in the composition of traditional trading partners. The domestic demand in Brazil, China and India

is now paving the way for strong inward flow of goods. The same can be observed in the case of East Asia. Previously many regional blocks were looking at EU as a role model for regional integration. This crisis has now given us a chance to look beyond EU and not trip over the same hurdles.

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**(PB # 30, 2012)**

# **Local Resource Mobilization: A Panacea for Community Based Organizations in District Chakwal**

*Gulbaz Ali Khan*

## **Abstract**

The mushroom growth of Community Based Organizations (CBOs thereafter) in the era of microfinance has groomed these organizations into a matured and informed community and on other hand, it also develops the culture of dependence on the continuous funding from the donors. Although these CBOs have built in culture of individual and communal savings, it has not yet brought financial sustainability at community level. This policy brief presents the existing situation on the local resources for CBOs and comes up with recommendations for tapping these resources.

## **Background**

Civil Society Organizations (CSOs thereafter) in Pakistan may be divided into following broad categories; i) nongovernmental organizations (NGOs), ii) community-based organizations, iii) policy think tanks, iv) trade unions and professional organizations, v) cultural groups, and vi) informal citizen organizations. In 2001, Civicus, an international alliance of civil society groups, described Pakistan's civil society as a "collection of incoherent voices, conflicting worldviews and opposing interests" characterized by "unresolved struggle between the practices and values of pre-capitalist society and new modes of social life, between authoritarian legacies, and democratic aspirations."

Ten years down the road, one can say with confidence that role of CSOs in Pakistan has gained coherence and clarity in activities and acceptance in general (Civicus 2001). Major service delivery organizations (mostly CBOs) played a commendable role during the most difficult times of earthquake 2005, Internally Displaced Persons (IDPs) crisis 2009 and flash floods 2010. Major advocacy and right based organizations proved their worth during judicial crisis of 2008 and 2009. They take credit of restoration of deposed chief justice of Pakistan. Similarly quite a few think tanks and policy research organization have achieved acceptance among policy making circles and major donors. Today an independent media, active judiciary and vibrant civil society in Pakistan are all set to define good governance agenda in Pakistan.

Specifically, the grassroots development in the country may be attributed to the community led organizations transforming the lives of poor at local level. The culture of the community based organizations has nourished in the era of micro finance based community development. The era begins with the success stories in different regions in the country and especially the replication of model of micro finance in many parts of the country have equivocally contributed towards the development and growth of community based organizations. Social mobilization has become one of the main components that help to mobilize the community members for local development. Once the community is developed into an organization, the financing starts either for increasing individual well being of its members or community development. This practice comes up with the spoon feeding of the community through different community led programmes by the national and international development agencies. One the one hand, it has groomed them into matured and informed communities and on other, it develops the

culture of dependence on the continuous funding from the donors. Although, it has built in culture of individual and communal savings, it has not yet brought any sustainability at community level.

It is generally experienced that community development in the country has led to foreign funding dependent community organizations. This mushroom growth has been accelerated in last many years due to the donors' focus on such practices. It is also generally observed that some of these community organizations died out with the programme or project completion in the specific areas, leaving no signs of organizational sustainability for long term benefits to the individuals and community at the large. This situation leaves with uncertain situation for those organizations who want to survive and serve their communities. In order to ascertain the existing situation in district Chakwal, Plan Pakistan and Sustainable Development Policy Institute (SDPI) jointly conducted a comprehensive study on exploring potential of domestic resources which may be tapped by these CBOs. This policy brief provides baseline information on the available resources and guidance for future priorities. It is based on the qualitative tools including stakeholders' workshop, key informant interviews and case study.

## **Methodology**

The methodology is based on secondary information and primary data collection from field. The existing literature on resource mobilization is also consulted to find out the existing possible ways to refine the research study. The primary data collection is also conducted to supplement the findings from the literature review. It includes meeting with key stakeholders, key informant interviews and collection of case studies

Currently, there are more than ten partners working closely with Plan Pakistan for implementing and executing programmes in district Chakwal. The team leaders of the implementing partners were selected who have proper acquaintance with different dimensions of resources in the district. The key informants provided insights into existing domestic resources, bottlenecks to tap them and help needed to mobilize domestic resource in future. The key informants were selected and their interviews were conducted in such a way that opinions offered are representative of the widest range of views, covering almost each and every aspect of domestic resource mobilization.

A stakeholder's workshop was designed and agreed between SDPI and Plan Pakistan. All the partners of Plan Pakistan in district Chakwal were requested to share their thoughts on the existing resources which may be tapped by the CBOs. Participants of this workshop came up with concrete ideas about the potential resources for the research. The case studies are selected on the basis of the recommendations of the key stakeholders. After detailed discussion, consensus was developed among the key stakeholders to select case studies from the identified sectors like corporate sector, business community, foundations & trusts, individual philanthropists, PIRS<sup>100</sup>, mining industry, government, foreign exchange sent by expat and government employees, more specifically army personnel.

SDPI team collected case. The focus of the case studies has remained on Tehsil Chakwal which is the most urbanized and resourceful among all tehsiles in the district. It also included the case studies from Choa Saidan Shah tehsile. The case studies covered wide range of resources in the district including

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<sup>100</sup> It is a local word used for saint

corporate sector, business community, PIRS, trusts, philanthropists, foundations, government and mining industry.

## **Findings**

District Chakwal is potential place for raising funds for development programmes as it is rich in terms of resources. Although, its economic base is agriculture, the existence of business especially corporate sector opens doors for resource mobilization. The study highlights the potential sources including corporate sector, business community, mining industry, trusts, foundations, individual philanthropists, PIRS and local government. All these sources have diverse potential which may be realized by the CBOs by adopting appropriate communication and advocacy strategies, creating networks and building alliances with these sources.

The corporate sector in Pakistan is bound by the international and national obligation through Corporate Social Responsibility (CSR) and it is aspirant to become socially responsible citizen of the country (Afsar 2009). CSR encompasses welfare of the organization employees, local community and society at large. In Chakwal, corporate sector is spread over few groups having their presence in national and international business arena. Within the corporate sector, cement industry is dominant with presence of business tycoons of the country. It is learnt that cement industry of the district makes nearly 18 percent of the total cement industry in the country (Munir 2009). Its huge production capacity indicates towards huge profit generation out of which there is likelihood that welfare spending may also increase for the local community. Current players in the corporate sector are cognizant of the fact that the local community must be prioritized and focused and similar activities are taken by management of the cement industry. The corporate sector is involved in helping local residents by ensuring the availability and accessibility of basic facilities. It clearly ramifies the intentions of the corporate sector which needs to be sensitized by the communities for tapping resources.

Business community in the district is heavily concentrated in cottage and small scale industries. The range of the small scale industry varies from hatcheries to marble factories and, furniture units to *khussa*<sup>101</sup> making. Unfortunately, Chakwal as district is not hub of the trade except for the main city where wholesale dealers and retail shopkeepers do exist (Plan Pakistan 2009). However, the CNG sector and traditional "*Pehlawan Rehwari*"<sup>102</sup> is engaged in social development activities in the district. CBOs can join hands with the business community networks such as CNG Association for building long term relationship for better communication and awareness resulting in raising funds.

Trusts and foundations represent group philanthropist having the same mission as individual philanthropists. In Chakwal, trust and foundations are playing their role in providing social services to the local people. The funding sources of the trust and foundations mainly comprise of the *Zakat*<sup>103</sup>, *Saddaqat*<sup>104</sup> and donations from individuals. Most significant impacts are left by the reverence of the PIRs in the district representing greater religious diversity and tolerance. These PIRs are also among

<sup>101</sup> It is local and traditional shoe

<sup>102</sup> It is local sweet made of sugar

<sup>103</sup> It is considered to be a religious duty and is expected to be paid by all practicing Muslims who have the financial means

<sup>104</sup> It is a voluntary charity

the sources of funding for the local trust and foundations. There exists a potential in the shape of group and individual philanthropists which may be tapped by the CBOs.

Mining industry is one of such key potential sources in the district (Punjab Mineral Development Corporation 2010). SDPI team tried to contact the lease owners of the mines, but lukewarm response as extended which ultimately led to detailed interview with the Mine Workers Federation. After analyzing the facts given by the respondents, it may be summarized that most of the owners are influential and politically connected with the leading parties in the country and have very limited presence in the district, especially in Chao Saidan Shah. The profit margin of the mining industry is very high, but the welfare and social spending is very limited. Research suggests that there exist limited potential for resource mobilization for the CBOs at this point in time. However, the overall strategy may include mining industry which may be tapped after sensitization of the owners and involvement of government.

Local government is always aspirant to connect with the local communities and Chakwal government response is very encouraging in this regard. District representative was present in the consultative meeting and briefed the participants about the development projects in the districts. Local government is committed to involve local communities through CBOs in the development process and last year, more than Rs: 100 Million has been allocated for different projects for CBOs on sharing basis. However, the situation is fragile in the province due to transfer of the powers of Local Government System to the provinces under the 18th amendment. Recently, the provincial government has also rejected the federal model of local government and is in process of developing its own local government system in Punjab.

## **Recommendations**

*Financial Resources:* The research highlights the potential sources for the domestic resource mobilization in Chakwal district. All the highlighted resources have the ample potential to be reached out for the fund raising efforts. There is need to draft an action plan with proper timelines and measurable outcomes. Entering into dialogue with top ranked business companies, corporations, trusts, foundations, government and PIRs may be included in the action plan. The Plan Pakistan Partners should also come up with best practices and good proposals which may be presented to the interested domestic donors for consideration. Action plan may also include a series of events like conferences and workshops as well as dissemination strategy for literature on development activities, such as “child centered development” in the district.

*Capitalizing on Non-Financial Resources:* Volunteerism is one of the major non-financial sources which may be utilized for tapping financial resources in the district. Explore people who have the rights skills and spare time for organizations may be contacted for their short timed services (NGO Resource Toolkit 2004). Student of finance courses may serve the organization as “Finance Advisor/Manager” on volunteer basis. Similarly, lawyers, auditors, salesman, public relations officers, media people, and many professionals can provide advice and guidance to the organizations, if they are motivated to work with organization. The partners of Plan Pakistan may start “Volunteer Campaign” in the district with objective to take volunteers to help them throughout the year cycle. It will help CBOs to accumulate appropriate human resources for the resource mobilization campaign.

***Networking & Collaboration:*** Networking is a key to success which requires immediate attention of all the stakeholders. There is a need to develop network of Community Based Organizations (CBOs) in the district which would ensure participation of all the national and local level organizations<sup>105</sup>. It would also serve as platform for raising collective voices and sharing knowledge. In order to build on the proposed network, a detailed research has to be drafted for mapping of CBOs & NGOs, along with a capacity assessment exercise. Capacity assessment in the areas of financial management, internal controls, regulatory compliance, administration and human resource management, and technical capacity will become the part of the overall assessment process. This assessment and diagnostic exercise will highlight the future needs of the CBOs in multiple dimensions ranging from managerial to financial skills. It will help the CBOs themselves and Plan Pakistan to focus on these areas for future local level interventions in the district.

***Lobbying and Advocacy:*** It was also stressed during meetings, collecting case studies and consultative workshop that advocacy campaign must be started in the district to create pressure group to influence key policy makers at local and provincial level. In consultative meeting with partners of Plan Pakistan, it was suggested to develop a dedicated advocacy campaign for reaching and influencing the policy makers. SDPI can provide technical support to the interested organizations in developing the advocacy campaign and will train the staff with financial help from Plan Pakistan. CBOs may take lead on the issues of environmental damages caused by the cement industry in the district and start advocating for better environment and social lives for the residents and linking it with their agendas.

***Information Exchange:*** The efficiency of information exchange is vital to the effectiveness of the CBOs programme in the district. These BCOs generate a lot of information and has the right experience to share with other organizations in the district. Available information should be utilized efficiently and disseminated in such a way that it enhances the coordination among organizations with better knowledge base for influence in the district. The proposed network must adopt communication strategy to train organizations to store, use, and disseminate information among the members. During the visits and discussion sessions with different stakeholders, it is highlighted that research findings must be disseminated at immediate basis to create awareness among the stakeholders. Whatever the research is conducted, it must be shared with wider community for knowledge sharing. It will also build knowledge base of the stakeholders in the existing resources in the district which may be tapped by the community organizations by adopting different fund raising strategies.

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(PB # 26, 2011)

# Budget Transparency in Pakistan: Findings from an International Study 2010<sup>106</sup>

*Gulbaz Ali Khan*

## Abstract

The Government of Pakistan provides the “public minimal information” about budget formulation, execution and implementation. Lack of information makes it difficult for the citizens to hold the Government accountable for the use of public funds. According to the 2010 Open Budget Survey, Pakistan scored 38 out of 100, among the 94 surveyed countries and was placed in the bottom next to Afghanistan in the South Asian region (IBP 2010a). This Policy Brief looks at some of the outcomes of the Survey for Pakistan and makes a comparative analysis for the periods 2006, 2008 and 2010 highlighting that budget transparency in the country has declined over the last five years.

## Introduction

A country’s budget is a reflection of its fiscal policy and is one of the important policy levers used in its social and economic development. It also reflects public income, spending, access to social services such as drinking water, health care, education, social security benefits, and the overall quality of life. Access to budgetary information is indispensable for assessing Government responsiveness to its citizen’s needs and demands and is reflective of public participation in the budget making process.

## Background and Methodology of the Open Budget Index

The Open Budget Index (OBI) is used for assessing budget transparency all over the globe. It assesses the availability and data comprehensiveness of eight key budget documents. In addition to this, the Open Budget Survey questionnaire also contains information on the extent of oversight by supreme audit institutions and opportunities for public participation (IBP 2010). OBI is part of the Open Budget Project administered in South Asia and other low income countries by the International Budget Partnership (IBP), a Washington based non-governmental organization (NGO), in collaboration with individual independent researchers and active Civil Society Organizations (CSOs).

The 2010 Index is the average of multiple type questions administered through partner organizations in a specific region. The questionnaire is based on 123 multiple choice type questions containing information about the eight key budget documents: Executive Budget Proposal; Citizens Budget; Pre-Budget Statements; Enacted Budget; In-Year Reports; Mid-Year Reports; Year End Reports; and Audit Report based on OBI’s methodology (*Ibid*). OBI score ramifies the availability of information in the budget documents. However, the Executive Proposal is one of the key determinants of the overall OBI

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<sup>106</sup> This Policy Brief presents findings from an international study conducted by the International Budget Partnership (IBP) formally published in October 2010. A multi-country Open Budget Survey was administered in 94 countries through partnership with academia, researchers and Civil Society Organizations (CSOs). The Surveys are conducted every two years. The first Survey was implemented in 2006 and covered 59 countries; the second Survey was done in 2008 and evaluated 85 countries; the 2010 Survey is the third in the series. For more information about the IBP, the Open Budget Index and the latest 2010 report, visit <<http://www.internationalbudget.org/what-we-do/open-budget-survey/>> (accessed on 15 December 2010).

score since it contains 58 questions. The remaining questions are divided amongst the other areas identified in Box 1. Whoever performs better in the Executive Budget Proposal obtains the maximum score as per the draw down methodology.

**Box 1:** The Open Budget Questionnaire

|  |
|--|
| <b>The Open Budget Questionnaire</b>                                   |
| <b>Section One: The Availability of Budget Documents</b>               |
| Budget Year of Documents Used in Completing the Questionnaire          |
| Key Budget Documents Used: Full Titles and Internet Links              |
| Distribution of Documents Related to the Executive's Budget Proposal   |
| Distribution of Enacted Budget and Other Reports                       |
| <b>Section Two: The Executive's Budget Proposal</b>                    |
| Estimates for the Budget Year and Beyond                               |
| Estimates for Years Prior to the Budget Year                           |
| Comprehensiveness  |
| The Budget Narrative and Performance Monitoring                        |
| Additional Key Information for Budget Analysis and Monitoring          |
| <b>Section Three: The Budget Process</b>                               |
| Executive's Formulation of the Budget                                  |
| Legislative Approval of the Budget                                     |
| Executive's Implementation of the Budget                               |
| Assessment in the Year-end Report and by the Supreme Audit Institution |
| <b>Source: International Budget Partnership 2010</b>                   |

The research process for conducting the survey was based on the involvement of country specific academicians, researchers and CSOs involved in budget related issues in their respective country. Therefore, country specific researchers were responsible for completing the OBI questionnaire, and their responses to the questions also provided with online citations for verifications (*Ibid*).

IBP consolidated the responses and verified them with the help of publicly available information. To further authenticate the responses, they are also sent to two independent reviewers in the respective country. In most of the cases, the completed questionnaire was also shared with the respective government for comments (*Ibid*)<sup>107</sup>. In Pakistan, Omar Asghar Khan Development Foundation implemented the survey and findings of the survey were also independently peer reviewed.

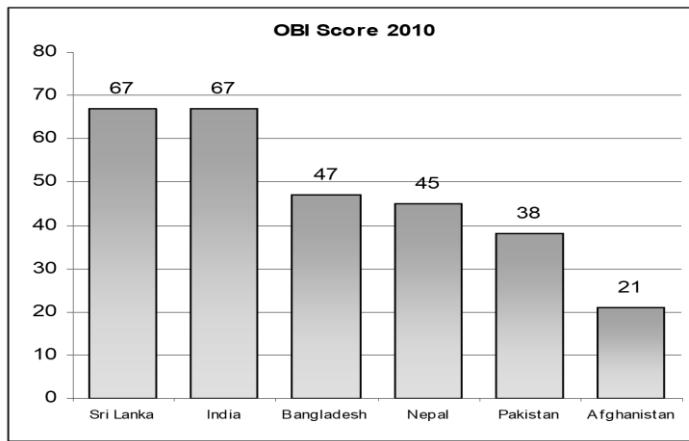
## Key Findings

### *Openness*

The Open Budget Index (OBI) categorizes countries on the basis of scores. Highly open budget countries are placed in the “extensive information” category. According to Figure 1, Pakistan falls in the second lowest category with “minimal information” provided to its citizens, with a score of 38 and a ranking of 58 out of 94 surveyed countries.

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<sup>107</sup> IBP assures that the comments of the peer reviewers and the government are included properly.

**Figure 1:** Country-wise Ranking

Source: IBP 2010.

Box 2 shows the categories in which the various countries have fallen, with Pakistan placed with 18 countries in the “Minimal” category.

**Box 2:** Distribution of Countries based on OBI 2010 Scores

| Quality of information provided to the Citizens |                     |   |
|---|---------------------|---|
| OBI Score                                       | Number of countries | Countries   |
| <b>Extensive Information</b>                    |                     |   |
| (OBI sub-scores 81-100)                         | 7                   | France, New Zealand, Norway, South Africa, Sweden, United Kingdom, United States  |
| <b>Significant</b>                              |                     |   |
| (OBI sub-scores 61-80)                          | 13                  | Brazil, Chile, Colombia, Czech Republic, Germany, India, Peru, Poland, Slovenia, South Korea, Spain, Sri Lanka, Ukraine   |
| <b>Some</b>                                     |                     |   |
| (OBI sub-scores 41-60)                          | 33                  | Argentina, Azerbaijan, Bangladesh, Bosnia, Botswana, Bulgaria, Costa Rica, Croatia, Egypt, Slovakia, Tanzania, Thailand, Turkey, Uganda, Georgia, Ghana, Guatemala, Indonesia, Italy, Jordan, Kenya, Macedonia, Malawi, Mexico, Mongolia, Namibia, Nepal, Papua New Guinea, Philippines, Portugal, Romania, Russia, Serbia, |
| <b>Minimal</b>                                  |                     |   |
| (OBI sub-scores 21-40)                          | 19                  | Afghanistan, Albania, Angola, Ecuador, El Salvador, Kazakhstan, Lebanon, Liberia, Malaysia, Mali, Morocco, Mozambique, Nicaragua, Pakistan, Timór-Leste, Trinidad and Tobago, Venezuela, Yemen, Zambia  |
| <b>Scant</b>                                    |                     |   |
| (OBI sub-scores 0-20)                           | 22                  | Algeria, Bolivia, Burkina Faso, Cambodia, Cameroon, Chad, China, Democratic Republic of Congo, Dominican Republic, Equatorial Guinea, Fiji, Honduras, Iraq, Kyrgyz Republic, Niger, Nigeria, Rwanda, São Tomé e Príncipe, Saudi Arabia, Senegal, Sudan, Vietnam   |

Source: IBP 2010.

Interestingly, Pakistan’s ranking among the regional states presents a bleak picture since it ranks at the bottom position in the South Asia region. Afghanistan is the worst with lowest scores of 21 in the OBI. However, it is important to mention that Afghanistan is amongst the best performers in the world and region since the last 2008 survey. It has improved from its lowest position of 8 in 2008 to 21 in the 2010 survey. Budget openness and access to public information is improving quite briskly in Afghanistan. Pakistan, however, is well behind Sri Lanka, India, Bangladesh and Nepal in the region. Sri Lanka and India scored 67 each, providing significant budget information to their citizens. The overall scores of Nepal and Bangladesh (45 and 48) clearly reflect that these two countries are more

open in sharing budgetary information with their citizens. In terms of openness in sharing budget information, Sri Lanka, India, Bangladesh and Afghanistan have improved significantly when compared to the 2006 and 2008 surveys.

### ***Accessibility***

One of the important budget documents is the “Executive Budget Proposal” which contains the proposed executive plan for the next fiscal year, detailing information about revenues and expenditures (IBP 2010). It is prepared in Pakistan as an Executive Proposal and shared with the Parliament with limited time frame for discussion and citizen participation. The Executive is expected to prepare the budget document well in time and share its information with the public and legislature at least three months before the start of the next fiscal year for meaningful debate and comprehensive review (Ibid). However, the practice is quite opposite as the Executive conceals information from the legislature and the public; and presents the document prior to its approval by the Parliament.

Pakistan’s Government does not produce a “Citizens Budget” which is a layman summary of the technical budget jargon. A common citizen can understand that version of the national budget and comprehend what the Government is going to be prioritizing for common people in the country. However, in Pakistan, only a summarized version of the Finance Minister’s 2010 budget speech was placed on the Ministry’s website which still contains incomplete and incomprehensible information.

In addition to this, according to the IBP (2010a, p.3), since Pakistan does not publish the In-Year Report and the Year End Report “in a timely manner”, they are considered “Not produced” while the Mid year Review is not compiled at all. Although, there are many other documents published by the Government, these cannot be considered as the in-year and mid-year reports about budget implementation during the year.

### ***Comprehensiveness***

The GoP’s Enacted Budget<sup>108</sup> does not contain detailed information about the different fiscal activities of the Government. For example, there is limited information about the extra-budgetary expenditures, spending on the War on Terror or military expenditures. The 2010-2011 budget shows the defense budget under separate heads with limited details, while analysts found that the budget of military pensions was deliberately included under different heads. This hidden military pension budget was nearly equal to the proposed expenditures of the Federal Government operations.

### ***Parliamentary Approval***

Parliament is the supreme body in Pakistan that approves the Federal Government’s money bills, including the annual budget and converts the Executive Proposal into Enacted Budget. However, the Parliament receives the Proposal less than four weeks before the start of fiscal year leaving little time for more than 500 parliamentarians in the country to go over it. Ironically, they are also given hardly any time (less than one hour) to speak on the budget priorities and share recommendations.

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<sup>108</sup> The Executive Budget Proposal is presented in the Parliament and after its approval, it becomes the country’s law and provides information on all aspects of the budget.

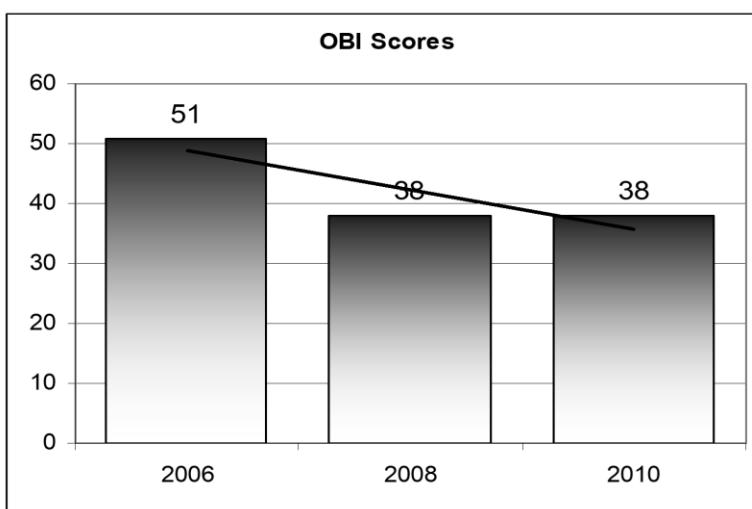
### **The Auditor General Reports**

Article 171 of the Constitution of Pakistan states “The reports of the Auditor-General relating to the accounts of the Federation shall be submitted to the President, who shall cause them to be laid before [both Houses of Majlis-e-Shoora (Parliament)] and the reports of the Auditor-General relating to the accounts of a Province, shall be submitted to the Governor of the Province, who shall cause them to be laid before the Provincial Assembly” (GoP). The Auditor General of Pakistan (AGP) publishes reports on the financial transactions in the country and finds out where the leakages have happened in the use of public money. These reports are published by this supreme audit institution with substantial time lag which sometimes decreases the significance of the provided information. However, the Government provides audit reports about the use of public money and solicits information on whether their recommendations are implemented or not.

### **Pakistan’s Comparative Performance (2006-2010)**

The comparative performance of Pakistan exhibits declining budget transparency over the last three surveys conducted by the International Budget Partnership (IBP). For the first time, an Index like the OBI has shown openness of budget formulation, execution and monitoring of the public funds. Figure 2 shows decline in Pakistan’s Index value over the years.

**Figure 2:** Comparative Open Budget Index Score-Pakistan



Source: IBP 2006 (51), 2008 (38) & 2010 (38).

In 2006, Pakistan’s Open Budget Index Score was 51 percent with “some information” being given to the public. It is interesting to note that the best performance of the country on this score happened during the period of the Army-led democracy. This is ironic, since according to well documented research, democracy is always coupled with greater transparency and accountability. However, the situation is quite turbulent for Government officials and legislatures since the level of transparency has declined after democratic forces came to power in the country. The IBP (2010) finds that there is a positive relationship between democracy and budget transparency. It also finds that countries that have democratic governments on average score higher than those governments having non-democratic systems. It appears that Pakistan’s OBI declined by 34.21 percent during 2006-08.

The declining budget transparency in 2008 happened in such time when the country had been negotiating the largest ever stand-by-arrangement loan with the International Monetary Fund (IMF). This, too, is in contradiction with what is normally expected under such circumstances. Often, international financial institutions pressurize governments for more openness of budget information and document a country's performance over short periods. But this does not appear to be true in our case as the information available in 2006 was not available in 2008.

The situation in 2010 is still not good as the Index records no change as compared to its previous position (38 percent) in 2008. Pakistan's static performance may be attributed to the declining transparency situation in the country as already endorsed by Transparency International. Pakistan improved its position as the worst performers in terms of transparency in the world.

Democracy always comes with hope for the destitute. But, democracy in Pakistan has closed the doors to public participation and holding the Government accountable for its expenditures.

## **Recommendations**

Pakistan is among the worst performers in sharing budget information with the public and their participation in the budget making process is negligible. However, the country has experienced vibrant debates about the budget due to an active media and civil society organizations. Many media groups now have long budget debates before it is presented in the Parliament.

It is quite important to note, however, that Pakistan's budget making process is heavily influenced by the international financial institutions (IFIs) hegemony over the macro and micro matters. Unsolicited and undue intervention in the budget development process by these IFIs is administered through an already reined bureaucracy in the country. Recent findings of the IBP (2010) have led to several recommendations which may be adopted by the Government for increasing budget transparency:

- Pre-budget statement and post-budget documents should be available in print form and online by the Ministry of Finance three months prior to the approval process.
- All budget documents should be translated in national and local languages for ensuring greater access and understanding of the budget documents.
- Citizens' Budget should be prepared in simplest form to enhance understanding of the technical budget jargon and published right after the Budget Proposal (IBP 2010).
- A budget performance indicator should be developed and incorporated in the budget.
- Budget Proposal should be sent to the Parliament three months prior to its approval process in order to generate meaningful debate (IBP 2010).
- In- year, Mid-year and Year end reports should be compiled and published on time (IBP 2010).
- There should be more public engagement in the budget making process through public meetings, polls and pre-budget consultations.
- Capacity building of parliamentarians should be addressed to create meaningful discussions within the legislative houses.
- Civil society groups should organize Budget Forums to increase and unite public voices for budget transparency. These budget forums should also be established at district and provincial levels to track the budget process and raise voices for assessing the budget information.

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**(PB # 24, 2010)**

# What Comes After the Quota Went? Effects of and Responses to the ATC Expiry<sup>109</sup>

*Karin Astrid Siegmann<sup>110</sup> and Atif Nasim*

## Abstract

The global environment after the expiry of the quota system in textiles and clothing (T&C) trade poses formidable challenges to human development in Pakistan. Increased quality and price competition in the post-ATC scenario provides an opportunity for some segments of the T&C sector – but a threat to the most labour-intensive ones. As quality and quantity of employment were largely ignored factors in the preparations for the Agreement on Textiles and Clothing's (ATC's) abolition in Pakistan, potential job and wage losses are feared, in garment manufacturing in particular. Unskilled and female workers are most vulnerable.

Challenges also provide the opportunity for change. The following recommendations are put forward in this policy brief:

- Skills improvement in both skilled and unskilled occupations in the T&C sector should be undertaken by government and industry. This would reduce the vulnerability of these occupations to adverse effects of structural change, and at the same time enhance the competitiveness of the T&C sector.
- Likewise, the implementation of core labour standards at the national, regional and global levels would protect, if not improve, working conditions for millions of workers and provide a more level playing field for competition in the post-quota era.
- Mitigation measures should be implemented as soon as possible for vulnerable workers who have - or might - become victims of structural change in the T&C industry.
- In these efforts, a focus on women workers in skill development and mitigation measures is required. As unskilled workers, women face more precarious working conditions and fewer job alternatives. Very few highly qualified and skilled women enter managerial positions, and this lack is another factor in depriving the country of development opportunities.
- Awareness should be raised amongst cultivators and pickers about the health hazards associated with pesticide application. Incentives to reduce cotton contamination should be provided to cotton growers in a manner that can be passed on to female pickers. Such measures would improve working conditions and product value-addition at the same time.
- Broadened and strengthened collaboration between workers, employers, and the Government is necessary to reach these objectives.

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- Overall, social development in Pakistan needs to be emphasised. Investment in, for example, health and education, benefits human development directly, but is also a pre-requisite for more competitive and sustainable industrial development.

## A quantum leap towards freer trade

The Agreement on Textiles and Clothing (ATC) expired in January 2005 and the first year after a quantum leap towards freer trade in textiles and clothing (T&C) has now concluded. The ATC was an agreement under the World Trade Organisation (WTO), aimed at gradually phasing out the quota system that had governed trade in T&C since 1974. Under this so-called Multi-fibre Arrangement (MFA), industrialized countries, mainly the United States of America (USA) and the European Union (EU), placed limits (i.e. quotas) on T&C imports for producing countries.

Coming into force in 1995, the ATC phased out this quota system over a ten-year period. Since January 2005, buyers and sellers of T&C products no longer rely on access to quotas in order to sell to the main markets.

The expiry of the quota has given rise to both hopes and fears in the industry. Developing countries, including Pakistan, had lobbied for an end of the quota regime in the Uruguay Round negotiations of the WTO. With high labour surpluses and low labour costs, they rightly perceived themselves as having a comparative advantage in T&C production compared to industrialized nations.

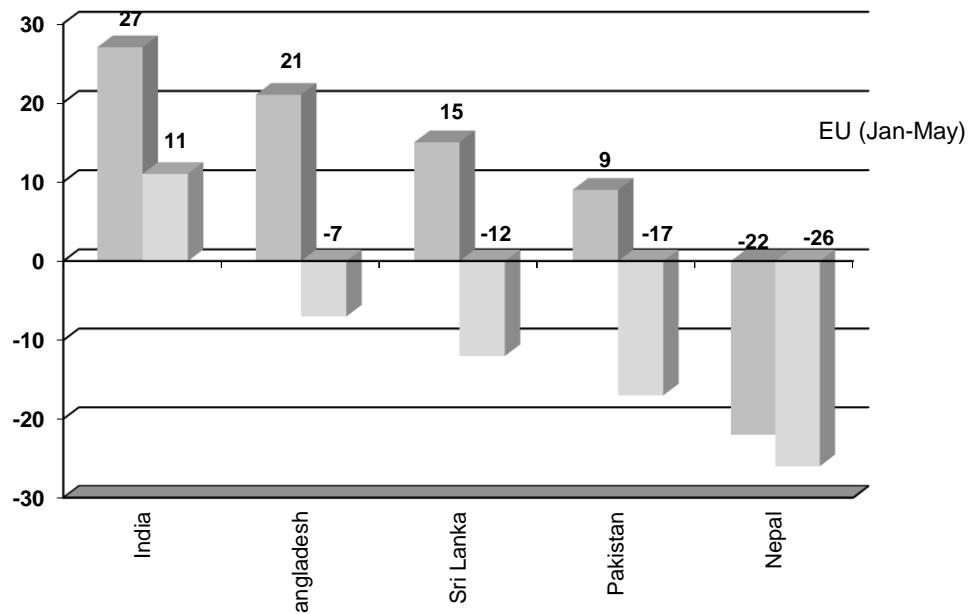
The T&C sector is of great macro-economic importance for several South Asian countries. In Pakistan, it accounts for 9% of gross domestic product (GDP) and about 60% of the country's exports (Ministry of Finance, 2005b). However, the entry of China into the WTO in 2001 signalled the fact that from that point on, a large number of producers across Asia, Latin America, and Africa would have to compete with one huge, cost-efficient producer. It triggered fears of losses of market shares – and millions of jobs (e.g. ITGLWF, 2004).

The T&C industry is very labour-intensive. Globally, it employs about 27 million workers (ILO, 2000). It also absorbs a high share of female employment world-wide. Employment in T&C accounts for almost one fifth of the total world female labour force in manufacturing (Joekes, 1995). Overall, women represent 30% of the workforce in the textiles and 75% in the clothing sub-sectors, respectively (Ferenschild and Wick, 2004).

The Pakistani T&C industry employs 35% of industrial sector workers (Ministry of Finance, 2005b). It is estimated that the total workforce in the T&C industry including informal employment totalled 2.3 million in 2000 (Azam, 2004). The largest share of the workforce is employed in garment production and weaving (Khan, 2003). Garment production is also a major employer of women. In stitching units in Pakistan, between 41% and 75% of the total workforce are women (Siegmann, 2005b).

## What has come after the quota went?

During the first year of freer trade in T&C, some changes in the South Asian economies have already become apparent. Overall, T&C exports have increased. However, this positive broad picture conceals country- and sector-specific effects and damage (Figure 1).

**Figure 1:** T&C exports 2004 and 2005, selected South Asian countries (% change)

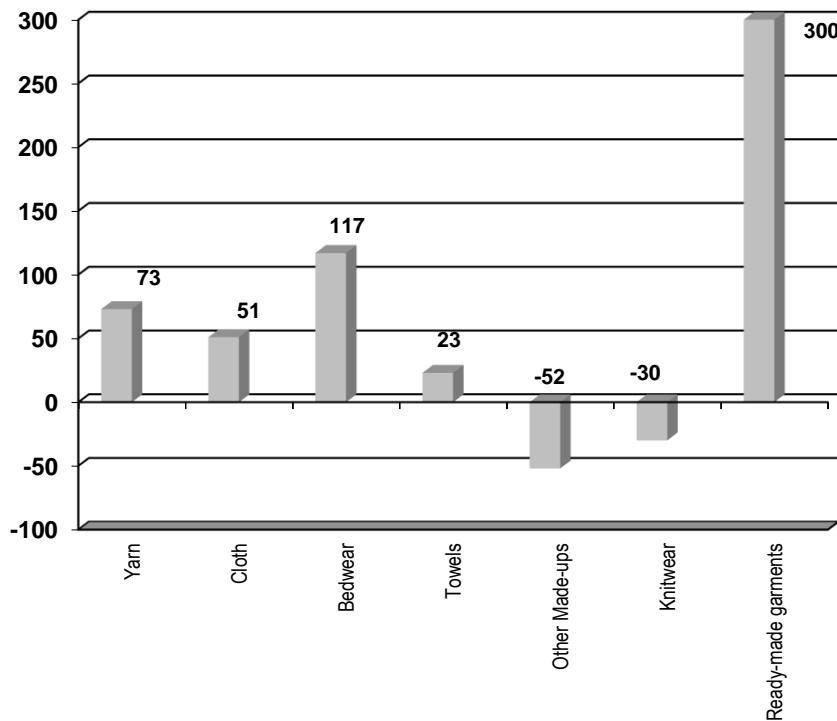
Source: UNDP (2005b)

Whereas Bangladesh has been spared the anticipated crash in garments exports, Nepal has lost a significant number of orders from abroad. The reason for the dissimilar performance may lie in a combination of Bangladesh's preferential access to the European market, and the fact that Bangladesh supplies some of the products whose imports are constrained by a recent agreement between the EU and China (Anwar, 2005; EC, 2005; EC, 2004). In recent years the country has invested in backward linkages such as spinning mills and weaving units in order to be able to benefit from duty-free access to the EU market that requires several stages of transformation from raw material to clothing products (Nordås, 2004; Bhattacharya, 1999). In particular, Bangladesh's knitwear exports that had grown significantly between fiscal year (FY) 2003/4 and 2004/5 were supported by domestic incentives in the form of cash compensation schemes and duty drawbacks (Anwar, 2005; Bhattacharya, 1999). Pakistan's and India's textile industries have done well in the post-quota era, but their respective garment sectors have struggled to survive strong price and quality competition after China entered the freer T&C market. As the garment sectors are the most employment-intensive sectors, this might translate into significant employment losses.

At the same time, the intensified competition also puts pressure on wages and working conditions, which were not good even before the opening of the market. Some countries have advocated a relaxation of labour legislation in order to reduce labour costs. For example, Bangladesh has announced that it will increase authorized overtime and relax restrictions on night work by women. Similar legislation is under discussion in India and Pakistan (Ghauri, 2006; ILO, 2005a).

As mentioned above, a first impact assessment of the Pakistani situation shows that the textile sector is doing well, although knit garments in particular are ailing (Figure 2)<sup>111</sup>.

**Figure 2:** T&C exports August 2005 (% change vis-à-vis August 2004)



Source: Ministry of Finance (2005b)

A study recently concluded by the Sustainable Development Policy Institute (SDPI) throws light on the reasons for the unexpected growth in sales abroad (Siegmann, 2005a). Capacity increases were the third-most important preparatory strategy for the ATC expiry mentioned in particular by textile exporters. For many companies, selling more is a strategy to cope with prices that have dropped significantly in the post-quota scenario for all product categories, both to maintain profit levels in the short-term and, in some cases, to achieve economies of scale in the longer run. This study's results reveal reduced profits for fabric and apparel companies in particular. Clothing companies interviewed were aware of companies that had gone out of business after the abolition of the quota regime. Thus the question is how sustainable T&C export growth will be.

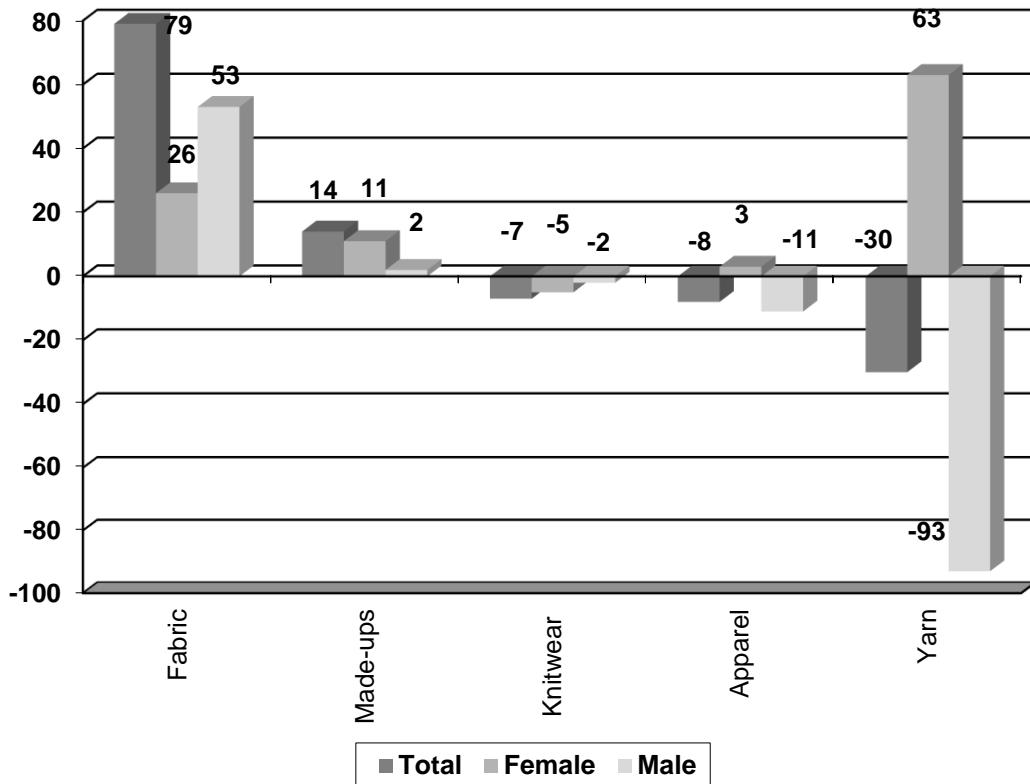
The rise and fall of sales affects the livelihoods of a great many workers and their dependants. The SDPI study shows that whereas overall employment has slightly increased after the quota expiry, sub-sectoral differences exist (Figure 3)<sup>112</sup>. For exporters of fabric and "made-ups", such as towels and bed-linen, both female and male employment has increased. This reflects their increase in sales abroad. In

<sup>111</sup> A one year comparison qualifies the extraordinary growth displayed by woven garments. As compared to the period of July-March of the previous fiscal year, ready-made garments showed a growth rate of about 3% (Ministry of Finance, 2005b). The high growth displayed in Figure 2 can be explained by the fall in woven apparel exports in 2004 (Ministry of Finance, 2004).

<sup>112</sup> In the interpretation of Figure 3, it is useful to keep in mind the much higher number of garment units than textile units.

yarn and apparel production, a replacement of male by female workers has taken place, while total employment has decreased. The on-average lower wages paid to women workers may be part of the explanation. Lower wages help companies to survive in the harsher post-quota competition - albeit on the backs of workers. Finally, knitwear exporters that are still in business have reduced their female as well as their male workforce. Based on the survey results, it is estimated that about 40,000 jobs have been lost in this sub-sector alone in the first year after the quota expired. Industry sources quote an even higher figure (Waleed, 2006).

**Figure 3:** Post-quota employment in Pakistan's T&C industry (mean changes)



Source: Siegmann (2005a)

A closer look at the study's results shows that unskilled workers in particular are affected. Male operators who lose their jobs are replaced by unskilled female workers. The slight employment gains in administrative and managerial positions do not benefit women, since men are recruited for these positions.

## Responses Required

These preliminary trends during the first year after the quota expiry reflect a lack of competitiveness in certain parts of Pakistan's T&C industry. This had been diagnosed long ago. The "Textile Vision 2005", a strategy paper for Pakistan's T&C sector developed in 2000 by the Small & Medium Enterprise Development Authority (SMEDA) identified, amongst other things, the following weaknesses of the sector (SMEDA, 2000): a narrow export product base, with a focus on low-value added yarns and fabrics rather than made-ups and garments, and a lack of focus on a trained workforce in high-value

added industries, such as clothing. Increased attention to garments and made-up articles, as well as improved quality throughout the textile chain, was advocated as a response to these challenges. This implied technology upgrading at all stages of textile processing, human resources development, and improved marketing. However, these sound ideas have not been implemented so far.

The impressive amount of USD 5 billion that was invested in the T&C industry between 1999 and 2004 (Ministry of Finance, 2005b) has largely been spent on sectors that are already competitive and not that strongly dependent on exports. Almost half of the investment went into spinning, while the woven and knit garments sectors obtained less than 5% of the total (Ministry of Finance, 2004), i.e. about one third of the investment targeted in the "Textile Vision 2005" (Ministry of Finance, 2003). In many cases, the investment was labour-saving (Siegmann, 2005b). Overall, this means that employment and the skills of the workforce have been neglected in the preparations for the quota expiry, even where these would have increased the industry's competitiveness.

This situation might deteriorate further in the mid-term. The following post-ATC scenarios for Pakistan's T&C industry's development are conceivable. One option is further specialization in yarn, cloth, and made-ups. The alternative is the move towards higher value addition that is also advocated by the "Textile Vision 2005" (Siegmann, 2005b). Given the current skill and gender structure in employment, both scenarios imply reductions in unskilled and female work.

The structural change in T&C trade induced by the lifting of the quotas has been slowed down by the responses of the USA and EU to curb Chinese T&C imports to their respective economies. The EU has limited Chinese textile exports in 10 categories of concern to agreed growth levels until the end of 2007 (EC, 2005). An agreement between the USA and China, signed in November 2005, places quotas on 34 product categories of Chinese textile and clothing exports to the US until the end of 2008 (GoUSA and GoPRC, 2005). This gives some more breathing space to deal with the challenges of the ATC abolition for Pakistan's economy and 'economic development.

## **Decent work in globally competitive jobs<sup>113</sup>**

One of the most important steps to be undertaken is to strengthen product quality by investing in workers' skills and research and development (R&D). With special emphasis on small and medium enterprises (SMEs), which form a large portion of garment and cloth manufacturers, this is also stressed by the Planning Commission's "Medium-Term Development Strategy 2005-2010" (Planning Commission, 2005). As mentioned above, relaxation of labour legislation increases capital productivity but the need is to increase labour productivity for successful competition with China. In order to achieve this, workers, employers and government should join hands to improve both competitiveness and working conditions. An example of an existing bipartite forum is the Workers Employers Bilateral Council of Pakistan (WEBCOP). Consultations such as this need to be broadened and strengthened. Within the T&C industry, better-trained operators can reduce wastage, produce higher quality products,

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<sup>113</sup> Many of the recommendations below were developed during two strategic workshops initiated by SDPI. One, jointly organised by SDPI and Friedrich-Ebert-Stiftung (FES), took place in October 2004 with representatives of workers' organisations (SDPI and FES, 2004). The second one, sponsored by the UN-TIHP, brought together stakeholders ranging from business representatives, via government officials to trade unionists from across South Asia in November 2005 (SDPI and UN-TIHP, 2005a).

and support pro-active product development and marketing, especially in high value-added product categories. Besides strengthening the industries' competitiveness, enhancing workers' skills would support their bargaining power. Better skills increase their chances of finding job alternatives within and outside the T&C industry and thus potentially benefits Pakistan's overall industrial development. Ways to achieve this may include on the job skill development and more and improved training institutes targeting operator-level T&C workers, with preferential enrolment for women. Female workers comprise a large share of T&C workers in made-ups and garments, in particular in the informal sector (Khan, 2001). Clearly, in the short term their employment has increased. For this reason and because of female workers' greater vulnerability due to poorer education and fewer job alternatives, it is crucial that their skills are enhanced.

Also, the lack of skilled workers has been identified as a bottleneck for the industry's development (Khan, 2005), in particular in the garments industry. That is why managerial skills which requires development. In particular, women's entry into administrative and managerial positions should be facilitated. National and international statistics show that female students outperform their male colleagues both in school and at university. The almost complete lack of women in skilled occupations means the Pakistani T&C remains far below its potential (SDPI and UN-TIHP, 2005b).

In skill development both for unskilled and skilled labour, industrialised countries can and should support the transition to freer trade in T&C through both bi-lateral and multi-lateral aid. Importing industrialized countries benefit from the quota expiry and have taken responsibility for reaching the Millennium Development Goals (MDGs) that include developing global partnerships for development.

In cotton cultivation, enhanced product quality means incentives to reduce contamination (i.e. with jute or polypropylene fibres, human hair and pesticides). Contamination has been identified as one of the major obstacles to increased sales for Pakistan's cotton and cotton products. Reducing contamination can easily be achieved if cotton pickers are paid incentives for uncontaminated cotton. A decision was recently taken to provide these incentives through the Trading Corporation of Pakistan (TCP). If implemented, this might translate into better pay for cotton pickers since they ultimately control this type of contamination (No author, 2006). Reducing the levels of pesticide contamination by awareness raising amongst cotton growers and incentives for growing organic cotton as stipulated in the Trade Policy 2005/6 (Ministry of Commerce, 2005) would not only enhance the prospects of Pakistani T&C exporters to enter niche markets for environmentally friendly cotton products. First and foremost, it would reduce the significant health hazards cotton pickers, their families and communities are exposed to (Hussain, 1999).

Overall, Pakistan needs to strengthen its investment in social development, *e.g.* in the areas of health and education. In the 2005-06 budget, these two areas account for a meagre 0.4% and 1.5% of public expenditures, respectively (Ministry of Finance, 2005a). Spending in these areas serves national human development directly, but also supports sustainable industrial development that is less vulnerable to pressure from industrialised countries. It may include incentives for industrial diversification away from concentration on T&C production that has made Pakistan and other T&C producing countries extremely vulnerable to changes in the global trade environment.

In order to better protect T&C workers against becoming a buffer for intensified trade after the quota expiry, the government and employers need to do a number of things: implement existing labour laws;

extend them to contract and informal sector workers and to workers in export-processing zones, and introduce sanctions against violations of those laws. A recent SMEDA study shows that, rather than is commonly perceived, the costs of compliance are not excessive. For an average SME, estimated costs for compliance with labour legislation are not expected to exceed 1.5-2% of annual turnover (SMEDA, 2002). Women workers are particularly vulnerable due to their concentration in precarious types of work, such as piece-rate contracts and home-based work. The ILO might be able to assist the implementation of these suggestions (Box 1). International financial institutions (IFIs) such as the World Bank and the Asian Development Bank need to be persuaded that their enormous and increasing lending for industry remains a special opportunity to leverage this aid into expanding decent work.

**Box 1: Better Factories Cambodia**

The ILO engaged in a project in Cambodia whereby garments factory conditions would be monitored and the USA would reward Cambodia with bonus quotas in return for measurable improvements in working conditions. The project was known as “Better Factories Cambodia” and also included training on working conditions and other topics. It extended to all garment-exporting companies, and proved successful because the transparency of the monitoring made it credible to international buyers. After the USA-Cambodian trade agreement ended in 2004, Cambodia continued its efforts to improve factory conditions since Cambodia’s key overseas buyers rated labour standards as a top priority in their decision to source from them. Furthermore, they indicated that improved work standards benefited workplace productivity and product quality. This model may prove reassuring to companies concerned that improving work standards would be an unjustified expense. Early data indicates that the programme has allowed most of the garments industry to survive the end of the quota regime and to maintain buyer loyalty. However, a report published in April 2005 discusses the increasing pressure being put on trade union rights outside the factories, which may potentially tarnish the industry’s international image.

Source: ILO (2005a)

Given the increased role of non-tariff barriers to trade (NTBs), such as Rules of Origin (RoOs), Free Trade Agreements (FTAs) and preferential market access, the potential costs involved have less bearing on short-term competitiveness (Kulkarni, 2005), but enhance it in the mid and long term. This is because increased quality competition in the post-ATC scenario requires a motivated workforce and decent working conditions. Equally, social and environmental certification of products and processes has become a competitive factor, especially for garments exporters.

Labour standards should also be enforced at the regional and international level. Minimum standards for duty-free access of employment-intensive Pakistani garments to markets of industrialised countries should be included in bilateral trade agreements in exchange for special regard for labour standards (Box 1). Globally, implementing the ILO core conventions at the level of the WTO provides a more level playing field for competition, enhances competitiveness, and benefits millions of workers.

The post-ATC scenarios outlined above imply that special mitigation strategies are needed for unskilled garments workers, most of whom are female. In particular, the government and employers share a responsibility to set up targeted social safety nets for workers who are dismissed due to the ATC expiry

(SDPI and FES, 2004, SDPI and UN-TIHP, 2005a). They may include counselling, skill upgrading, entrepreneurship programmes, access to loans etc. A special effort should be made to reach vulnerable female workers, because they face significantly lower chances of finding alternative employment. Bangladesh, for example, planned to train 40,000 garments workers to improve their skills together with a non-profit organisation (UNDP, 2005a). The ILO TREE programme for skill development implemented in two districts of Pakistan may also serve as a model (Box 2).

**Box 2:** Skill development for vulnerable groups

The Training for Rural Economic Empowerment (TREE) programme is an ILO project aimed at creating employment opportunities for vulnerable social groups, essentially through skills training and other support services.

The first step within TREE is the identification of economic opportunities. This includes undertaking a detailed situation analysis to gather information on the basic profile of the area selected. This is followed by feasibility studies to identify viable (self) employment and income generation opportunities.

The training is designed thereafter. The curriculum is reviewed and, if needed, modified according to the requirements of the identified economic opportunities. The training providers also give on-the-job training to graduates in their workplaces whenever required. In view of the very low literacy levels of the beneficiaries, especially women, training in functional literacy and basic numeracy is also provided.

The training needs of the beneficiaries are addressed through an integrated menu of support services. This includes formation of groups and associations, micro-finance services, training in management and leadership, advisory services, linkages with technology resources, on the job training, and linking with and mainstreaming into local economic development programmes.

The outcomes of the TREE methodology in terms of employment creation have been quite satisfying. A central achievement of the project is its success in mitigating the socio-cultural and mobility constraints faced by women. The overall female participation is 56% in skills training and literacy programmes. More generally, around 91% of the beneficiaries who received training under the project have already been employed and are using their skills to generate incomes.

Source: ILO (2005b)

At the multilateral level, the WTO can provide technical assistance to mitigate the social costs of the industry's restructuring, so as to develop, strengthen, and diversify the country's production and export base. This would be an effort to balance the strongly biased distribution of costs and benefits of the ATC: a bias which benefits consumers and transnational corporations in the North, while hurting producers and – in particular - their workforce in the South.

## **Towards sustainable industrial and human development in the post quota era**

The global environment after the expiry of the quota system in T&C trade poses formidable challenges to human development in Pakistan. Increased quality and price competition in the post-ATC scenario is an opportunity for some segments of the T&C sector – but a threat to the most labour-intensive ones. As the quality and quantity of employment were largely ignored factors in the preparations for the ATC

abolition in Pakistan, potential job losses are feared, especially in garments. Here, too, unskilled and female workers are most vulnerable.

Challenges also provide the opportunity for change. The following recommendations have been put forward in this policy brief:

- Skill improvement in the T&C sector should be undertaken in both unskilled and skilled occupations. This would reduce their vulnerability to the adverse effects of structural change, and at the same time enhance the competitiveness of the T&C sector.
- Likewise, the implementation of labour standards at the national, regional and global levels would improve working conditions for millions of workers and provide a more level playing field for competition in the post-quota era<sup>114</sup>.
- Mitigation measures should be implemented as soon as possible for vulnerable workers who have or might become victims of structural change in the T&C industry.
- In these efforts, a focus on women workers in skill development and mitigation measures is recommended. As unskilled workers, women face more precarious working conditions and fewer job alternatives. Very few highly qualified and skilled women enter managerial positions, and this lack is another factor in depriving the country of development opportunities.
- Incentives to reduce cotton contamination should be provided to cotton growers and passed on to female pickers. Awareness should be raised amongst cultivators and pickers about the health hazards associated with pesticide application. Such measures would improve working conditions and product value addition at the same time.
- Broadened and strengthened collaboration between workers, employers, and the Government is necessary to reach these objectives.
- Overall, social development in Pakistan needs to be emphasised. Investment in health and education benefits human development directly, but is also a prerequisite for more competitive and sustainable industrial development

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<sup>114</sup> For a useful overview over Pakistan's labour legislation with special reference to SMEs and suggestions for enhanced implementation, see PILER (2005).

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# Resource Mobilization for Pakistan's Health Care: Myth or Reality?

*Shafqat Shehzad<sup>115</sup>*

## Introduction

The policy brief highlights the importance of exploring alternative resource mobilization strategies for Pakistan's health care. The need arises because the conventional methods of health care financing through tax revenues have failed to meet the health care needs of all, resulting in differential access to health care facilities by different income groups. Whereas, in many developed countries, universal health coverage and financial protection against the cost of illnesses is almost complete, in the developing countries, access and utilization of health care is low and selective. For Pakistan to expand its access to health care for all, alternative resource mobilization strategies need to be developed and proposed. Pakistan needs to learn from the experience of other countries, because the process of generating extra resources for health care has resulted in mixed experiences for different countries. Pakistan needs to start the process with caution, not blindly importing models of health care financing, but designing policies that are suitable for its own socio-economic context.

The policy brief presents evidence on current practices of Pakistan's health care finance and delivery, and suggests ways through which alternative resource mobilization strategies can be proposed. Some popular methods of health care financing being practiced in other countries are community financing, user fees, health insurance, and assistance from donors. However, resources can also be saved from wasteful and ineffective uses of health technology (services, programs and procedures) that may result in improving efficiency of existing health care services. Reallocation of resources within the health sector can therefore, turn out to be cost effective. The policy brief discusses a criteria for choosing a financing system that takes into account factors like ease of use of the system, revenue generating ability, effects on service provision, and community participation in the socio-economic context of Pakistan.

## Overview of Pakistan's Health Care

Pakistan is undergoing both epidemiological and demographic transitions, where age structures are changing and threats of communicable and non-communicable diseases are growing. These challenges require that alternative financing mechanisms for health care should be explored to face new situations and changing demands. So far in Pakistan, health care services are mostly financed through taxation but there is no earmarked taxation to raise money for health. Pakistan's tax system is regressive, meaning that the poor have to pay relatively high proportion of taxes than the rich, and hence incidence of taxation falls mostly on poor. Pakistan has a narrow tax base and taxable capacity is low. Therefore, over the past 20 years the total amount of money spared for health turns out to be less than one percent of GNP. This allocation of money for health is surely not enough to meet the needs of estimated 148.72 million people. Hence, there is need to explore alternative resource mobilization strategies because the

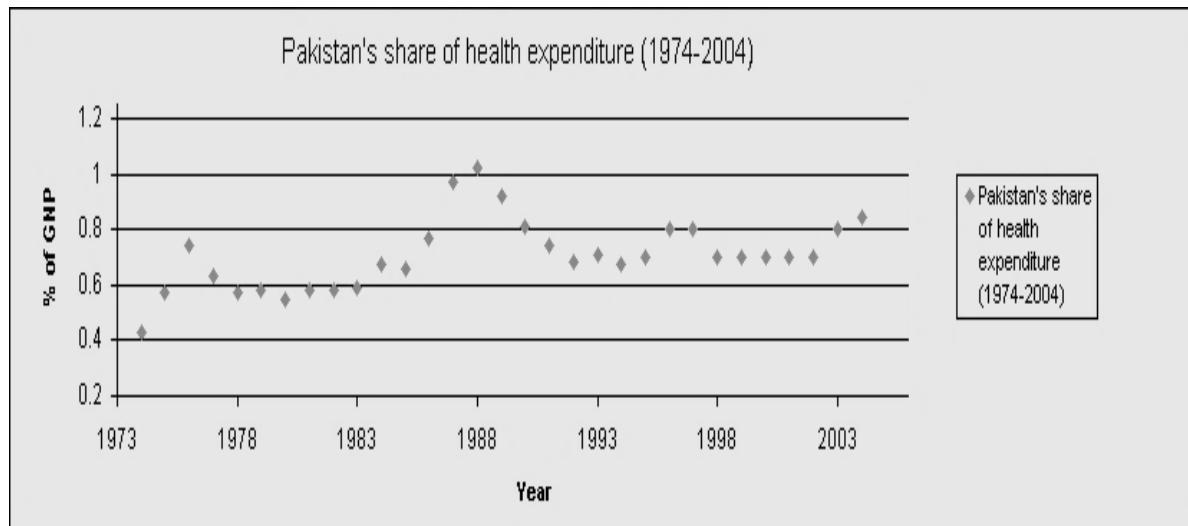
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current tax-based financing for health is not enough to meet health care needs of all. The following are the main features of Pakistan's health care system:

1. Low allocation of resources by the public sector: The figure shows the trend of public sector health spending in Pakistan.

**Figure 1: Health Expenditure Pattern in Pakistan**



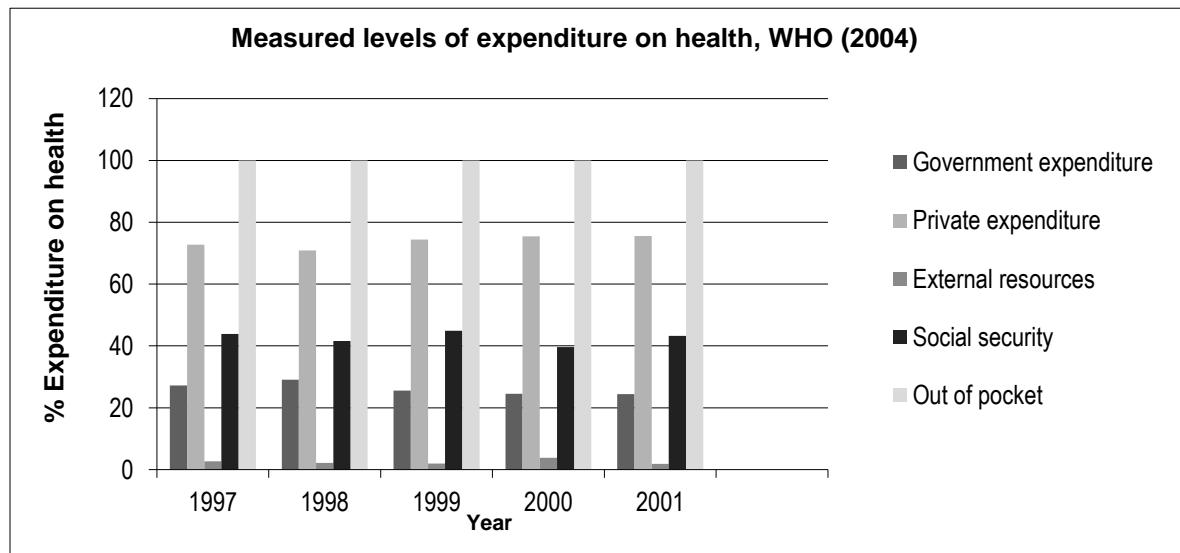
Source: Economic Surveys of Pakistan (Various Issues).

2. Another important characteristic of Pakistan's economy is its low revenue generating capacity. According to the World Health Report (2004), Pakistan's total expenditure on health as a percentage of GDP was 3.9 in 2001. Although the figure is comparable to 4% of GDP prevailing in other developing countries, lack of growth of GDP has affected collection of revenues, and allocation of resources to health by the government. According to a World Bank study (2004, pp. 6), "if a developing country's capacity is as low as 10% of GDP or less, it would require to take thirty percent of revenues to meet a target of 3% of GDP health expenditure through formal collective health care financing channels."
3. Low pooling of funds for health care in Pakistan. The obvious reason is that Pakistan's formal wage sector is relatively small compared to very large and varied informal sector. Informal sector workers, from agriculture, construction, and industry and business, lack access to formal medical and health care services. Even then, they have to incur out of pocket expenditure that constitutes a huge part of their total household income. Due to poverty and informal sector employment, no guard is offered against illnesses. Therefore, for such people, self-treatment is very common in Pakistan, and many more people remain without any medical and health care treatment. The existing gap in excess demand and limited resources exerts pressure on already scarce resources and results in resource allocation problems such as drug shortage, capital stock depreciation and inadequate hygiene standards.
4. Budget allocations on development and non-development sectors of health are not balanced in Pakistan. For Pakistan's health care, problem is to evaluate these recurrent costs in a situation where cost recovery is already low. Generating revenue for health cannot only be obtained by alternative sources, but also by saving resources from being spent in unproductive activities or less effective health care services. Hence, in order to reform overall health situation in Pakistan, the following objectives need to be met: Effective (funds allocated based on evidence), equitable (resources are

spent in a way that shift resources from the rich to the poor), and sustainable (health revenue equals expenditure).

5. Management (public/private partnership): Pakistan's health financing system can be explored in terms of how it is managed and controlled. In Pakistan, health service delivery is a mixture of public and private institutions. All hospitals have large outpatient departments and the government at various levels, (federal, provincial and local), controls major public hospitals. Most of the hospital costs are financed by government budgets without systematic annual review of their effectiveness and future planning. In Pakistan, many rural facilities are under utilized, and more patient load is observed in hospitals located in big cities where people come from far off areas for treatment. Under utilization of public health services is proving more costly, generating unequal access to public health services. Hospital beds and physicians are also unequally distributed with more concentration in the urban areas compared to rural areas. These health care system characteristics necessitate immediate reallocation of resources and services. Reallocation of resources will help establish referral patterns and curb the expansion of high cost hospitals that may result in inefficient use of resources. A well-organized health service delivery will save resources that can be used more efficiently in priority areas. Another cost saving (resource generating) strategy for Pakistan can be effective control of multi channel payment system. The means of payment for health services usually affect utilization of health services. The government may, therefore, exert control over revenues through which massive resource savings are possible. Government's ability to organize the flow of funds will determine budget control and allocation of resources for health care in Pakistan. According to more recent estimates provided by the World Health Report (2004), the measured levels of health expenditures on health are presented below.

**Figure 2:** Expenditure on health

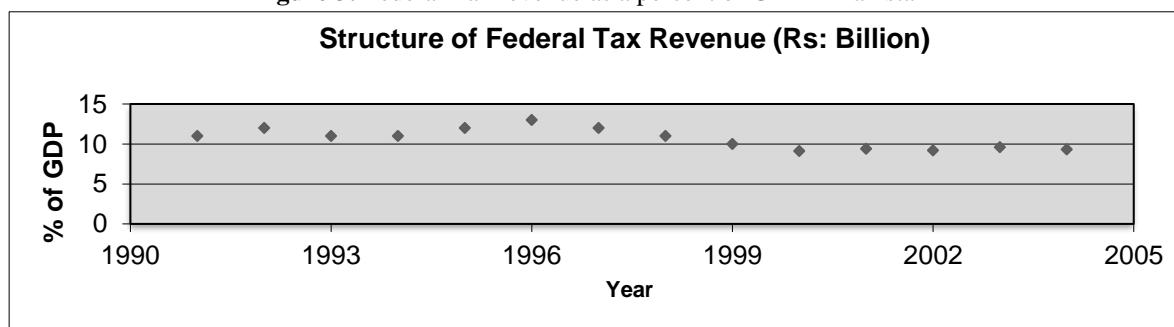


The figure shows that out of pocket expenditures constitute major share in health expenditure, followed by private, social security, government and external resources. However, a large proportion of out-of-pocket expenditure in Pakistan, and unregulated price increases of drugs and medical supplies provide incentive to government for removing budgetary shortfalls through such means.

## Health Care Resource Mobilization Strategies

**Tax Revenues:** In Pakistan, general tax revenue is the main source of financing health care. Taxes are compulsory contributions without explicit benefit to the taxpayer. Taxes reduce disposable income and wealth of those who bear them. A glance at Pakistan's overall budget shows that choices are made among competing alternatives, and for policy implementation. It is, therefore, unrealistic to recommend a huge increase in health expenditures without considering the availability of resources. The primary purpose of taxation is diverting resources from taxpayers to the government for allocation of resources and distribution of income and wealth. Therefore, although, taxes are necessary for revenue raising, yet sole reliance cannot be made on service charges that may disrupt allocative and distributive tax functions. The tax structure of Pakistan is regressive. The poor have to pay a large proportion of their income compared to the rich, and more reliance is on the indirect taxation, including excises, duties and sales taxes. Revenue through general taxation depends on income and wealth and, as contributions are not earmarked for health, little tax revenues are collected via payrolls and entail low revenue generating capacity. Any proposal for excessive taxation, therefore, may impair productive capacity of people and weaken economic incentives, resulting in tax evasion and administrative burdens. Pakistan started introducing tax and tariff reforms in the 1990s to address the structural weaknesses of its tax system. More recently, to overcome these structural inefficiencies in taxation, tax administration reforms are being introduced to reduce costs of compliance, increase costs of non-compliance and improve efficiency with which tax laws are enforced. In Pakistan, during the last five years, tax collection has increased 65% and the revenue deficit has been reduced from 3 to 0.2% of GDP, for more details, see Economic Surveys). The figure shows share of federal tax revenues in Pakistan.

**Figure 3:** Federal Tax revenue as a percent of GDP in Pakistan



Source: Economic Survey of Pakistan: Various Issues

The figure shows that Pakistan's collection of revenue is less than 15% of GDP. Therefore, if Pakistan plans to continue to rely on tax-based health financing system, no improvements can be expected in terms of increasing access of health care to all, quality health care, better infrastructure for health etc. This is mainly due to the limited capacity of total tax revenue as percentage of GDP. Hence, alternative sources of tapping revenue for health need to be explored vis-à-vis taxed based financing in order to improve coverage.

**User fees:** User fees are direct payments by the patients. Revenue raised through user fees depends on the extent to which people are willing to pay a price for health care. Usually patients are not willing to pay any price for curative health services. For Pakistan, the policy to raise revenue through user fees can adversely affect lower socio-economic groups compared to high-income groups. The use of user

fees as a source of mobilizing resources and a means of cost recovery is not in place in Pakistan. In some health care facilities, a minimal fee is charged but not enforced effectively. However, as such there is no national system of user fees that is used for cost recovery of services. The use of user fees can be challenged on several grounds in Pakistan. The hospitals and health centers lack appropriate fee collection procedures. Whereas, introducing user fees is dependent on effective fee collection mechanisms, and in the context of a developing country like Pakistan, user fee needs to be charged only based on the ability to pay. Hence, any proposal for introducing user fees should be designed in such a manner that high user fees are charged from the relatively well off, while strict exemption policies are designed and implemented effectively for the poor. A closely related issue can be the potential of raising revenues through user fees when majority of people in Pakistan lie below the poverty line, and it might be expected that a significant amount can't be raised from user fees. For revenue mobilization through user fees, government must be clear about reallocation of resources, referral systems for hospitals, contribution of user fees in total health resources, exemption strategies for the very poor people, cost recovery and cost sharing. Special targets need to be set and issues of efficiency – equity and administrative ease – should be given special attention. The box shows the argument in favor and against user fees as presented in many different studies.

**Box 1:** Arguments for and against user fees

| For   | Against   |
|---|---|
| Health services with price inelastic demand are mostly consumed by the rich and should be subject to higher user fees and vice versa.   | Relatively low rates of cost recovery through user fees.  |
| Charging a fee or some fee for all medical services can be proposed to raise revenue. However, exception can be immunization for being a merit good or externality.                                   | Nature of health care: Low prices are required to ensure poor against financial risk in absence of insurance market.                      |
| Zero prices should be discouraged unless poor of the poorest are truly exempted<br><br>For tax efficiency, a tax should not only cover the cost but also be able to finance other goods and services. | User fees can improve relative service affordability. However, they do not spread or pool risk or guarantee access to health care by all. |
| User fees should be used when total health spending is too low.   | User fees do not reduce costs. They increase inequity.  |
| Where health expenditures are high, user fees can be used for moderating demand and containing costs.   | User fees can be costly to implement and difficult to manage  |

Source: Jack, W. (1999). Principles of health economics for developing countries, WBI Development Studies, pp. 202-207

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Shaw and Ainsworth (1996). Financing health services through user fees and insurance: Case studies from sub-Saharan Africa. The World Bank Discussion Paper -294.

**Health Insurance** is a method of health care financing whereby the insured people do not bear the full cost of health care treatment. Health insurers act as payers of health services and the type of health insurance (public or private) determines the degree of control a government has over health spending. The degree to which a government is able to exert control over health care financing has important policy implications. In an effort to extend health care coverage for all, the government of Pakistan is exploring health insurance as a means of extending coverage. However, there are several hurdles involved in the process of transition from low to high, and eventually universal health coverage for all at affordable prices.

Health care financing through general tax revenue is by far the main source in Pakistan. However, for exploring alternative strategies, it is important to know that in the presence of a large informal sector in Pakistan, how practical it is to register and collect health care contributions from people who do not have a regular income or their incomes are classified as middle and low? A closely related issue is cost escalations associated with universal coverage as a result of moral hazard and resulting increase in health expenditures. In social health insurance, services are paid through contributions to a health fund. The common basis is payroll, with contributions both from the employer and the employee based on the ability to pay and access to health care based on the needs of people, see Griffin and Shaw (1995). However, critical questions remain about resource efficiency, technical efficiency (mix of inputs) and impact of SHI. In Pakistan, a referral system that requires that medical services should initially access the lowest and least inexpensive system of primary health care is not in place. There are various reasons for this, including drug shortage in public health centers, lack of adequate equipment, and technical staff. Many patients rely on centralized hospitals for illnesses that can be treated at primary levels. A closely related issue is lack of a formal insurance market in Pakistan. However, prospects for expanding health insurance need, to be explored, bearing in mind that health care financing can only be established when its viability has been assessed both on demand and supply side.

**Table1:** Supply and Demand Side Insurance Issues

|                      | <b>Requirement</b>                                   | <b>Facilitated by</b>   | <b>Appropriate macro variables</b>  |
|----------------------|--|---|---|
| Supply of insurance  | Low administrative cost                              | Denser population, better developed infrastructure                          | Population density<br>Urban population  |
|                      | Ability to reduce adverse selection and moral hazard | Assembly of sizeable groups to pay for coverage                             | Total population x % of labor force in industry or formal sector employment                   |
|                      | Greater donor involvement in the health sector       | Donor motivation to invest in new private sector development                | Aid flows in health   |
| Demand for insurance | Income   | Positive income elasticity of demand for insurance                          | Per capita income   |
|                      | Greater private sector potential                     | High probability of losses for consumers<br>Reduced prospects for free care | Private medical expenditures<br>Supply of physicians<br>Hospital beds per thousand population |

Griffin and Shaw (1995, pp.160)

The table has been reproduced from Griffin and Shaw (1995, pp.160) as a guideline for supply and demand side health insurance issues, and need to be carefully taken into account for any efforts aiming at introducing SHI in Pakistan. Health insurance aims to provide health services to those who fall ill but cannot afford to pay for it. The evidence for social and private health insurance from many countries of Sub Saharan Africa (SSA) reveals – although many countries resorted to SHI as a means of extending coverage -- success depended a lot on other related factors such as employment base, population density, and administrative structures. In the presence of not enough spending on health, social and private health insurance can be “unviable”, Hsiao (2004). By early 1990s, many international agencies did not encourage insurance-based alternatives. However, by year 2000, there was increasing recognition that principles of insurance could be applied to low-income countries (see WHO, 2000). However, if Pakistan plans to introduce social health insurance as a means of financing health care, it should proceed carefully in the design and application of health insurance incentives.

**Community Financing schemes:** Distinct from social insurance, community insurance has voluntary community involvement. As compared to social health insurance, its scale is small and deals with a varied group of people engaged in different types of occupations. As such, there are a number of community financing models that are in place in different countries. For example, in the late 1950s, China initiated a Cooperative Medical System (CMS) that proved quite successful in its efforts to mobilize resources and cost effective provision of health care to rural population. In Bangladesh, many NGOs operate community insurance schemes linked with credit programs. Bangladesh has started other local schemes such as Grameen Health Program, Dhaka Community Hospital Insurance Program and Self Employed Women’s Association (SEWA). All such schemes are successfully providing health care services to thousands of low-income households. Other examples from Asian countries include introduction of Thai Health card and Indonesia’s Dana Sehat. Hsiao (2004, pp.122) lists three basic characteristics of community financing: Community control, voluntary membership and prepayment

for health care by community members. He also classifies community financing schemes into five types: Direct subsidy to individual, Cooperative Health Care, community based third party insurance, provider sponsored insurance, and producer or consumer cooperative. The health care facilities provided by the community financing schemes usually range from specified number of consultations in a given year and listed drugs. Experience of other developing countries suggests that CF schemes can mobilize additional funds for government and improve access to health care by large number of people. Another advantage of community financing schemes is that they can also mobilize funds from rural and urban populations, and improve efficiency and quality of care with modest risk pooling. The success of community can be judged from a number of performance variables such as social inclusion, resource generation, and financial protection. However, care must be taken for regional inequalities that may result because of area based community health financing schemes, package design, and setting of premiums.

**Donor Assistance:** In Pakistan, the role of donor assistance has been multidimensional. In 2000-2001, total public sector development allocation for all federal ministries was 35 billion rupees, of which 8.11% was allocated for health and nutrition (see Annual Report of the Director General of Health). Of the total PSDP allocation, 11.1% was foreign aid for health and nutrition. There has been significant contribution by donor agencies in Pakistan's health care. The main reason is that such funding gives little control over funds to the government, and usually the aid for health and nutrition has been program specific. Also donor assistance for Pakistan's health care has grown or shrunk in different times, basically due to donor policies for which certain conditions are placed on the use of funds. With these characteristics of donor assistance, health care services have not been planned on a long-term or permanent basis, therefore, the problem of ad hoc nature of plans that often do not become sustainable once the donor money is gone. In Pakistan, major foreign assistance is categorized as project and non-project aid. In project aid, the major heads include assistance for non-food, food, balance of payments support and relief assistance for refugees. Pakistan has received varying proportions of project and non-project aid. The major donors since 1993 have been Japan, the United Kingdom, and the United Nations agencies (UNDP, UNICEF, UNFPA). Other countries have also provided assistance of varying sizes and interests, thus contributing to funds of specific uses. However, overall health sector funding remains low, and some major donors remain outside social welfare programs such as EU or USAID. If the government wants to initiate extending health coverage through programs started with the help of donor assistance, care must be taken of the design, technicalities and sustainability, rather than initiating programs that may result in unsustainable health and less effective harm than benefit the already poor people.

## **Discussion**

Bearing that great variation in the success stories for health financing exists across developed and developing countries, it is evident that health profiles in Pakistan will respond positively or negatively depending on the way health policy actors behave. In Pakistan's health policy formulation, a greater pluralism of health actors is being witnessed. Earlier, UNDP (1997) had identified, three principal actors for health care provision: state, private sector, and civil society. In Pakistan, the government is responsible for creating political and legal environments for policymaking, monitoring activities of multiple actors and for regulating functioning of the health care markets. However, with greater

involvement of the private sector in the health care provision, division of authority is seen as a challenging role for the government and the associated policy environment that is affected by differences in designated powers. The role of private sector is seen as generating profit that will boost economic power and will result in greater influence over policy and decision making for health and health care. The role of civil society as a policy actor in health care is presently more restricted but can be explored for mobilizing groups to participate in resource generation for health care in Pakistan. The successful provision of health care by these multiple health care actors shows that there is scope for greater pluralism that is needed for health financing policy formulation in Pakistan.

Besides the active and crucial role of health policy actors in provision of health care, it is also important to explore the process and content of health care financing in Pakistan's socio-economic context. Therefore, in the process of exploring the potential of alternative resource mobilization strategies, there is need to learn lessons from other countries, while being cautious for not duplicating models and repeating experiences that were fruitful in a particular context. This is because success depends a lot on relevant context in which a particular health care program is introduced or implemented rather than blindly following the design and content of any other health funding policy. Health policy actors in Pakistan need to carry out a careful study of the differentiated health impacts before they start designing or implementing such specific health care policies. The challenge for balancing health care heterogeneity is also crucial and must be addressed before any health policy formulation. This requires taking into account extensity and intensity of interconnectedness between health care actors, both in public and private spheres and, at the same time, keeping in the margin for lesson drawing from other countries.

Besides context, resource policy content is also crucial for generating funds for health. For example, what health services need priority and what are the possible options? Health funding policy content can change significantly due to conflict between health policy actors, and may influence positively/negatively alternative resource mobilization strategies. How far Pakistan's resource mobilization strategies will converge or diverge from the other competitive policies will depend a lot on the parameters of health care policy. Chernichovsky (1995), for example, rightly argues: "Paradoxically perhaps, developed and developing countries may be closer to systematic solutions than the underlying factors setting them apart might suggest." Londono and Frank (1997) recommend a reform initiative to promote convergence on a "structural pluralism" health system model in which parallel sub-systems of "segmented health system" are reconfigured in order to achieve a division of system-wide roles." The World Development Report (1993) also suggests that the policy conclusions of the report can be "tailored to the widely varying circumstances of developing countries", and proposed a list of ten broad areas of reform that vary in their relevance from being "somewhat relevant", "relevant" to "very relevant".

**Table 2:** PACC for Pakistan's health care policies

| <b>Process</b>   | <b>Actors</b>  | <b>Context</b>                          | <b>Contents</b>   |
|--|--|---|---|
| Health care financing with lesson drawing from other countries | Public Sector<br>Private Sector<br>Civil Society<br>Donors | Local<br>National<br>Regional<br>Global | Parameters of health policy<br><br>National and global linkages<br><br>Convergence or divergence of policies from global perspective<br><br>Options for health policy |

In Pakistan, health care funding policies that widen the gap between the rich and the poor should be avoided, while giving priority to the principles of universal access to health care and equality. Health system components need to be chalked out and processes explored that bring a change in health outcome. With innovative techniques for health care finance and delivery, health care coverage can be increased enormously through appropriate design of pro-poor policies.

Over the past many years, Pakistan has not been able to increase its public health spending for health care. More recently, public health threats such as HIV/AIDS and growing socio-economic inequalities threaten sustainability of public health funding. As globalization is increasing, many economies have started encouraging unregulated market approaches to the delivery of health services, such as Indonesia, China and Bangladesh. These developing countries share common characteristics of poverty, illiteracy, high population growth rates, and predominance of agricultural or labor markets. However, such countries are addressing the issue depending on their level of socio-economic development. But the role of government in health care finance and delivery when public health spending fails to meet the health care demands of its people is a common issue. In Pakistan, health expenditure as a percentage of GNP remained stagnant around 0.8-1% over the past 20 years but private expenditures grew massively. Hence, a related question is of regulating the private sector, so that already scarce government resources are not depleted. The focus of the brief is on resource generation through alternative strategies that should not be taken as one-time activity but as an ongoing process involving multiple actors. At the same time, macroeconomic context is also important to be able to decide which resource mobilization strategies can (not) raise significant revenues or help in cost recovery.

Health care financing is a broad field and covers both the allocation and mobilization of financial resources for health care. As the experience of other countries suggests, the emphasis of health sector development is on health financing and how to raise money for increasing health care demands. The concerns grew faster with the publication of the WHO (2000) report, "Health systems: Improving performance", that proposed to reduce out of pocket payments through certain mechanisms that will ensure greater health care coverage through risk pooling. Many Sub Saharan African countries introduced or increased user fees to raise more revenues but the experience has not been an overall

success, and many other factors adversely affected resource generating capacity of user fees, such as low and irregular nature of household incomes and poverty. Hence, in some cases, health care utilization rates actually fell, raising concerns about the effectiveness of user fees in such economies. Countries like Thailand, Indonesia and Zambia aimed to increase revenues through community based health insurance schemes, whereas, many countries of the former Soviet Union and Eastern Europe shifted from tax based to more autonomous social health insurance.

For a developing country like Pakistan, it is important to explore alternative sources for generating revenues bearing in mind the limited capacity of households to contribute towards health funds due to poverty. At the same time, it is important to protect the poor from financial shocks that may strike a family in case of severe illness. It is important to ensure access to adequate health care even for the very poor. However, there are certain issues relating to access for the very poor. First is health care quality and second, travel and time costs associated with health care that may form a significant portion of informal charges. The associated cost burden of illness and loss of labor are other important issues that should be addressed before designing any financing strategies for the poor. So far in Pakistan, health services are paid out of general tax revenues, but certain specific taxes can be initiated that are earmarked for health. In a developing country like Pakistan, regressive nature of taxes is a problem for increasing revenues for health. As the level on health spending is low, only a small budget is allocated for health care and that is mainly through revenue from taxation. However, since accessibility to health services is not high through tax-based health system, reliance will have to be made on seeking alternatives for resource generation for health. One option practiced in many countries is use of user charges but that can only be encouraged when proper price discrimination policies can be designed and implemented to minimize adverse effects on the poor. However, as patients have to pay directly for health services for user fees, there is no insurance proposed for this purpose.

For initiating community financing in Pakistan to mobilize resources, the scope of various voluntary organizations can be extended. The people can take such organizations as first step for providing community-based health insurance with voluntary enrolment. Premiums can be set according to the average risk faced by members participating in the schemes. For example, community-financing schemes can spread contributions between healthy and sick, and cover those persons who are not in formal employment. In case of social insurance, the experience of other countries suggests that insurance reduces individual's exposure to risks. Hence, financial accessibility can increase when adopting social insurance, but at the same time it must be remembered that 70% of Pakistan's labor force works in the informal sector. This may subvert the potential of social health insurance in Pakistan. However, to overcome this problem, it is important to design appropriate pro-poor schemes, with strong and effective exemption policies for the very poor. To protect the very poor, the major responsibility should lie with the government. In Pakistan, majority of the people do not have access to affordable health care and drug prices are unregulated. Hence, resource mobilization strategies for Pakistan cannot be worked out in isolation of the overall socio-economic conditions. The objective of increasing access for health care can be met with more resources, and for this purpose, reliance only a single source is not sufficient. Although other alternatives are available, their advantages and disadvantages need to be explored in Pakistan's context.

**Table 3:** Alternative resources and policy implications for Pakistan

| <b>Sources of Revenue</b>          | <b>In place (selected countries)</b>   | <b>Revenue generating capability</b>   | <b>Lessons for Pakistan</b>  |
|------------------------------------|--|--|--|
| Tax-based financing for health     | Countries of Eastern Europe, Sub Saharan African countries   | In developed countries, where taxes are progressive, taxes raise revenue for health. In countries where tax system is regressive, more burden falls on poor people, low revenues.  | Many countries are moving away from tax-based to alternative sources of financing, including user fees, SHI, or multiple state insurance funds.  |
| User fees                          | SSA countries, Cote d'Ivoire, Ethiopia, Lesotho, Zimbabwe,   | Low to medium: In the beginning, service charges were very low and revenues amounted to 2-12% of government expenditures, overtime, expenditures have risen to 4-20%.  | <b>Can affect health service utilization by the poor people; Devise effective exemption policies, Effective if appropriate price discrimination can be implemented.</b>  |
| Community financing                | Asian countries, Indonesia, Thailand, Bangladesh, China, other Central African countries   | Resource generation capacity not exactly known,<br><br>Gandaho Levy-Bruhal and others (1997) report 24-99 per cent of cost recovery of total operating costs in selected countries such as Mali, Senegal, and Guinea Bissau, Cameroon. | CF schemes are usually not registered; Evidence of community involvement is necessary, Exclusion of poorest from CF schemes; CF schemes can reduce out of pocket spending of its members   |
| Health insurance (Private, social) | Mostly developed countries, US, Canada, UK, Germany, other countries starting SHI include Indonesia, Burkina Faso, Kenya, Zambia | Raise revenues, create independent sources of health financing, SHI can become sustainable with increased coverage of people, PHI can only be affordable by the relatively well off.   | Adverse selection: people with high probability of illnesses join insurance plans and those with low probability do not join.<br><br>Moral hazard: people may take advantage of membership by using more health care services than required. Insurance plans can incur losses.<br><br>Cost escalations: demand and supply side cost escalations, and high cost of collecting premiums, irregular sources of income |

Pro-poor health care financing policies can only be designed when a proper understanding of the context is developed. For this purpose, a variety of financing instruments can be tested to raise revenue, ensuring that the government secures financing for the poor. It is also important to determine socio-economic and geographical profiling of people who need health care most to determine utilization rates. Similarly, effective exemption policies and extent of cross subsidies should be developed and explored for health care financing schemes. Revenue generation may turn out to be a turbulent experience in the short term, but with sound technical design of various policies, maximum benefit can be reaped for the larger benefit of the society in the long run. So far in Pakistan, risk sharing for health services is not common. However, if resources have to be tapped apart from conventional sources, prospects for social health insurance can be explored in urban areas where there is a strong formal sector but the informal sector is also more or less more organized. For rural area, pre-payment schemes may turn out to be successful through agricultural cooperatives, however, for that to be successful, complete information about the nature and level of charges should be provided to the stakeholders. All revenue mobilization strategies can be effective provided we have improved administrative structures, and health care workers and physicians are involved in the process through all stages. There is also a need to adopt appropriate financial strategies, taking care of adjustment for inflation and therefore, minimize the risks for adverse selection and moral hazards. Similarly, for illnesses requiring more doctor visits, cost per visit should be reduced. Information on health expenditures by households need to be collected through Household Income and Expenditure Surveys as household income is positively related to expenditures on health. In Pakistan, the percentage of people living below the poverty line was 32.1 in 2001-01; see Economic Survey of Pakistan (2004). Sixty three percent of these are at the bottom line and can be considered as transitory poor. The widespread poverty and widened inequality of income in Pakistan calls for devising adequate health financing strategies that provide financial risk protection to all against rising costs of illnesses. For raising revenue from alternative sources, the potential of each strategy should be explored, safeguarding the interests of the poor by the government.

## **Policy Recommendations**

- Pakistan spends less than one percent of its GNP and less than four percent of its GDP as total expenditure on health and health care. Its estimated population is 148.2 million and per capita health expenditure is US\$ 16. So far health financing is out of general tax revenues not earmarked for health. Pakistan's tax structure characterizes low tax base, heavy reliance on indirect taxation, and high incidence of taxation for the poor due to regressive nature of taxation. Due to high prevailing rates of poverty and lack of formal sector employments, proposals for heavy taxation to allocate money for health are not wise as they will further reduce the productive capacity of people and weaken economic incentives. However, some taxes can be earmarked for health for certain health habits such as the consumption of tobacco, alcohol, cigarettes and illegal drugs. In Pakistan, tobacco industry is a successful economic enterprise, but public policy can play a role through price increases of consumption of these goods. High taxation can be used as a principal tool to discourage certain health habits.
- As sole reliance on taxation for raising money for health care is not proving fruitful, (access to health care is partial and selective), alternative mechanisms for generating resources for health need to be explored. One option is introducing user charges as a national system for cost recovery for major public and private hospitals. However, it requires sound technical and administrative

procedures and implementation of strict exemption policies for the chronically poor. Price discrimination policies need to be designed and proposed to take care of different socio-economic classes.

- In order to increase multiplicity of actors involved in provision of health care, it is time to explore the potential of non-governmental (civil society) organizations in provision of health care. Community Financing Schemes are being practiced successfully in Bangladesh (Grameen Health Program); Indonesia (Dana Sehat); China (Cooperative Medical System); Thailand (Health Card). Introducing such community schemes in Pakistan can increase access to health care and contribute to resource generation for health.
- Schemes for health insurance can be introduced on private and social basis to extend coverage. Private health insurance can be proposed for high-income groups who have regular incomes and social health insurance schemes can be introduced as contributions towards a health fund. The government then must devise cost control strategies arising as a result of moral hazards to contain unnecessary increase in health expenditures.
- To contain massive increases in health care costs, an adequate referral system is proposed. In the referral system, the lowest and least expensive health care facility should be accessed for preventive and primary health care. It will result in better use of existing health infrastructure, reduce travel costs, associated frequent illnesses, and will provide better prevention. Hence, sole reliance on the centralized public hospitals for the treatment of primary services can be discouraged. Similarly, multi-channel payment system should be discouraged through effective administrative procedures.
- The government should adopt appropriate financial strategies, taking care of adjustment for inflation and therefore, minimize the risks for adverse selection and moral hazards. Similarly, for illnesses requiring more doctor visits, cost per visit should be reduced. Information on health expenditures by households need to be collected through Household Income and Expenditure Surveys as household income is positively related to expenditures on health.
- In Pakistan, the percentage of people living below poverty line was 32.1 in 2001-01; see Economic Survey of Pakistan (2004). Sixty-three percent of these are at the bottom line and can be considered as transitory poor. The widespread poverty and widened inequality of income in Pakistan calls for devising adequate health financing strategies that provide financial risk protection against rising costs of illnesses. For raising revenue from alternative sources, the potential of each strategy should be explored, safeguarding the interests of the poor by the government.

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## Why Small is Beautiful?

*Sajid Kazmi and Faisal Mehmood Mirza*

### Abstract

This policy brief discusses the importance of small and medium enterprises in Pakistan in their contribution towards employment provision and export earnings. It also comments upon the problems faced by SMEs and gives recommendations to encourage SME growth.

### Small and Medium Enterprises (SMEs)

Various researchers have defined SMEs based on the their legal status, investment ceiling, technological use, employment potential and organizational arrangements.<sup>116</sup> Small and Medium Enterprise Development Authority (SMEDA) defines small enterprises as having 10 to 35 employees with productive assets worth Rs. 2 to 20 million and medium enterprises as employing 36 to 99 workers and productive assets worth Rs. 21 to 40 million.

Based on the above criteria used by various researchers, SMEs are a subset of the larger informal sector. According to The Federal Bureau of Statistics (FBS), the informal sector is defined as, “*units such as household enterprises, engaged in the production of goods and services with the primary objective of generating employment and income (for) the persons concerned, not necessarily with the deliberate intention of evading payment of taxes or other legislative or administrative provisions.*” Furthermore, “*the units typically operate at a low level of organization, on a small scale, and with labor relations mostly based on casual employment.*” Other features include the ownership of assets by “owners” rather than workers, expenditures that are indistinguishable from household expenditures and entities that are not party to contracts or incur liabilities.

A well-established and developed small and medium enterprise (SME) sector has been recognized as one of the characteristics of a prosperous and growing economy. It is considered an engine of sustainable growth by both developed and less developed countries. The small and medium size industries have long been regarded crucial for the achievement of broader development objectives, including poverty eradication and economic development.

In 1950s, leaders of the new nations faced two divergent options for development: a) to emphasize modern technology and big industry, seeking rapid modernization and economies of scale, b) to stress small-scale and labor intensive technology in order to create jobs and enable workers and entrepreneurs to learn from experience in managing large organizations and sophisticated technology. Many countries took the first path, with one-sided results. High growth rates were achieved, while income distribution and equality were ignored. Schumacher (1970) strongly criticized this strategy and argued for alternate, small-scale technologies as the engine of growth. Lipton (1990) exposed urban biases in industrial policy. There is a permanent place for efficient and progressive small and medium scale industries in modern industrial economies as evident in the existence of a large number of small and medium units along side giant enterprises in advanced countries such as Japan, USA and Germany. In OECD countries, SMEs account

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<sup>116</sup> For details on definitions, see Amin (1987), Aftab (1990), Hart (1970), Haan (1989), Kibria (1990), Mahmood (1999), Nadvi (1990) and Sethuraman (1981).

for over 95 percent of the firms and 70 percent of total employment. The experience of Japan, Hong Kong, South Korea, Singapore and India suggests that a strong and vibrant small industrial sector is necessary for successful export oriented growth. Much of the growth in output and employment in the 1980s and early 1990s in leading Asian economies came from approximately 25 percent of the firms, which were typically small and medium sized. The SMEs in these economies accounted for around 50 percent of the workforce and generated 50 percent and 35 percent income and exports respectively. In Pakistan, the SME sector accounts for about 40 percent of value added in the manufacturing sector and around 5 percent of GDP. Pakistani SMEs contribute 30 percent in value added exports, but that too in some niche markets like sports goods and surgical instrument manufacturing. SMEs are basically labor intensive and absorb more than 80 percent of the industrial labor force.

This is further supported by the statistics given in Table 1, which suggests that informal sector employs more labor compared to the formal sector. Moreover, it employs about three-fourth of the female labor force in rural areas and just about three-fifths in the urban areas.

**Table 1:** Proportion of non-agricultural workers (10 years and above) in the formal and informal sector by gender and region (1999-00) (Percentages)

| <b>Sector</b>   | <b>Rural</b> |      | <b>Urban</b> |      |
|-----------------|--------------|------|--------------|------|
|                 | Female       | Male | Female       | Male |
| <b>Formal</b>   | 26.9         | 32.4 | 39.3         | 35.9 |
| <b>Informal</b> | 73.1         | 67.6 | 60.7         | 64.1 |
| <b>Total</b>    | 100          | 100  | 100          | 100  |

Source: Drawn from Government of Pakistan, Labor Force Survey 1999-00, 2001, p.21.

If we look at the unemployment statistics, the aggregate unemployment rate between 1987-88 increased by 4.7 percent i.e. from 3.1 percent to 7.8 percent<sup>117</sup>. This aggregate trend is also reflected in the statistics by major industry divisions reported in Table 2 below.

<sup>117</sup> Unemployment is defined in the Labor Force Survey as follows: “The unemployed comprise all persons ten years and above who during the reference period were “without work” i.e. were not in paid employment or self-employment, “currently available for work” i.e. were available for paid employment or self-employment in the reference period and “seeking work” i.e. had taken specific steps in a specified recent period to seek paid employment or self-employment.”

**Table 2:** Unemployment rates by major industry division over time

| Major Industry Divisions   | 1987-88 | 1992-93 | 1996-97 | 1999-00 |
|--|---------|---------|---------|---------|
| Agriculture, forestry, hunting and fishing   | 1.0     | 1.7     | 3.1     | 3.6     |
| Manufacturing and mining   | 4.5     | 9.0     | 11.1    | 12.7    |
| Electricity, gas and water   | 7.8     | 3.8     | 9.1     | 8.7     |
| Construction   | 9.9     | 7.2     | 7.8     | 17.0    |
| Wholesale & retail trade   | 3.1     | 2.8     | 4.1     | 7.2     |
| Transport, storage and communication   | 7.8     | 7.9     | 8.4     | 11.8    |
| Community, social & personal services  | 4.5     | 9.9     | 10.4    | 11.7    |
| Others (financing, insurance, real estate and business services and activities not adequately defined) | 6.9     | 10.3    | 5.4     | 13.7    |
| Total  | 3.1     | 4.7     | 6.1     | 7.8     |

Source: Calculated from Government of Pakistan, *Labor Force Surveys*, 1987-88 (1989, p. 151, 232), 1990-91 (1992, p. xix), 1992 - 93 (1994, p. 28, pp. 215, 420), 1996-97 (1997, p. 26, pp. 116, 189) and 1999-00 (2001, p. 18, pp. 142, 215).

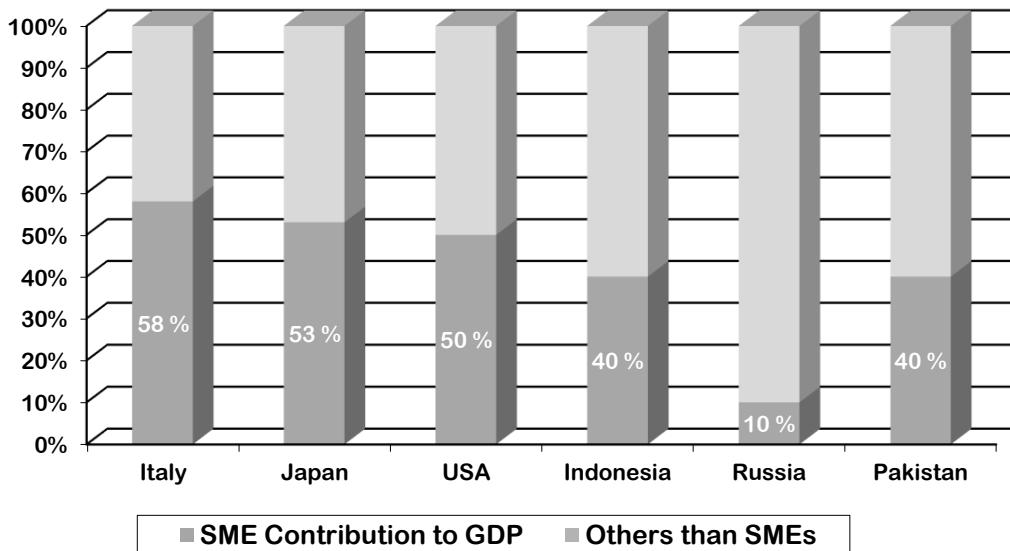
Unemployment is on the rise in all the seven major industry divisions cited in Table 2 since 1987-88. Furthermore, this fact is supported by the statistics given in the table 3 indicating that the rate of unemployment in all the major occupation groups has also increased.

**Table 3:** Unemployment rate by major occupation groups, 1996-97

| Major Occupation Groups                        | Unemployment Rate<br>(1996-97) | Unemployment Rate<br>(1999-00) |
|--|--------------------------------|--------------------------------|
| Legislators, senior officials and managers     | 3.2                            | 5.6                            |
| Professionals                                  | 12.1                           | 9.3                            |
| Technicians and associate professionals        | 7.1                            | 14.5                           |
| Clerks   | 9.1                            | 12.9                           |
| Service workers, and shop market sales workers |                                | 21.1                           |
|  | 10.1                           |                                |
| Skilled agriculture and fishery workers        | 1.6                            | 2.7                            |
| Crafts and related trades workers              | 8.8                            | 13.4                           |
| Plant and machine operators and assemblers     | 13.6                           | 13.8                           |
| Elementary (unskilled) occupations             | 8.2                            | 7.8                            |

Source: Calculated from Government of Pakistan, *Labor Force Survey*, 1996-97 (1997, pp. 111, 215) and 1999-00 (2001, pp. 137, 245).

The chart given below makes a comparison of contribution of SMEs in the GDP of various countries. SMEs contribute 40 percent to Pakistan's GDP, whereas this contribution is more than 50 percent in the case of Italy, Japan and the USA.



Source: USA-SBA, Office of Advocacy Indonesia Central Bank/SMEs in Pakistan by SMEC-LUMS / Assessment of the Microenterprise Sub-sector in Pakistan, ISSAS, The Hague, The Netherlands.

SMEs sometimes enjoy competitive edge over big enterprises because they need relatively small markets. Products can be tailored to meet the requirements of local markets. SMEs can be very successful in the long-term growth of the economies as they lead to industrialization in rural areas and decrease pressure on the urban areas. They activate untapped resources and skills and have the potential of producing large exportable surplus leading to a decreasing import-export gap. SMEs use indigenous raw materials and help in self-sufficiency of local raw material producing industries and also help in growth of entrepreneurial skills. SMEs are characterized by easy entry and exit in the market compared to large sized firms. The employment creation aspect of this is further emphasized by the fact that cost of job creation in SMEs is much less than in the large-scale manufacturing sector. Kemal and Mehmood (1993) estimated that this sector could create fourteen times the number of jobs that the rest of the economy can with the same level of investment.

Small and medium enterprises have some strengths that include their adaptability to changing market conditions and are more attuned to market competition, which requires constant innovation. As SMEs have smaller capital-output ratio, it is easy to start a small business as compared to a large business.

The last decade of the last century has shown rapid economic changes. The world has changed to a global village due to globalization and liberalization. The WTO has acted as a catalyst to globalization and after the agreements of TRIMs and TRIPS, the setup of the world economic order has changed completely. Liberalized trade via WTO agreements has compelled governments in the developing countries to decrease protection to the domestic industries. The provisions of the WTO agreements include phasing out of quantitative restrictions, tariff reduction and the elimination of subsidies.

Although, the SME sector has a lot of potential in terms of value addition and employment generation, yet government policies are always biased against it<sup>118</sup>. SMEs value asked the share in manufacturing sector has increased from 27 percent in 1980-81 to 35 percent in 1997-98. Furthermore, its capital requirements to provide employment are very low as compared to large-scale industry. The lack of government commitment to SMEs is reflected in the fact that the last four years, entire investment in the small-scale manufacturing has come from the private sector. Its growth is hampered by a lack of credit, and unequal allocation of credit is an entry barrier. The financial sector is not very supportive of SMEs. The newly established micro-credit bank and establishment of Small and Medium Enterprises Development Authority (SMEDA), to cater to credit needs of the sector, is a positive step in this regard and will hopefully address the issue of credit constraint. The provision of access to capital will play an important role in fostering competition, support existing players and encouraging new entrants. But, here again a note of caution is required since the earlier experience with the public sector banks shows an inappropriate and politically influenced policy of lending. This has given way to the piling up of a non-performing loans portfolio of public sector banks. Furthermore, outdated government regulatory policies, like the state zoning policy also affects the growth of SMEs.

## **Problems faced by SMEs**

The problems SMEs face today are heterogeneous and they arise due to:

- Lack of financial resources
- Inadequate legislation
- Lack of skilled human resources
- Almost negligible investment in research and development
- Poor work ethics
- Low level of industrial linkages
- Lack of export diversification
- No foreign investment or collaboration in SMEs<sup>119</sup>
- Poor infrastructure
- Limitation due to legal framework
- Migration of trained workers to the large enterprises for better pay

## **The Ways Forward**

These problems indicate a tough time ahead for our SMEs. This challenge can be met by taking the following measures:

- Simplification of small and medium enterprise registration
- Simplification of accounting system for these enterprises
- Establishment of state guarantee for credit schemes
- SMEs perform best in the countries and cultures, which encourage and support entrepreneurship. Education and training systems have a role to play in developing entrepreneurial values, attitudes

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<sup>118</sup> It provides 80 percent industrial employment and generates one fourth of sector's export earnings.

<sup>119</sup> Although, there is evidence of joint venture investment in surgical instruments manufacturing, it is exceptional case.

- and behaviors. Training programmes for SME employees in universities and polytechnical institutes should be needs based to ensure client commitment, particularly by charging services provided, thereby creating a transactional exchange base relationship, with which SME owners-managers are familiar and through which they are willing to pay for the services that they value
- Exchange of experts and consultants for the adaptation and implementation of support and development programmes and services

## Conclusion

From the above discussion the role of SMEs and sustainable development is quite evident. An institutional initiative is needed to encourage the growth of SMEs. There is no single most effective system for the development of SMEs. It is a continuous process and requires commitment at the national level with partnership between public and private sectors. The development of this sector requires an integrated approach. The Government should undertake necessary policies and strategies. This may include giving SMEs adequate financial resources, tax holidays, building infrastructure specifically in those areas where SMEs are working. To achieve this goal, it would be necessary to assure supply of capital, skills and technology enhancement and providing market information for SMEs. Efforts should be made to increase the quality of products by a close oversight of the standards setting body.

Flexible and innovative SMEs based on complementary specialization in networking within the region, coupled with trade liberalization on the regional basis can attract foreign investment especially from countries which are now looking for such opportunities due to rising labor cost in producing relatively labor intensive goods in their countries due to their currency volatility. Although, large firms take advantage of foreign investment (through joint venture, technology transfer, sub contracting and other forms of tie up), the foreign investment should also be made to work in favor of SMEs development. It is also recognized that some foreign investments are more directly beneficial to the growth of SMEs than others and should therefore be given priority. For instance, foreign investments may be encouraged to flow into industries where SMEs generally tend to be important in terms of share of industry employment and output. Other such industries are those where such existing SMEs need technological upgrading or those that have strong export potential. At the institutional level, support institutions should be created in public and private sectors. SMEs should employ new technologies, innovation in their products, give professional skill training to their employees, produce such products that meet the demand of the market and are properly marketed.

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# Settling the dust in Seattle Discussing the Aftermath of the 1999 WTO Ministerial from a Pakistani Perspective

*Faisal Haq Shaheen*

It would be both simplistic and repetitive if we were to reiterate the highlights of the Seattle negotiations, a task which has already been conducted to a great extent by both northern and southern journalists and popular media. Instead, this paper will follow its preceding brief and attempt to draw light to the issues that are influencing and shaping the forum of global trade. To that end, this paper will:

- Discuss the positions of the new players in WTO (whose lack of inclusion in the monte carlo and preparations for the Seattle Ministerial contributed to its deterioration and current crisis of illegitimacy.
- Touch on where the agreements and Pakistan's interests stand now as compared to before Seattle;
- Analyze the trends that global trade is producing and suggest positions and policies that Pakistan and South Asia as a whole need to take in order to establish a stable and sustainable trading block.

This continuing brief will also lead into the contents of later brief, suggesting positions for Pakistan to take in the Geneva Ministerial in September.

## A Summary of What Happened

Seattle degenerated from a planned series of exclusive closed door negotiations to a melee of disagreement and 'spillover stonewalling' as both developed and developing nations failed to bridge differences in positions on a variety of issues. The fireworks that erupted within the conference negotiations were further fueled by frustrated developing country delegates, an unacceptable process, poor logistics and planning, changing agendas and a somewhat unified outcry of developing nation delegates against a backdrop of civil protest.

Three tiers of protesting took place in Seattle,

- Outside of the ministerial negotiations (street protestors)
- Inside the ministerial, outside of the negotiations (628 accredited NGOs and developing country delegates)
- Inside the ministerial negotiations (developing country delegates who were called upon to speak and/or included in the green rooms)

The following issues in some shape or form contributed to the stalemate in Seattle;

- Disagreements between the US-Canada block and the EU on trade in genetically modified organisms,
- Complexity of disagreement on various issues and resulting spill over of bitterness between issues,
- Agricultural stalemate and the failure of the Cairns group to move from their current position,
- Increased preparation and unity among developing nations as compared to the Uruguay Round,

- 300 official proposals and bracketed text lines in the Geneva document,
- Lack of transparency in the process of reviewing agreements,
- Abrasive negotiating style of the hosts and developed nations in general,
- Political election agenda of the US
  - Collusion between the US government, the unions and environmental groups that to an extent, backfired;
  - Poor treatment of labor standards issue and the attempt by the US delegates to push the item into the Agreements for the benefit of the unions.
- Civil society, widespread demonstration and public outcry

This contributed to a negative mood as none of the delegates were in the mood nor prepared to make concessions, or ‘make the political decisions necessary for agreement’ (Charlene Borschovsky, Seattle Chair).

Now that the dust has settled, let us take note of the new stakeholders, the successes and failures and the lessons of Seattle.

## The Players

The Seattle round’s events have heralded the official entry of a new set of stakeholders into the global trading forum. Let us recap the new and existing players within the global forum:

- Unions, Labor Movements – This group is concerned with self preservation, and specifically preventing the migration of Northern jobs to Southern markets. The ‘union busting attitude’ within developed countries, especially in Canada and to a degree in the US, has led to great paranoia within the Unions and hostility to any national/international moves that may threaten their existence. The previously ‘blue collar’ tradition of the unions is now giving way to incorporating middle management, health care, education and other ‘white collar professionals’ into their ranks to preserve their critical mass. They mask their agenda of self preservation on the global scale with the premise of ‘protecting third world labor’ against MNCs and TNCs, by promoting global unionism (which only makes up 5% of the developing world labor force)
- Environmentalists – This group of activists has struggled since the 60’s to include environment and sustainable development issues into the national and global trade and economic framework. The shift towards privatization in the north, and the subsequent cancellation of funding to public sector watchdogs (Canada and the US to a degree) has sent warning alarms throughout the activists of the sector. They are petrified of the thought of seeing hard fought for legislations, acts, protocols and targets set aside and ignored for the purpose of increasing global trade at the cost of environmental degradation. Their tactic is to include sanctions and environmental linkages within the agreements.
- Social Activists – This group is concerned with eradicating child labor and feels that the best way to do it is through sanctions and denying market access to those countries known to be using it. They are aligned closely with the unions in this regard.
- Corporations – In the end, the MNCs call the shots as bigger corporations continue to seek to feed their shareholder demands for increased market shares of Asia, South America and the EU. Financial deregulation, timely in the west, will ensure this. Their deep pockets coupled with the

financially influencing mechanism of strategic lobbying within the campaign theatres and governments of the north allows them to create and exploit loopholes that will ensure benefits and kickbacks in what may otherwise seem to be regulations designed to restrict their activity.

- Northern Governments and Delegates – The political agenda clearly took center stage in Seattle and tainted the mood of the negotiations as pre election positions and slogans drew attention to special interest groups of the masses (unions, US farmer families, etc.)
- Southern Governments and Delegates – Whereas they were clearly caught off guard during the agreements and the negotiations of the Uruguay Round, this group was far better prepared for the agenda and possibilities of the Seattle Round. With the assistance of civil society and close scrutiny of the UR agreements, developing nations awoke to the reality of receiving the short end of the stick through the agreements.
- Anarchists – This group of individuals, in the north particularly, represents the disillusioned members of society who have either lost faith in the system or find it fashionable to share sentiments with those who have. Present to capitalize on the chaos of the situation, it is necessary to differentiate between them and the real protestors.

## **Successes**

Now that we have covered off the players, let us examine the issues that were fought over and experienced friction during the course of the negotiations.

- The developing nations were fed up of the lack of transparency and rightfully used their vote of consensus effectively. For example, the African and Caribbean countries balked at the lack of transparency, felt they were being bullied into agreements and threatened to withdraw their consensus from any other issues if the situation and current process continued. A Like-minded group on implementation issues such as India, Pakistan, Egypt, Uganda, the Dominican Republic, Cuba and others also said no to the existing proposal and remained unified through the bilateral talks, in spite of the protestors outside.
- Too many complex issues negotiated at once led to spill over of animosity between nations on separate agreements and resulted in stonewalling. Specifically the EU vs. US on agriculture, US vs. South on labor and environment, different views on globalization
- Egypt and India were successful in keeping labor and environment out of WTO for now. Greenpeace and others still feel it has become an important enough of an issue not to be ignored.
- Clearly, this round signaled that the needs of developing world must be recognized, WITH their approval before the process can move forward.
- Victory for what didn't happen such as a Stay of subsidies for local agriculture market (US corn growers and agriculturalists claim victory), Height of industrial tariffs on wood still saves trees (environmentalists claim victory).

## **Failures**

- Asia is still without market access. The EU sponsored proposal of providing zero tariff access to essentially all products from LDCs was nearly agreed to at the Seattle conference.
- NGOs were unable to make recommendations to institute reform
- Developing and Developed world Ministers shared disillusionment with the entire process

## Taking Stock

- We obviously need clarity on the great deal free trade is for the developing nations as the gaps between the rich and the poor, the global rich and the global poor are still very wide.
- Reversing areas require clarification
- There needs to be the realization that increased transparency does not equal increased inefficiency.
- MNCs will try to use FDI and shift their market gains to accessing the resources of the south. Hyper consumerism within the elite of the South will rise.
- There is still a lot of hypocrisy: unions want to save third world labor by setting up protectionistic barriers. Environmentalists are doing the same by insisting that they are doing the developing world a favor by insisting on environmental protection at the cost of market access which will stall market and firm based efforts to alleviate poverty.
- The current stall of the WTO may assist in the push to liberalize trade at the regional level. Regional and/or trade bloc bilateral talks will conceivably increase as far reaching goals of international trade are being worried about rather than relatively minor concessions that impeded agreement within the regional blocs in the past.
- There is still a need to recognize the difference between state driven and market driven forces. While Pakistan won the turtle excluder device dispute with the US, most Pakistani fisherman are now using turtle excluder devices. The ISO 14,000 series of standards is being debated in world trade forums but the reality is that it is a system that will be imposed by buyers on their suppliers.

## Issues being Discussed

### Clothing and Textiles

- Market access for Pakistan has not increased dramatically over the past few years and tariff escalation and peaks that prevent the export of refined and ‘value added’ products still need to be addressed. This issue was raised again at the UNCTAD X in Bangkok where against a backdrop of heartwarming speeches and empty promises, developed countries failed to extend any solid commitment to opening up their markets to developing nations. This was most explicitly illustrated by the insertion of the text ‘essentially all’ into the draft action plan section on market access. The term gives developed nations the mobility to protect certain sectors (those of most interest to developing countries) with trade barriers.

### Agriculture

- Developing Countries want more market access for those products that they are capable of exporting, particularly the LDCs relying on a few commodities. The EU Still protecting its right to subsidize its farmers with the argument of the ‘multifunctionality’ of the agriculture industry in Europe.
- Special and Differential treatment for LDC’s will now require, as para 29b reads, ‘possibly further concessions on the part of the LDC’s in order to realize SDT’. The line currently reads ‘shall take into account’. The fear is that this will result in further marginalization of developing countries as developed countries will ask for future concessions in return for granting special and differential treatment.

- US-Cairns vs. EU, Japan and Norway all argued on the dismantling of tariffs and the eradication of subsidies and the multi-functionality of agriculture. The Special and Differential Treatment of Developing Countries was not touched at all in Seattle and is now feared, will be given in return for other concessions. There is a need for more flexibility, as with other issues, to allow Southern nations to protect less developed and sick firms from MNCs and most importantly, establish food security.

## **Biotechnology**

- This issue was stumbled over and the rift left between the EU, their minister and the US over it, spread into other issues. It is quite possible that the arguments and lack of coordination between the developed nations saved the developing countries from a focussed barrage of issue specific bilateral negotiations designed to break in new issues and establish linkages as part of the negotiations. Preparation for a ‘unified North’ at the next ministerial negotiations should be part of the Southern preparatory agenda.

## **Implementation Issues**

- TRIP’s needs to be at the very least, aligned with the Convention on Biodiversity and the issue still needs to be clarified and cleared. Other issues which were not addressed were subsidies, safeguards and TRIPs as related to other issues
- Dealing with the implementation issues that developing nations are currently struggling with also needs to be reopened. This will depend highly on the persistence of the developing nations and the give and take from the US on allowing reopening.

## **Labor and Environment Linkages**

- There was a ‘globalization, development and labor forum set up, to interface the WTO and ILO. Unfortunately, this gives the union movement of the north a ‘foot in the door’. We need to oppose such a move and any committees that are set up should be led and associated with the ILO. The WTO should only be an observer to the ILO working group.
- Need to leave this issue to the ILO and give the existing organization more teeth, educate northern NGOs and activists on the implications and socio economic complexities of this phenomenon.
- Pakistan should propose that a World Environmental Organization be set up to monitor and manage linkages between trade and environment and enforce bilateral and multilateral environmental agreements. WWF representative Charlene Arden Clarke understood the rationale of developing nations and supported it somewhat during a workshop held during the ministerial.
- Need to differentiate between State driven forces and Market driven forces. There is a difference between what the WTO agreements and the Northern buyer will demand of Southern firms.

## **Systemic Issues**

- The EU and the US are now pushing for NGO participation in the dispute settlement process. Developing countries are opposing this as it adds more of a resource dependant factor to the already lopsided dispute settlement process. The Dispute Settlement process also needs to be

carefully monitored to assure that lack of access to resources does not hinder the legal capabilities of the South.

- Transparency cannot be sacrificed for efficiency.

## The Arsenal of Weapons

Unfortunately for the developing nations, there is a large arsenal of carrots and sticks that currently remains available to the market possessing nations of the north. It is likely that they will be used against the South as we approach the negotiations on Agriculture and General Agreement on Services.

- The Lome Waiver (EU Market access carrot that African, Caribbean and Pacific Rim countries are being offered in order to side with EU's agenda) will probably be withheld as a result of the developing country rebellion.
- The lost promise of Seattle, of zero tariff access by the EU to Asia, will also be used in the same way as the Lome Waiver
- The TRIPs agreement came into effect January, 2000. Most developing countries are not implementing it, so the fear is that they will face an onslaught of developed country dispute resolution filings in the new year. Corporations like Microsoft are now taking matters into their own hands – they are currently investing in market mechanisms that will make enable TRIPs implementation.
- Resources, Technical Assistance, Capacity building and Aid will be used by rich to entice the poor, as is being done in the bilateral and plurilateral talks before each negotiation.
  - This may all lead to developing countries uniting in regional trade blocs to offer concessions in an effort to maintain some local stability.
- We will probably be looking forward to more bi-laterals ahead and in advance of the next meeting as the developed nations try to assemble themselves more coherently and unified. Technical Cooperation and Zero tariff will probably continue to be offered in order to get consensus on agriculture, implementation, market access, systemic issues and Singapore/other issues.
- TNC inspired TRIPs needs to be stopped. It must be removed from the Agreements as its implications do not benefit any aspects of the Southern economy at all. A campaign to remove it is being led by the Indians among other developing nations. It will probably be used as a bargaining chip by the North to allow for other agreements to enter the agreements.
- TRIMs also needs to be altered as there is already free enough market capital flow into developing nations. Making it any easier would result in instability and a floodgate of other fashionable new issues as well as increased volatility of capital flows. This issue, along with other new issues, are at odds with the need for developing nations to be given the power to regulate and monitor their capital flows and protect their weaker sectors.
- Tariff Peaks and escalation need to be addressed as these are unfair forms of protection of sunset industries and tax developing nations and their firms which are trying to diversify their market lines, access and capabilities.

## WildCards

It was quoted by an economic analyst that ‘it is troubling to watch the elephants fight, but once they make love, watch out.’

- Will the North agree unifyingly on Agriculture? And how will this affect their strategies to unilaterally divide the South and make room for their GMOs while protecting their own local farmers to a degree?
- Will Anti Dumping be removed and implementation reviewed? This will depend on the goodwill of the North in standing by their promises of removing anti dumping and the insistence of the South to ensure that negotiations do not move forward without examining implementation issues.
- Leadership still held by the US/EU and its junior Northern counterparts. Unfortunately, and not much of a wild card, but as much as the North is the adversary, it is their market access that is required to generate inflows of funds into the South.
- The WTO will consolidate and maintain what has been achieved. Or will it admit to being overburdened, refuse to rule on certain issues and instead defer to other organizations/coalitions (ILO – Labour, UNEP/UNCTAD – Environment) for advice and guidance?

## Conclusions

From the collection of facts and observations, we can draw the following broad conclusions about the state of affairs at the World Trade Organization.

- The WTO needs to ensure transparency and among other issues, green rooming must stop, documentation must be properly circulated and be made available to all delegates; rather than they being forced to rely on ‘live feeds’ from sympathetic delegates inside the meeting room. The illegal creation of working groups (trade and labor standards) also needs to stop. Transparency must not be sacrificed for efficiency, as is being continuously hailed as the solution.
- ‘Create ways to bridge existing agreements where there is no consensus’ which will probably see further bilateral talks with individual countries.
- Developing countries need to continue solidarity, otherwise divide and conquer approach of bilaterals before the meetings will be our end. This is especially true in the case of South Asia. The same way that the gauntlets were put away by Germany, France, England and Spain; India and Pakistan must resolve their political differences so that a solid, secure and sustainable South Asian political - economic block can be established.
- Northern civil society and its concerns can either be a powerful ally, or an annoying and media deceiving adversary.
- The current language in the Investment agreements protects the investor rather than the sovereignty of the developing nations.
- There needs to be a better balance between governments, business and the third sector. Conceivably, the WTO could be a facilitator of this balance by ensuring and assuring co operation with and the strengthening of regulatory capacities at the national and then international levels (Evans, 2000).

Since the Uruguay Round, very little ‘good’ has reached the developing world. In fact, during the 4 years since the UR, developed country imports have increased, particularly in the area of exported

foods and commodities. In Pakistan we see this in the new imported brand labels that are hitting our shelves and the proliferation of the so called and ‘revered’ restaurant chains of McDonalds, KFC and Pizza Hut and the oil giant Shell, to name but a few.

In 2000, the only discussions that will be taking place will be on the Agreement on Agriculture and the General Agreement on Trade in Services. It is possible that the developed nations will try to make up for lost ground in these two areas by:

- Coming to terms with their differences in agriculture (protectionism, tariffs, subsidies) and strategizing ways to access and exploit developing markets;
- Finding a means to allow for easier market access by developed nation service providers and their firms into developing markets. This could be especially harmful if firms involved in healthcare, engineering, consulting, legal and auditing for example are given competitive parity with local firms.

## **Recommendations**

The abundance of resources possessed by ‘the quad’ (US, EU, Japan and Canada) and their political influence continues to enable them to push various agreements through the system without allowing democratic discussion and discourse with Southern nations. Given the ‘unfinished business’ of issues from previous rounds, specifically agriculture, services, TRIPs and TRIM; Pakistan must side with other Southern nations and resist a new round for new issues. Previous issues should be reopened and renegotiated, in spite of the agendas of ‘hijacking’ MNCs.

South Asia, as a whole, needs to:

Solve internal problems and integrate into the global economy

- Clear infra structural bottlenecks
- Take advantage of local pricing and benefits. Trade locally (especially in raw materials and manufacturing inputs).
- Extract better terms of trade through wiser policy making
- Integrate regionally, economically through increased trade within south Asia, conserving and enhancing resource base, merging environment and economics in decision-making (Arya, 2000).
- Add value to existing exports rather than over exploit natural resources that are sold globally, at low prices and unrefined. (Arya, 2000)
- Look regionally and traditionally for industrial solutions rather than pre emptively looking to northern markets for expensive technologies and. For example, explore the use of organic fertilizers and technologies rather than chemicals and pesticides from abroad, which are being smuggled in to the region.
- Monitor the trading of restricted items such as chemicals and pesticides, hazardous wastes, obsolete and dirty technologies and of course better manage internal control mechanisms.
- Avoid the complacency of the post Seattle attitude that lingers in the developing world and prepare for the challenges to be faced in the days ahead.

- The USA will not let go of linkages so easily. Geneva will see another attempt.
- Need to prepare an alternate agenda should labor and environment be brought into the picture (push for WEA and more teeth to the ILO).
- **TO SHOW UNITY**, even though there is not a common position on everything.
  - Keep transparency among the group and open communication,
  - Keep linkages with other developing countries whose interests are similar and also different on various issues (South America, African group, Caribbean group, etc.).
  - Enhance awareness within their own countries, among institutions and civil society.
- Push for the downsizing of IMF, World Bank and WTO organizations in favour of more developing nation friendly organizations such as the UN and UNCTAD.
- Push for negotiating processes within the WTO that will equally leverage rich nations with the interests of like - minded developing nations. Perhaps joint negotiations on certain issues where multiple countries can be represented by one expert team of negotiators (Lal Das, 1999). Also, the creation of intergovernmental agencies (as possible perhaps within the UN and UNCTAD frameworks) that could address specific issues at the country specific level as to identify and minimize negative impacts.

Pakistan may take advantage of win-win situations on an individual basis, using full discretion when foreign companies export adequate via joint ventures. Pakistan should support initiatives which will:

- Reduce Northern tariff and non tariff barriers on products of interest to our economy, namely cotton, textiles and processed goods;
- Shelter local firms and farmers from stiff competition from larger MNCs.
- Allow governments to retain ‘economic sovereignty’ and control over the business dealings within their economies, (Regulation of capital flows is necessary as well as the establishment of proper economic structures);
- Support and develop (in a sense of organization and benefits of collective action) indigenous farming and labour intensive business practices (An environment that promotes entrepreneurship, reward for hard work and high savings ratios spurned growth in East Asia). Elevate and strengthen the position of ASEAN so that it can respond better in times of crisis, rather than strengthen the IMF to create contingencies funds.
- Furthermore, resist threats to the preceding such as patentability, IPRs and biological resources (with respect to agriculture, health care & drugs, (revise article 27.3b as common with other developing nations), ;
- Resist free capital mobility as the North resist free labour mobility;
- Keep environmental and social ‘enforcements and influences’ out of the WTO ;
- Provide technical assistance through the WTO (Article 67 of TRIPS and treatment of ‘Net Food Importing Southern Countries’ of Agriculture) to allow for the identification of impacts of implementing agreements from the Uruguay Round.

Pakistan should also insist, along with other Southern states, that all processes and meetings, general or small group, be transparent, slow in pace, and available for civil society to advise and comment on.

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# Pakistan's Interests and Suggested Positions on issues to be discussed at the Seattle WTO Ministerial Negotiations

*Faisal Haq Shaheen<sup>120</sup>*

As we draw closer to the dawn of a new millennium, Pakistan's global economic position continues to be determined by numerous external influences. Many of the issues that we will be facing as a country will surface at the Seattle round of WTO negotiations this November. This policy brief summarizes relevant positions Pakistan could articulate in Seattle.

## 'No' to New Issues

Pakistan is, as are other Southern nations, suffering from 'negotiation fatigue' since the rounds began<sup>121</sup>. The pace of negotiations has been set by the resource rich North leaving the rest struggling to keep up with the outcomes of secretive meetings and swift agreements.

All Southern nations must insist in Seattle that no new negotiation round be initiated until stock is taken of the implementation issues stemming from the Uruguay round. It should also be noted that vacillation on the part of Northern nations with regard to implementation of already agreed upon commitments has lead to reservations on the part of most Southern countries. This is specifically due to the lack of action being taken by the Northern world on commitments made under the heading of Special and Differential Treatment (SDT). What we risk by discussing any new issues is a 'storming of positions' by the North which will force the South into 'one size fits all' agreements that are not in its' best interests.

## Investment

Broad sweeping multilateral agreements will be pushed by MNCs through their Northern governments as they attempt to gain easier access to Southern markets, investment niches and financial resources, unhindered by local laws and regulations. Southern countries are at great a risk as superior technologies will be allowed to muscle their way into local sectors and economies, eventually displacing weaker, local businesses.

Pakistan will be joined by other Southern nations in their attempts to keep MAI type agreements from becoming WTO issues by collectively voting against their adoption. While Northern forces will market short-term gains, long term economic, environmental and social losses may result in the South from such agreements.

## Competition

The WTO has commissioned a working group to study the effects of allowing foreign firms the same rights and treatments within Southern markets as local firms. Southern countries may benefit from the inflow of investment and technology in the short term, but in the long term there will be a net departure of profits from the economy as large Northern companies strive to increase shareholder value. Furthermore, Pakistan's strongest sectors are still weak in their ability to compete on a global (level)

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<sup>120</sup> Thanks are due to Shahrukh Rafi Khan

<sup>121</sup> North represents the rich or developed countries and South as the poor or less developed countries

playing field and numerous ‘sick firms’ must be nurtured until they prove themselves capable of competing with foreign MNCs. This may be accomplished by implementing local competition policies as were successfully illustrated in Korea.

Pakistan must protest any motion to move the study group to a working agreement and instead insist on further research. A sector by sector analysis of industries may envision a future of joint ventures and/or technology transfer with/to local firms, but such issues should be discussed during the next round or once a technologically sound base in the economy has been achieved. Meanwhile, the focus of “competition policy” should be on the non-competitive market power of Northern MNCs.

## **Government Procurement**

Northern governments and their companies are also trying to increase their accessibility to rich public sector markets via project work in municipal infrastructure. As most Southern economies have public sector expenditures that are greater than their net exports, local firms which depend on those contracts for survival and growth risk decimation if they are expected to compete with the expertise of foreign firms.

Pakistan must oppose any discussion of regulations that would allow the free entry and equal solicitation and treatment of foreign bids for public projects and instead insist on monitored entry on a project by project basis. For example, foreign expertise in the form of technology or engineering ‘may’ be imported through consultation or project partnerships, but local labour and capacity must be favoured and utilized where possible. Since the North refuse to accept the free flow of Southern labour to the North, there is no reason to accept the free flow of Northern capital to the South. Also, factor flows do not fit under the WTO umbrella overseeing free flow of commodities and service.

## **Industrial Tariffs**

Northern companies will push for further reductions in goods and services tariffs that will allow them easier access to Southern markets. While Southern countries have been forced to reduce their tariff rates by as much as 6.8 percent in many sectors, Northern countries have not delivered on any of their promises of reduction on tariff rates, especially on products of interest to Southern countries.

Pakistan needs to insist on specific market access and quota reductions that will benefit our export interests, specifically in the products of raw cotton, textiles (article 7.3), raw leather, leather goods and agricultural products (cotton, wheat and rice). Furthermore, the practice of tariff escalation needs to be dismantled by Northern countries, so that processed products may be exported from the South with greater ease. For example, EU and US tariff behaviour places a lower tariff on raw leather than it does on leather goods. This practice does not encourage export of Pakistan’s ‘value added’ products. Specifically, part IV of GATT 1994 (articles 36, 37 and 38) need to be improved upon to ensure market access and ease of exports from the South. These issues should be acted upon before a new round of tariff reductions are discussed.

## **Review of Existing WTO Issues**

Southern countries are suffering from negotiation fatigue at present, and do not have the ability to monitor, study and examine the effects of implementing the agreements even of the last round of talks. Reviewing, reopening and “fixing” these agreements should be the first priority.

### **Clothing and Textiles**

As per the Uruguay round, Southern nations have reduced tariffs only to find an aggregate reduction mechanism employed by the North, which enables them to selectively keep tariffs high on items of interest to the South. The high tariffs on such items are being felt by Pakistan’s clothing and textiles sector, for which exports to the US have not risen.

Pakistan needs to argue for the elimination of quota restrictions (assurance that backlogged restrictions are eliminated on time), discrepancies and protectionism being expressed through the exaggeration of safety valves in Article VI (paragraphs 2 and 3) and retaliatory bilateral agreements that threaten export development. The USA, in particular, should be pushed to dismantle textile tariffs as agreed to in the Uruguay Round.

### **General Agreement on Services**

On paper, the agreement appears fair and Pakistan may be able to take advantage of liberal mobility of immigrants. However, labour movement is still restricted in the EU and in the US to engineers, doctors and professionals. Including businessmen with distributor oriented contacts may allow inroads to be established into these foreign markets. Distributorships are a global trend that Pakistan should take advantage of.

Pakistan should argue for freer access for expatriots to Northern labour markets and for the strengthening of Article IX which outlines a safeguard for and against anti competitive behaviour, specific to services. A wake up call emanating from this agreement is that Pakistan needs to organize and restructure its utilities and services sectors so as to be able to withstand foreign competition, especially in the areas of telecommunications, hydro and maritime transportation.

### **Trade Related to Intellectual Property Rights, Article 27.3 (b)**

Article 27.3b at present calls for patents or *sui generis* rights on plant varieties developed by the ‘breeder’. This interpretation places indigenous farmers of Southern nations at the mercy of Northern breeders who would be permitted to globally patent all plant life, in essence ‘owning all of the byproducts’ of harvest. A Southern, positive interpretation of the clause distinguishes the all encompassing patents from the more tailored, *sui generis* systems. While both are intended to protect intellectual property rights, patents value the rights of the breeder exclusively whereas a *sui generis* system allows a government to develop its own system of intellectual property rights protection, by recognizing the farmer’s rights and rewarding the ‘breeder’.

Pakistan must insist on the elimination of patents and their replacement with a tailor made *sui generis* system which provide our farmers with rights and rewards for harvesting breeder formulated products. The proposal for the ‘sharing of benefits’ (breeder and farmer) tabled by the African group should be supported as this would see the farmer receive a royalty from the end product, countering the net

departure of resources from the country. To this end, Pakistan should not sign the UPOV agreement as it provides Northern firms with rights and ownership of Southern biodiversity and crop byproducts. Pakistan's position should support a government tailored, *sui generis* system that would recognize the rights of local farmers as breeders, allowing them to reuse the seeds and conduct limited research with them. Protection should be sought against Bio Piracy, for traditional farming and manufacturing of low cost pharmaceuticals.

Furthermore, while the South is committed to protect as best they can the intellectual property rights of individuals and their patents, they should not be held responsible for the effectiveness of their systems due to inadequate resources.

The inherent conflicts between the Convention on Biological Diversity (CBD) and the Agreement on Trade Related Intellectual Property Rights (TRIPS) places the South at a great disadvantage. The former is a scheme, which assigns countries a great deal of control over their indigenous resources; not just at the governmental level, but devolving to the communities that have traditionally used these resources. While the latter seeks to commercialize traditional knowledge; it fails to recognize the relationships between communities and biological resources. It is structured so as to give an unequal advantage to the commercial interests of the North. The conflict between the two agreements could be resolved in favor of the affected Southern communities by taking full advantage of the scope of *sui generis* legislation, which would protect the interests of the groups involved in Southern countries by providing governments with the right to design their own system of balance and reward for farmers and breeders.

The CBD acknowledges sovereignty and the rights of communities to share in the benefits of biological diversity, neither of which are acknowledged by TRIPs. Pakistan must be firm in insisting on amending TRIPs to bring it in line with CBD.

## **Agriculture and Food Security**

Southern nations are being pressured to further reduce tariffs and domestic support while Northern subsidies (categorized as non actionable subsidies) continue to enable their farmers and MNCs to sell at lower prices, while maintaining higher costs, than their Southern counterparts. This is despite the fact that the labor intensive Southern farmers are at a disadvantage in terms of the economies of scale realized by capital intensive Northern farmers.

Southern nations need to sustain the livelihoods of groups traditionally involved in food production, such as small farmers and fisherpersons. Genuine competitiveness, which is the underpinning of free trade, is clearly not being given an opportunity in this sector through tariff and non-tariff barriers raised by the North. The current agreement on agriculture will promote mono cropping (detrimental to the environment), increase food costs (as foreign firms set the pricing for most crops), increase risks (smaller farmers and local breeders will be vulnerable to outside competition and allow for economic sanctions to be imposed on countries through bi and multilateral agreements).

In order for Pakistan and other Northern nations to participate in genuine competitiveness, the protectionism of the North needs to be removed as soon as possible. Pakistan should argue that aggregate sector reductions that protect Northern markets (sensitive items of most interest to Southern farmers) need to be removed, along with the prohibitive tariffs that still restrict many export markets.

Furthermore, as Pakistan's foreign exchange position is precarious, they along with other Southern nations should be encouraged to produce food for themselves and develop food self-sufficiency, rather than depend upon imports. This need is doubled with the forecasted reduction in food aid to the South. Articles III and IV should be changed to balance the domestic playing field between local farmers and MNCs.

## **Environment and Social Linkages**

Environment and social issues are increasingly being pushed onto the trade agenda along with process and production methods (PPMs). PPM based restrictions should not be imposed on resource strapped Southern economies in which some sectors utilize out of date and perhaps polluting technology out of necessity. As far as social and environmental linkages are concerned, there are national and international mechanisms designed to address these problems. A trade regime dealing with export related activity is neither an appropriate nor an effective device to achieve these objectives as they will be used by countries to raise non-tariff barriers. Similarly, labor standards are clearly the domain of the ILO. The argument put forward by the Northern world, that the ILO has no teeth, should be met with strategies to give teeth to the ILO. In this way, the Southern countries may buy time to set their house in order. Also, as earlier attention should be drawn to the barriers to international movement of labor due to which Southern countries are at a disadvantage.

Pakistan should communicate its commitment to improving the environment as it realizes that the health, livelihood and living conditions of the majority of its population depend upon a clean environment. In order to create a sound technology base, Pakistan should take advantage of technical assistance offered through the WTO. In this regard, shifting certification and registration for standards like ISO 14,000 to the South to promote clean technologies and meet the requirements of the Rio Protocol should be first priorities. We must also trumpet the fact that Pakistan was one of the first countries to draft its National Conservation Strategy (NCS) and has developed a set of National Environmental Quality Standards (NEQS) and is in the process of implementing them.

## **Conclusions**

The abundance of resources possessed by 'the quad' (US, EU, Japan and Canada) and their political influence has enabled them to push various agreements through the system without allowing democratic discussion and discourse with Southern nations. Given the 'unfinished business' of issues from previous rounds, specifically agriculture, services, TRIPs and TRIM; Pakistan must side with other Southern nations and resist a new round for new issues. Previous issues should be reopened and renegotiated, in spite of the MNC agendas of 'hijacking' MNCs.

Pakistan may take advantage of win-win situations on an individual basis, using full discretion when foreign companies export adequate via joint ventures. Pakistan should support initiatives which will:

- Reduce Northern tariff and non tariff barriers on products of interest to our economy, namely cotton, textiles and processed goods;
- Shelter local firms and farmers from stiff competition from larger MNCs.
- Allow governments to retain 'economic sovereignty' and control over the business dealings within their economies;

- Support indigenous farming and labour intensive business practices;
- Resist free capital mobility as the North resist free labour mobility;
- Keep environmental and social ‘enforcements and influences’ out of the WTO;
- Provide technical assistance through the WTO (Article 67 of TRIPS and treatment of ‘Net Food Importing Southern Countries’ of Agriculture) to allow for the identification of impacts of implementing agreements from the Uruguay Round.

Pakistan should insist, along with other Southern states, that all processes and meetings, general or small group, be transparent, slow in pace, and available for civil society to advise and comment on. As vice chair of the conference, Pakistan may also wish to take a position on the options for future negotiations. The more Northern countries will be pushing for broad sector by sector negotiations which will give them higher leverage and the fastest turnaround in terms of reaching agreement. Pakistan may want to push for phased negotiations, as suggested by Najam (1999), which will allow for a principled hierarchy of negotiations that could begin simultaneously but mature differently, allowing for the monitoring of market effects and repercussions on a sector by sector basis as indicated below.

#### Options for Future Negotiations

| # | Option                       | Champions                                 | Pros   | Cons   |
|---|------------------------------|---|--|--|
| 1 | Sector-by-Sector negotiation | USA                                       | Specific agreements could be reached in relatively short periods of time.  | Gives unfair advantage to Northern countries with greatest say on agenda.  |
| 2 | A new 'Round' of negotiation | EU, NZ, Aus, Honk Kong, Argentina, Mexico | Ensures that all issues under consideration are dealt with. Theoretically this gives a veto to every country on every issue. | Tends to be very slow; requires very high level of resources and effort which places Southern countries at a disadvantage.       |
| 3 | 'Clusters' of negotiations   | Canada and other Northern countries       | Allows for efficient packaging of issues important to most parties within manageable time frames.                            | Details remain unclear. Definition of and prioritization between packages could be contentious and skewed to Northern countries. |
| 4 | 'Phased' negotiation         | Pakistan??                                | Provides a clear and principled hierarchy of deliberations that could begin simultaneously but 'mature' differentially.      | Non-implementation of existing agreements could hold future negotiations hostage.  |

Source: Najam (1999)

The proposal is for Pakistan to build on the arguments already outlined in the paper under review, raise concerns about 'negotiation fatigue' and marshal support of other like-minded delegations for a 'slow-but-steady approach' to future negotiations. The phased negotiation option would create a clear hierarchy of WTO deliberations building upon the hierarchy implied in the Geneva Ministerial Declaration:

1. The highest priority would be given to **monitoring** the implementation of existing agreements and decisions and devising ways to keep these on track.
2. Concurrently, **negotiation** would begin on 'clusters' of sectors where a clear commitment to negotiate has been made by the Ministerial Conference. This would include mandated negotiations and reviews.
3. At a lower level of intensity, **discussions** may begin in working groups on identifying options and preferences in areas where there is no commitment yet for negotiation but which have been identified as possible areas for future deliberations. *However, these discussions would not be considered formal negotiations until the earlier negotiations (#2) have been completed and progress on implementation (#1) is deemed satisfactory by the General Council.*
4. At the lowest level, working groups may be initiated to prepare background **investigation and review** reports of possible new issues that may be raised by WTO members. The purpose of this exercise would be, for example, to gauge whether these issues are appropriate for consideration within WTO.
5. Provide for sector by sector agreements that will retain the rights and maintain a balance between weaker, local firms and the stronger MNCs while allowing some international market access.

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**(PB # 8, 1999)**

## **High Level Segment of the 6th Session of the Commission on Sustainable Development**

*Adil Najam*

### **Background on the CSD**

The Commission on Sustainable Development (CSD) was set up following the United Nations Conference on Environment and Development (UNCED; held in Rio de Janeiro, Brazil in 1992). The CSD meets annually in New York. The Department of Policy Coordination and Sustainable Development (DPCSD) in the United Nations Headquarters in New York serves as the secretariat for the CSD. The CSD was established to serve two key functions:

- To monitor the implementation of Agenda 21 (the Plan of Action adopted at UNCED).
- To provide a policy forum for discussion of emerging issues relating to sustainable development.

Agenda 21—which was one of the principal outcomes of UNCED—is a 40 chapter document outlining actions that countries should take to incorporate environment and natural resources issues in their development planning. Substantive areas covered by Agenda 21 include climate change, depletion of the ozone layer, air and water pollution, desertification, deforestation, soil loss, toxic wastes, depletion of stocks of fish, etc. It also considers underlying patterns of development which cause stress to the environment, such as poverty, the external debt of developing countries, unsustainable patterns of consumption and production, the structure of the international economy, demographic pressures, etc.

### **Rio + 5**

1997 marked the fifth anniversary of UNCED as well as of the CSD. The fifth session of the CSD was part of a series of events and meetings (including a special session of the United Nations General Assembly) which were popularly referred to as "Rio + 5". This elaborate review of the implementation of the "UNCED Agenda" at the five-year mark was a sobering rather than a celebratory experience. Although a number of individual countries reported significant achievements at the domestic level, the general consensus was that the promise of a global compact on sustainable development that had been proclaimed at Rio has remained unfulfilled. In particular, the developing countries (South) were critical of the industrialized countries (North) for not having provided the type of financial and technological support that had been envisaged at UNCED. The discussions during the 1998 session of the CSD are likely to be heavily influenced by the debates of 1997.

### **Domestic Policy**

As during previous meetings of the CSD, Pakistan's main emphasis should be to highlight the progress on the implementation of the Pakistan National Conservation Strategy (PNCS). A formal presentation of the PNCS was made to the second meeting of the CSD in 1994. Each subsequent meeting has been informed of the progress on its implementation.

In essence, the PNCS is Pakistan's Agenda 21. Many of the innovative ideas for sustainable development being called for by Agenda 21 are already incorporated in the PNCS which was actually developed before UNCED. The PNCS is a comprehensive multi-sectoral strategy, which is designed

to foster sustainable development by identifying and analyzing environmental and natural resource issues and trends, and subsequently incorporating these into Pakistan's policy-making and development programs. Its unique multi-dimensional development process involved all major actors in civil society including government, NGOs, academia, mass media and the private sector.

In particular, there is a need to reiterate that the new atmosphere of cooperation created in the country as a result of the PNCS process has encouraged nongovernmental organizations (NGOs) to take the lead on environmental awareness and community involvement; business groups have begun to devise strategies for environmental conservation; schools and colleges have started incorporating environmental materials into their curricula; research institutions are undertaking policy research on environmental issues. These are highly robust, non-reversible processes which do not depend solely on one institution or one organization. These civil society processes—which were originally facilitated and encouraged by the PNCS momentum—are now themselves the best guardians of continued PNCS implementation.

The PNCS has also spurred the development of sub-national conservation strategies. The Sarhad Provincial Conservation Strategy (SPCS) has already been approved and is now in the early stages of its development. Regional strategies for Balochistan and the Northern Areas are in various stages of development.

The revitalization of the Pakistan Environmental Protection Council (PEPC) as the apex environmental policy-making body in the country, the passage of the Pakistan Environmental Protection Act in 1997 after a highly consultative and transparent process, the finalization of National Environmental Quality Standards (NEQSs) with the active participation of industry representatives, and the decision to establish environmental courts are amongst the other major advances that need to be highlighted. It should be noted that all of these follow directly from the Pakistan National Conservation Strategy and serve to fulfill the goals of Agenda 21 implementation in Pakistan.

## **Sectoral Issues**

In the run-up to the 6th session of the CSD, meetings of two sectoral working groups were held—on Freshwater Management and on Industry and Sustainable Development. Discussions in these areas will be continued at the CSD. Both of these areas are of great importance to Pakistan and are covered in detail in the PNCS.

In relation to the second of these, a particular mention may be made of the recent finalization of the NEQS. This was done through a process of consultation and dialogue with industry representatives through a government-business roundtable. These will be operationalized through the Pakistan Environment Protection Act, 1997 (PEPA-97). Important features of this law includes: self-reporting by industry; heavy fines (up to Rupees 100,000 per day) for non-compliance; the channelling back of fines to industry in the shape of soft loans to improve environmental compliance by industry; the setting up of Environmental Tribunals; creation of provincial sustainable development funds; and the right of citizens to monitor non-compliance.

## International Policy

Pakistan is fully committed to the CSD process. We should stress that we share with other nations our profound concern over the deterioration of the natural environment. We believe that sustainable development requires concerted action at both global and national levels. Global action is needed to implement the various international conventions and treaties signed in the last decade, to mobilize public opinion, to establish a framework that engenders cooperation and collaboration between countries, and to ensure that adequate financial and technical assistance is available wherever it is needed in order to fulfill these laudable goals.

As far as global issues are concerned, Pakistan has generally supported the position of the Group of 77 (G77). The G77 has strongly articulated the environmental and developmental interests of Southern countries. In particular, it has staunchly maintained that the historical responsibility for many global environmental problems lies with the industrialized countries of the North; that developing countries should not be asked to forego their legitimate developmental aspirations; that a just international economic order and poverty alleviation are key ingredients of sustainable development; that institutions for international environmental governance should be based on the principles of transparency and democracy; and that new international environmental responsibilities should not be imposed upon developing countries without the concomitant provision of additional resources.

Pakistan does not have an independent position from the G77 on any substantial issue and should support the positions taken by the G77. Moreover, Pakistan has been a leader of the G77—for example, during 1992 Pakistan was the Chairperson of the G77 and played a decisive role in shaping the decisions taken at UNCED in that capacity. Every opportunity should be taken to maintain this leadership role within the Group and support its consensus positions in plenary discussions.

Beyond the above, it should be noted that Pakistan has already ratified both the UN Convention on Climate Change (UNFCCC) and the Convention on Biodiversity (CBD). Particular mention may be made of the Convention on Biodiversity (CBD). A Biodiversity Action Plan (BAP) for Pakistan, prepared through a thorough consultative process, is now in final draft form in preparation for the next conference of the parties (COP) of the Convention. This may be used as an example of Pakistan's commitment to fulfilling its responsibilities under multilateral environmental agreements (MEAs).

However, it should also be highlighted that there is an obligation on the part of the rich countries of the North—which have been largely responsible for creating a number of global environmental problems (e.g. global climate change)—to transfer the required resources and technologies to the developing countries of the South. Given the pressing developmental priorities of the South (including widespread poverty and backbreaking external debts), the developing world cannot be expected to carry the ever-increasing burdens of the global environmental agenda without such assistance. It was abundantly clear at CSD-5 that the North to South flow of environmental assistance, particularly in relation to MEAs, has been well below the adequate or anticipated level. Unless this trend is reversed soon, the assessment of "Rio + 10" will be even harsher than that of "Rio + 5".

(PB # 3, 1998)

## B-2: Trade

### Introduction

**Dr. Vaqar Ahmed, SDPI**

29 June 29, 2017

At the time of writing this text Pakistan continues to have one of the lowest private investment to GDP ratio in the region and among peer economies. There is a realization across policy circles that financing faster and inclusive growth in agriculture, manufacturing and services sectors will require higher rates of private investment. Boosting efficiency of investment and attracting new capital will also require structural reforms in public sector investment (or public sector development programme), energy sector (Khan and Ahmed 2015), regulatory regime faced by businesses (Ahmed et al 2016), tax policy and administration (Ahmed et al 2015, 2015b, Ahmed and Talpur 2016), and financial sector (e.g. development of long term savings instruments) for attracting greater levels of private resources.

Another disturbing issue is that of falling exports which have declined recently in value and volume terms. Pakistan's share in world merchandise exports has dropped from 0.15% in 2011 to 0.13% in 2016. In comparison, Bangladesh, India and Vietnam (also key textile exporting countries) had higher shares in world exports at 0.19%, 1.61%, and 0.97% respectively in 2016. This now calls for a serious inquiry into reasons which have led to a general decline in Pakistan's competitiveness across agriculture, manufacturing and services sectors.

SDPI's recent research indicates that among other factors, the following have played a key role in keeping competitiveness from improving:

- A general increase in cost of doing business
- Inadequate trade facilitation (Samad and Ahmed 2014)
- Expensive and uncertain energy supplies (Ahmed and Adnan 2014)
- A complex import tariff structure
- Limited capacity to participate in global value and supply chains
- Lack of coordinated support from federal and provincial revenue authorities and Ministry of Commerce (Ahmed and Naqvi 2016, Jamali and Ahmed 2016)
- Decline in trade with neighbours (Ahmed and Shabbir 2016, Shabbir and Ahmed 2015, Batool and Ahmed 2014)
- Weak availability of credit for exports, particularly for small and medium enterprises
- An exchange rate regime that strengthens the anti-export bias.

Pakistan had some success in extending its trade diplomacy. It managed to again secure Generalised Scheme of Preferences (GSP) plus status in the European Union market. It is negotiating a free trade agreement (FTA) with Turkey, Thailand, and South Korea. The existing FTAs with China and Sri Lanka are now under revision, having completed their first phase. There is however a general perception that these preferential agreements have not translated into export gains for Pakistan due to above mentioned constraints which ultimately kept exportable surplus at low levels. There are new competitor economies which now have better technology in turn leading to higher productivity. New literature also informs us that Pakistan will require deeper FTAs which include 'trade in services' and cross-border investment and technology transfer and related clauses.

SDPI has also recommended that institutions mandated to promote investment in Pakistan, for example, federal and provincial boards of investment should focus on attracting foreign direct investment which is export-enhancing. One of the ways this may be possible is through demonstrating successful and

timely completion of early harvest projects under China-Pakistan Economic Corridor (CPEC), which in turn can attract the Chinese private sector and lead to increased business-to-business engagements in manufacturing sector of Pakistan. We have seen some examples of this in energy and textile sector, however a more broad based engagement is still desired. This will promote significant learning and knowledge across Pakistan's lagging large scale manufacturing and services sub-sectors (Ahmed 2016b).

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## Liberalizing Trade with India

*Samavia Batool*

### **Introduction:**

Pakistan has been a member of World Trade Organization (WTO) since 1995. Most Favourite Nation (MFN) status being the cornerstone of WTO trade laws is mutually agreed upon by the Organization members. This status allows for trade on non-discriminatory basis and promotes equality in trade for every country having the MFN status. Being a signatory to it, Pakistan is entitled to provide equal trade advantages to each of its trading partner having MFN status.

India granted the MFN status to Pakistan in 1996 while Pakistan has not yet reciprocated it. However, debate on the issue is going on. This topic has been focused by many research studies, which highlight various pros and cons of liberalizing trade with India. Interestingly, most studies support the idea of granting MFN status to India, but with some reservations (exceptions are for automotive, pharmaceutical, manufacturing, and agriculture sectors).

The purpose of this policy brief is to consolidate key points regarding issues, future prospects and policy recommendations from the existing literature on the subject.

### **Current scenario:**

Bilateral trade between India and Pakistan is around \$ 2.7 billion<sup>122</sup>, which is below the potential. Besides, there is a huge volume of informal trade between both the countries, which is estimated around \$ 3 billion<sup>123</sup>. Table 1 shows India's trade balance with Pakistan over the last decade. It is interesting to note that despite various political and economic hurdles, Pak-India trade has increased tenfold during the period 2001-2011 (figure 1).

**Table 2:** India's trade balance with Pakistan (US \$ million)

| Year    | 2001  | 2002  | 2003  | 2004  | 2005  | 2006   | 2007   | 2008   | 2009   | 2010   |
|---------|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| Exports | 164.6 | 187.7 | 183.6 | 522.1 | 593.1 | 1235.0 | 1584.3 | 1772.8 | 1455.8 | 2235.8 |
| Imports | 69.9  | 33.9  | 68.1  | 79.1  | 165.9 | 286.5  | 286.7  | 372.0  | 272.1  | 248.4  |
| Trade   | 94.7  | 153.  | 115.  | 442.  | 427.  | 948.6  | 1297.  | 1400.  | 1183.  | 1987.  |
| Balance | -     | 8.    | 5     | 9     | 1     | -      | 6      | 8      | 7      | 4      |

Source: Trade Map, International trade centre, Geneva

<sup>122</sup> Bilateral trade with India – see the Rawalpindi Chamber of commerce & Industry. Research and Development Department (2012).

<sup>123</sup> Trade Relations between Pakistan and India – see Pakistan Institute of Legislative Development and Transparency (2012).

Today, regional integration calls for more economic cooperation. Enhanced economic cooperation between the two major regional players would not only result in potential advantages for both the countries but also for South Asian region (especially for SAARC). Stagnant growth, flight of capital, and poor economic conditions have forced Pakistani policy makers to open up their markets to Indian competitors. While the huge benefits of liberalizing trade with India have tilted the balance in favour, some of the stakeholders have strong reservations against it. Hence, trade policy should be designed to encompass the national as well as the stakeholder's interests.

### **Key issues:**

While most studies highlight the 'win-win' situation 'for both Pakistan and India, some studies also highlights the issues which Pakistan would be facing after liberalizing trade with India. Key issues extracted from the literature are given below:

Non-tariff barriers (NTBs) and countervailing duties are cited as the most important issues facing trade liberalization between India and Pakistan. Such issues hinder benefits that can be gained from tariff liberalization. One of the tariff barriers between both the countries is custom procedures. Custom clearance, rules of origin certification, border management policies and multiple border regulatory agencies impede trade facilitation and hinder the full trade potential to be utilized.

Inadequate land transport route is another barrier which if addressed can bring huge benefits to Pakistan. India no longer allows trade from the rail route so land route is used for the trade purposes. Mostly, the land route used for trade is Wagah-Attari border, which also faces severe restrictions and only a limited number of items are allowed to pass. This is one of the reasons why Pakistan mostly relies on third country trade with India, which increases the cost of transportation three fold.

Another land route for trade is through Kashmir. This was initiated in 2008 and offers a fully liberalized trade regime. However, it has failed to realize its full potential and thus is subjected to frequent closures, logistic and bureaucratic hurdles etc which makes this trade route economically unviable.

Quotas and tariffs are also the bottlenecks on which the balance between formal and informal trade is dependent. Study of the literature shows that increase in tariff increases trade through informal channels and thus income generated through illegal trade fails to join the National income stream.

Some of the issues highlighted in the literature are sector specific. According to their estimates, some sectors of Pakistan (automotive, pharmaceutical, manufacturing) can be adversely affected by Indian imports as Indian markets are much larger as compared to Pakistani markets and has comparative cost advantage over Pakistan. It is also anticipated that Pakistan in the longer run will not be able to compete highly competitive Indian markets. Literature thus recommends having competitive domestic markets in place first.

Apart from the issues facing the process of trade liberalization, uncertainty of the relations between Pakistan and India is also very threatening to smooth trade. Besides, there are also some legal issues as to how trade related disputes would be settled after trade liberalization which hinders Pakistan from liberalizing trade with India.

## **Future prospects:**

It is a fundamental axiom of economics that trade is beneficial for every party concerned. Likewise, it would be beneficial for both India and Pakistan, at least in the long run as it is likely to encourage self-reliance by shifting away from foreign aid to trade. Some of the potential gains from liberalized trade highlighted in the literature are as follow:

Liberalizing trade with India would have huge economic benefits not only for Pakistan and India but also for the South Asian region. Currently, South Asian intra-trade is the lowest among the world and trade openness, as the literature suggests would lead to a substantial increase in the GDP of South Asian region through spill-over effect.

Pak-India trade would also increase from \$ 2.7 billion to \$ 7.1 billion if MFN status is granted to India along with the relaxation of NTBs<sup>124</sup>. Some studies point to even larger gains. Besides, Informal trade between Pakistan and India amounts to a huge sum and this would properly be channelized in the national income stream once the trade has been liberalized. Resultantly, it would also serve as a source of tax revenue for Pakistan.

Specialization will also be improved, followed by the increased flow of technology, reduced telecom roaming charges, medical tourism, consumer welfare gains, foreign direct investment (FDI), and visa liberalization by the trade liberalization. Visa liberalization would also increase long sought people-to-people contact.

Competition is the nerve of globalization and trade openness would expose Pakistani industries/markets to robust competitive Indian markets leading to competition and efficiency in Pakistani market as well. Pakistan has a huge potential in intra-industry trade especially in cotton, citrus fruits, dates, cement, leather, bicycles, fans etc, which could also be exploited. Some studies also highlight that Pakistan would be a greater beneficiary in services than in goods.

Lastly, Pakistan is currently faced with severe energy crisis and India could be a potential supplier of energy raw materials too. Hence energy crisis can be addressed through regional linkages and blocs. Other than energy raw materials, other raw materials can be procured at cheaper rates for Pakistani industries, which could help reduce the production cost. Besides, bilateral relations would prove to be a step forward to regional cooperation as well by reducing the conflicts and poverty in land-locked states.

## **Policy recommendations:**

The literature review provides a huge reserve of policy recommendations to enhance bilateral trade between India and Pakistan. In order to exploit full trade potential and avoid certain losses, following are the policy recommendations:

- Protection is a double-edged sword and should not be used excessively. So manufacturing as well as agriculture sectors of Pakistan should not be given excessive protection.
- Literature also recommends removing intermediate goods and raw materials from the negative list so that the import-dependent sectors of Pakistan could be made more competitive.

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<sup>124</sup> Pakistan India Trade Relations: The Impact of Non-Tariff Barriers. USAID, Sept. 2012

- Visa liberalization is as important as trade liberalization so that skill suppliers (technicians, software engineers, IT personnel, education experts etc) on both sides of the borders can be linked, which might help developing human resource. Technical experts of both the countries must be granted long-term (6 months) multiple entry visa and special category of visa should be introduced for them. Roaming facilities can also be provided to give businessmen greater access to cross-border markets.
- A bilateral commission should be set up to resolve trade disputes as well as to ensure that security and political tensions would not derail trade process.
- Furthermore, to enhance the trade flow, opening of more trade routes must be considered along with the development of logistics infrastructure.
- Financial services must also be improved for both importers and exporters across the border. Online banking facilities, acceptance of digital signature on cross border documents etc should be introduced as a part of trade facilitation reforms.

### **Areas for further research:**

Though literature provides a comprehensive overview of the trade liberalization with India, certain areas were neglected. Incorporating the following aspects into the studies may help to present a more dynamic perspective of opening trade with India.

Quantitative analysis must be focused especially in assessing the impact of tariff changes on consumer and producer surplus, trade creation, and trade diversion etc. In addition, sector-wise quantitative analysis can be done for better understanding the better as well as worse-off sectors of Pakistan.

Analysis of trade barriers should only include those taxes, which are discriminatory to imports. Countervailing tax should be kept out of the analysis. Similarly, subsidies to agriculture must be assessed carefully.

Consumer-side is usually given a backseat while analyzing trade liberalization, so it can also be looked at. New dimensions of trade flows like technology flows etc can be explored along with the Pakistan's capacity to absorb them. Apart from this, detailed analysis of FDI can be made with emphasis on specific sectors of interests, supply chains across the region, and in-depth analysis of challenges therein.

A detailed analysis of cooperation in services (medical tourism, educational services, visa easing etc) can be done. Besides, a gradual approach to visa easing can also be explored i.e. temporary movement of managers, specialists, independent professionals etc, and its possible impact on human resource development.

## Conclusion:

It is unfortunate that despite having a common border that may provide tremendous opportunities for formal trade, Pak-India trade remains below \$3 billion annually. However, the recent improvement in the trading environment between the two countries is a welcoming sign.

As a part of trade process, there will be winners as well as losers, but the decision to grant the MFN status to India should be taken by keeping in view the interests of all the stakeholders. Bilateral relations between India and Pakistan can be a stepping stone to regional integration in the long run. Furthermore, research with particular focus on the consumer constituency, gains and losses to specific sectors and trade in services and energy should be promoted in Pakistan as it provides strong and robust evidence to improve sustainability of trade liberalization.

Lastly, it is important to understand the social implications of having a trading neighbor, which would disincentivize political contentions rising from years of conflict between India and Pakistan.

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(PB # 41, 2013)

# **Trade-Related Aspects of Intellectual Property Rights (TRIPs) Agreement: Impact on Food Security of the people living in HKH**

*Abid Qaiyum Suleri and Qasim Shah*

## **Abstract**

Pakistan's part of Hindu Kush Himalayan (HKH) region comprises more than 50 percent of the total area of the country and 21.32% of total population. As many as 31.13 million people live in HKH. The region faces shortage of staple foods due to low local production, high transport cost and restricted access to food in many areas during snow season. Food security of the people living in HKH is not only affected by limited patches of flat land and extreme weather, it is also affected by "Trade Related intellectual Property Rights (TRIPs) agreement" of The World Trade Organization (WTO). The TRIPs agreement covers patents in articles 27-34. It says all inventions including those based on the exploitation of biological resources are patentable. Hence the agreement stands for monopoly rights even upon the life forms, ownership of seed, plant and animal varieties. The national and household food security is also affected by the TRIPs agreement. Moreover, this agreement promotes "bio-piracy" in the resource rich HKH region as it does not require the patent holder to either disclose the source of origin, get prior informed consent from the genetic resource/knowledge holder, or ensure that there is an equitable benefit sharing. This policy brief focuses on the impacts of the TRIPs agreement on HKH region of Pakistan and demands that nothing in the TRIPs agreement should affect the sovereignty of governments to take measures to protect their health and food security.

In Pakistan, HKH spreads over parts of North Western Frontier Province (NWFP), Federally Administrated Tribal Areas (FATA), Northern Areas, Azad Jammu and Kashmir (AJK), and 12 districts of Balochistan. In Pakistan, total HKH area comprises 489988 sq km (more than 50% of the total area of Pakistan) and 31.13 million people (21.32% of the total population)<sup>125</sup>. The Hindu Kush rises South West of Pamirs. It is considered to extend from Wakhjir pass at the junction of the Pamirs and Karakoram to Khawak Pass, north of Kabul. Its first region extends from Wakhjir Pass separating Hunza from Wakhan and up to Dorah Pass (320 kms in length). Its second region lies beyond Dorah Pass in Afghanistan. The third region, which runs for 240 kms, lies in Pakistan and extends into Swat and Kohistan. On the East, it is separated from Karakoram by Indus River. Highest of Hindukush is Tirich Mir (7708). The Western Himalayas is situated between Kashmir valley in the East and Indus River in the North. It is dominated by Nanga Parbat massif with the highest peak, rising at 8125 metres.

## **Livelihood strategies of farmers living in HKH region of Pakistan**

Local communities, to a considerable extent, are subsistent on the agro-pastoral economy. The majority of the population comprises subsistence farmers that are meeting only the barest needs of food, fodder and fibre for their households. The average landholding per household rarely exceeds one hectare. Cropping pattern varies with altitude. Maize is widely cultivated followed by wheat, millet, barley, buckwheat and rice. Alfalfa is the main fodder crop, while the area under potato crop is increasing every year. The plantation of fruit trees and orchards is also a common practice. Livestock farming has

<sup>125</sup> ICIMOD, 1998.

traditionally been more important than crop farming, with the high pastures playing a central role in resource use pattern (Munir, 2002). Environmental conditions and ecological risks of resource utilization are intimately linked together in this high mountain region. Rapid population growth that increases pressure on natural resources, and causes the consequent danger of environmental degradation, raises questions about sustainable livelihood strategies of the farmers living in HKH region in relation to contemporary land-use and land cover change. The regional land-use system in northern Pakistan is based on irrigated crop cultivation in valley bottoms, combined with animal husbandry and forest utilization in the upper altitudinal belts (Nusser, 2000).

Communities in HKH area face a lot of trouble because of growing social and economic inequalities and imbalances. The level of access to resources and livelihood opportunities is different among various vulnerable and settled groups. The resources are not even-handedly distributed among communities. The people in HKH area have to face declining access to public distribution services, such as health, education, food, roads and power, due to certain state policies. These people are amongst the country's poorest (WFP, 1999). The HKH zone faces shortage of staple foods due to low local production, high transport cost and restricted access to food in many areas (such as Chitral) during snow season. Local people store grain for winter season. With little flat land and extreme weather, agriculture activity is limited. With few opportunities to make a living, and high prices for transporting grain from the plains, the people rely on local produce. (WFP, 1999)

## **The TRIPs Agreement**

The TRIPs agreement is the most contentious agreement ever agreed. It gives exclusive rights of any commodity with a novel character to the person who brings in the novelty. Section five of the TRIPs agreement obliges member states to provide patent protection for all inventions, both products and process. The TRIPs agreement covers patents in its articles 27-34. It says that all inventions are patentable, including those based on the exploitation of biological resources. Article 27.3(b) of the TRIPs agreement obliges the WTO member countries to provide some form of intellectual property protection (effective *sui generis* system) on plants, animals and biological processes and new varieties of plants. This provision stands for monopoly rights even upon the life forms. In this way, the TRIPs agreement affects ownership of seeds, plants and animals. It also impacts national and household food security. (Suleri, 2001)

Developing countries were supposed to comply with the TRIPs Agreement till December 1999, and the least developed countries till December 2005. The Article 27.3 (b) was due for revision in 1999. The debates among WTO member states on whether the review should focus only on implementation of the Article or on its substance resulted in a deadlock. Due to Seattle debacle, there was no ministerial consensus on it. Even Doha ministerial declaration is quiet on the review of the substance of Article 27.3(b) and its paragraph 19 merely instructs the Council for TRIPs to review implementation on the TRIPs agreement as well as to examine the relationship between the TRIPs Agreement and the Convention on Biological Diversity. It means that countries would have to have patents on life forms or some sort of "effective" *sui generis* system for the intellectual property protection of plants and animal varieties. Most of the developing countries have opted for the *sui generis* system in the form of Plant Breeders' Rights Act (PBR Act). Pakistan has also agreed to opt for a PBR Act for which a draft was ready for promulgation as an ordinance. However, due to the pressure from certain advocacy

groups and various stakeholders, the government refrained to promulgate it. Having said, it does not imply that the plans to enact this draft have been abandoned as the government seems committed (and is bound to do so under TRIPs Agreement) to save rights of plant breeders. This Act ignores the rights of farmers, tillers, and farm workers. The PBR Act would put the food security of small farmers at risk as it may stop the farmers in Pakistan to save, use, sow, exchange, share or sell their farm produce including seed of a variety. Secondly, it would serve the interests of multinational seed companies thus threatening the livelihoods of farm workers. This threat becomes more severe for the fragile and vulnerable areas such as HKH region where livelihood depends upon local produce and the people have to save the grain and seeds for future consumption.

## **How TRIPs agreement affects Food Security**

The TRIPs Agreement allows the owner of a patented product to prevent third party from making, using, offering for sale or importing that product without their prior consent. The owner of a patented process could prevent the use of the process as well as the commercialisation of a product manufactured by using that process. Thus, if a process to produce a plant variety is patented, the owner of the patent enjoys exclusive rights over the plants obtained by using the process. Farmers are not allowed to use any seeds coming from such a plant. Most importantly, in contrast with normal legal practice, the TRIPs Agreement shifts the burden of proof in a dispute over process of patents to the defendant who must show that an infringement has not occurred (Suleri, 2001). Even in developed countries, individual farmers are not able to safeguard their interest against the corporate greed of trans-national corporation (TNCs). The famous case of a Canadian farmer “Percy Schmeiser” is a good example, where he was accused of using Monsanto seeds illegally and in April 2001 Supreme Court of Canada ordered him to pay eighty thousand Canadian dollars to Monsanto for violating the patent laws, although the truth was that infringement was accidental, taken place through flight of pollens from Monsanto fields to the farmers’ fields (Hasnain, 2001). Keeping Percy’s case in mind one can imagine the plight of poor farmers in Pakistan once the PBR Act is promulgated and enforced as law.

Prior to the Uruguay Round, Intellectual Property Legislation was a matter of domestic policy. Now, the WTO virtually brings all the agreements together under one umbrella; and membership in the organization implies accession to all of them. Thus TRIPs agreement is much more powerful than the older agreements and is a cause of widespread concern.

Hindu Kush Himalayan region of Pakistan faces two kinds of disadvantages from patenting on the genetic resources for food and agriculture (GRFA). From ancient times, this area has been the source of genetic resources for many kinds of flora and fauna. However, due to lack of capacities and resources, indigenous people of these areas are not in a position to fully catalogue the natural resources of biomaterials they currently possess. Second, there is a growing concentration of TNCs in biotech industries, notably in the seed sector and the corporations are exerting monopoly. Dependence on TNCs for such a critical input like seeds are feared to bring-in a chain of developments, which undermine the very survival of small farmers’ economy. Moreover, seeds of “improved varieties” are always not compatible with the local needs. It is assumed that patents and other form of intellectual property protection on the GRFA decrease the farmer’s access to seed, reduce efforts in publicly funded plant breeding, increase the loss of genetic resources, prevent seed sharing and could put farmers out of business. It gives rise to restrictions on the free exchange of information, and increased privatisation

of research will lead to further internalisation (secrecy) of research results. As a consequence, the current problem of global food supply may be further aggravated and are likely to influence the fragile communities such as those living in HKH region (Rastogi, 1998). Thus in the context of vulnerability and fragility of the people living in HKH region, could we think of food security when TRIPs would guide the world as to who could produce-what, when, and where- and who did not have the right to produce anything.

## **Conflicting International Agreements: TRIPs and the Convention on Biodiversity**

The Convention on Biological Diversity (CBD) agreed at the Rio Earth Summit in 1992, recognises the sovereign rights of the states over their biological and genetic resources. The convention requires parties to protect and promote the rights of communities, farmers and indigenous people vis-à-vis their customary use of biological resources and knowledge systems. However, in practice TRIPs Agreement does not reinforce the provisions of the CBD. It does not require the patent holder to either disclose the source of origin, get prior informed consent from the genetic resource/knowledge holder (thus encouraging bio-piracy), or ensure that there is an equitable benefit sharing. This leads to a large-scale bio piracy from the centres of floral biodiversity such as HKH region.

## **Recommendations**

### **SDPI proposes:**

- “There should be no patents on life” and nothing in the WTO agreements should affect the livelihood of farmers living in HKH region.
- A substantive review of Article 27.3(b) of the TRIPs agreement should be done to make it consistent with the CBD provisions on prior informed consent and benefit sharing with regards to access to genetic resources.
- The TRIPs Agreement itself should be reviewed outside any “Doha Round of Negotiations” to address the concerns of developing countries on WTO regime.
- Nothing in the TRIPs Agreement should affect the sovereignty of governments to take measures to protect health and food security in their respective countries.
- Articles 7 and 8 of the Agreement should be activated to ensure primacy of food security and nutritional concerns vis-à-vis security of private intellectual property rights.
- The provisions of TRIPs Agreement should not hinder achievements of various international targets agreed upon during a series of UN conferences in 1990 including the World Food Summit. These targets include poverty eradication, sustainable development, social justice, gender equality, human rights, conservation and sustainable use of biological resources and food security.
- The proposed Plant Breeders’ Rights Act should not jeopardise the farmers’ traditional practices of saving, breeding and selling seeds. Moreover, this act should ensure registration of farmers’ varieties.
- Technical assistance provided under WTO should also address the needs of mountain communities.

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## Pakistan's Trade Interests in the Seattle WTO Ministerial Negotiations

*Shahrukh Rafi Khan*

Many gung-ho free trade advocates believe that there is now overwhelming evidence that trade liberalization generates growth. This is in fact not the case. The studies that have established such results are methodologically flawed. The cross country models used to establish these result assume a high degree of similarity exists across countries which is clearly not the case. Using the same method and data, numerous studies have found the opposite holds true. Thus the results are very sensitive to country sample, time period and specificities of the model chosen i.e. the results are not robust.

More careful country studies did seem to show that high rates of protection generated inefficiency and hence adversely affected growth. However, the real issue is an “internal competition policy” and not protection. If countries have a competition policy (deregulation and monopoly control), they do not need trade liberalization to achieve competition i.e. trade liberalization is not the first best policy for attaining internal competition. Countries like Korea retained protection but ensured internal competition. Thus when confronted with the virtues of liberalization, LDCs should not be on the defensive.

From a negotiating perspective, external competition is of critical importance for less developed countries (LDC's) including Pakistan. This means that oligopolistic (in selling) and monopsonistic (in buying) practices of large MNCs need to be discussed seriously within the WTO. Anti-dumping measures, subsidies, quotas and other non-tariff barriers that act as a restraint to trade of LDC exports need to be taken up. It is completely illogical for DCs to even consider anti-dumping in the case of Pakistani yarn. How can any producer/trader in his or her right mind, that is confronted by a quota, engage in dumping.

Developed countries will want to focus on “market-access” for their MNCs with regards to their markets. LDCs must argue that since they do not have MNCs that can be granted reciprocal benefits, this is a very one-sided view of competition policy. Measures agreed to must potentially benefit all members equally.

Pakistan should make it quite clear that currently agricultural export is highly monopsonistic and dominated by MNCs of DCs. Thus no “free-trade” as such exists for many commodities and the WTO should take serious note of this. Pakistan should also argue for self-sufficiency in basic foods to preserve food security.

Of late, many new issues have been springing up on the trade agenda. These include social standards, labor and the environment. The reason for including this in the trade agenda is that the WTO has teeth since trade sanctions can be applied. This is not the case for other international organizations like the ILO. However, the LDCs resisted “labor standards” to be part of the WTO agenda at the Singapore ministerial. The fact that they could do this is another interesting aspect of the WTO in which decisions are made by consensus.

Much has already been conceded on the environment. There are many good reasons for LDCs to clean up their environment. Most important, environmental degradation leads to poverty via damaging health,

productivity, loss in working days and degradation of the resource base. However, further concessions should only come with major and meaningful liberalization on textiles and clothing. However if it can be done, “win-win-win” is possible because:

- a. Better environment means less poverty and a better quality of life in Pakistan.
- b. Access to environment “niche” markets with ISO 14000 or other certification.
- c. Real gains conceded by DCs.

Pakistan has much to gain here and should not go cheap.

## **Technical Assistance**

LDCs must insist on technical assistance to assess the economic impact of the UR before it agrees to any negotiation on a new round. Thus TA should also be designed to assist Pakistan in identifying its interests with regards to new rounds.

Pakistan should take full advantage of currently available TA within the WTO as some LDCs have already done.

## **SPS/TBT**

Pakistan should argue for the following:

- a. A system of proxy votes: Since they can not be represented at standard setting meetings where “decisions-by-vote” are taken, they need to be able to give their vote to countries that will act in Pakistan’s interest.
- b. Registration/certification bodies: Certification for standards like the ISO 14000 can cost over \$ 200,000 and such certification needs to be renewed. LDCs should get TA to develop its own internationally recognized registration bodies. Thus government sector registrars can then allow the registered private sector firm to do the certification.
- c. Pakistan should make a plea for technical assistance, credit and joint ventures to promote clean industrial technologies in line with the RIO Agenda.

## **Implementing Mechanism**

Structural Adjustment Policies are currently the WTO implementing mechanism. Thus Pakistan has been again asked to reduce its tariff rate even though it is facing serious de-industrialization. The numbers of “sick-firms” has been on the rise. Similarly, Pakistan under SAP has been asked to reduce “perceived”<sup>126</sup> utility subsidies (electricity, gas). However, there is no counterpart implementing mechanism to ensure DCs reduce their subsidies and abide by ATC. This anomaly needs to be rectified.

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<sup>126</sup> Perceived because its not clear that determining whether or not there are subsidies is based on Pakistani unit costs.

## **Research Program for Specifics**

The Government of Pakistan should immediately galvanize manufacturers and agriculturists to identify the constraints they have faced breaking into export markets. The FCCIP has already been activated. Systematic feedback needs to be given to the Ministry of Commerce by both groups.

**(PB # 5, 1999)**

# Pakistan's Trade Interests Regarding WTO Negotiations

*Adil Najam*

## Trade Liberalization and Growth

LDCs are being given the impression that there is overwhelming evidence that trade liberalization generates growth. This is in fact not the case.

- a. The studies that have established such results are methodologically flawed. The cross country models used to establish these result assume a high degree of similarity exists across countries which is clearly not the case. Thus the results are not robust.
- b. Using the same method and data, numerous studies have found the opposite holds true. Thus the results are very sensitive to country sample, time period and specificities of the model chosen i.e. the results are not robust.
- c. More careful country studies did seem to show that high rates of protection generated inefficiency and hence adversely affected growth. However, the real issue is an “internal competition policy” and not protection. If countries have a competition policy (deregulation and monopoly control), they do not need trade liberalization to achieve competition i.e. trade liberalization is not the first best policy. Countries like Korea retained protection but ensured internal competition.

Thus when confronted with the virtues of liberalization, LDCs should not be on the defensive.

## “Competition Policy”

For LDCs this must mean the following:

- a. Oligopolistic (in selling) and monopsonistic (in buying) practices of large MNCs.
- b. Anti-dumping, subsidies, quotas and other non-tariff barriers that act as a restraint to trade of LDC exports

DCs will want to focus on “market-access” for their MNCs with regards to their markets. LLDCs must argue that since they do not have MNCs that can be granted reciprocal benefits, this is a very one-sided view of competition policy. Measures agreed to must potentially benefit all members equally.

## Agriculture

Pakistan should make it quite clear that currently agricultural export is highly monopsonistic and dominated by MNCs of DCs. Thus no “free-trade” as such exists for many commodities and the WTO should take serious note of this (see competition policy).

Pakistan should also argue for self-sufficiency in basic foods to preserve food security.

## Trade and Environment

There are many good reasons for LDCs to clean up their environment. Most important, environmental degradation leads to poverty via damaging health productivity loss in working days and degradation of the resource base.

However, just as LDCs resisted “labour standards” to be part of the WTO agenda, they should resist allowing the environment to be part of the WTO agenda. Thus LDCs must be prepared to shoot down the recommendations of the Committee of Trade and Environment.

## **Strategic Action**

There are “win-win-win” possibilities that Pakistan should exploit. Along with other LDCs, concessions on the environment should only come with major and meaningful liberalization on textiles and clothing. The problem here would be that doing this and maintaining solidarity with LDCs. However if it can be done, “win-win-win” is possible because:

- a. Better environment means less poverty and a better quality of life in Pakistan.
- b. Access to environment “niche” markets with ISO 14000 or other certification.
- c. Real gains conceded by DCs.

Pakistan has much to gain here and should not go cheap.

## **Dumping (ATC)**

It is completely illogical for DCs to even consider anti-dumping in the case of Pakistani yarn. How can anyone in his or her right mind, that is confronted by a quota, engage in dumping.

## **Technical Assistance**

LDCs must insist on technical assistance to assess the economic impact of the UR before it agrees to any negotiation on a new round. Thus TA should also be designed to assist Pakistan in identifying its interests with regards to new rounds.

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## **Implementing Mechanism**

Structural Adjustment Policies are currently the WTO implementing mechanism. Thus Pakistan has been again asked to reduce its tariff rate even though it is facing serious de-industrialization. The numbers of “sick-firms” has been on the rise. Similarly, Pakistan under SAP has been asked to reduce

“perceived” utility subsidies (electricity, gas)<sup>127</sup>. However, there is no counterpart implementing mechanism to ensure DCs reduce their subsidies and abide by ATC. This anomaly needs to be rectified.

## **Research Program for Specifics**

The Government of Pakistan should immediately galvanize manufacturers and agriculturists to identify the constraints they have faced breaking into export markets. The FCCIP has already been activated. Systematic feedback needs to be given to the Ministry of Commerce by both groups.

**(PB # 6, 1999)**

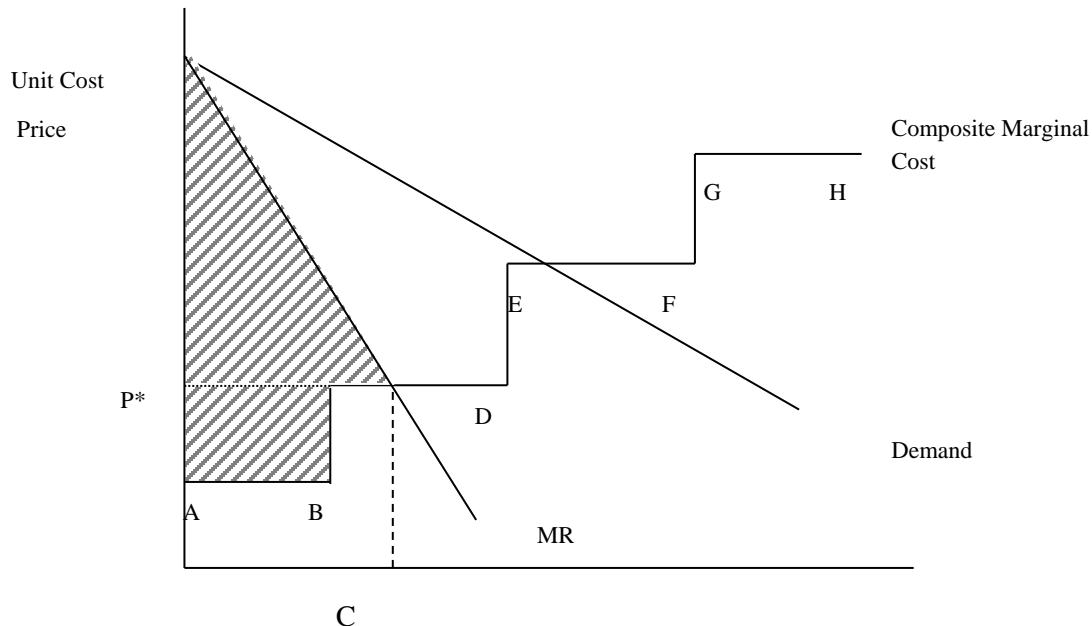
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<sup>127</sup> Perceived because its not clear that determining whether or not there are subsidies is based on Pakistani unit costs.

## NEPRA Tariff Setting Strategy

*Shahrukh Rafi Khan*

Based on the information provided by WAPDA, it is difficult to assess if WAPDA'S requirement for a higher utility charge is justifiable. Utility rates need to be based on marginal unit costs and not on debt obligations. The relevant marginal unit cost would depend on demand and WAPDA's marginal cost structure based on electricity generated via various sources (see below)



WAPDA's marginal cost is a composite of the different methods via which it generates electricity including hydel, hydro and nuclear. I have termed these AB to GH and, for simplification, shown the marginal cost curve as an increasing step-function. (In fact, marginal cost for some modes of generation are likely to be falling). Based on some demand curve, one can estimate what the optimal price should be. As shown above, this is  $P^*$ , based on power generation CD. This would suggest that WAPDA should only be using two generation modes (see AB and CD). In any case, with price set at  $P^*$ , (i.e marginal cost pricing), the shaded areas above the MC curve and below the MR curve represents the consumer surplus WAPDA gets.

It is actually likely that WAPDA is losing a lot of the surplus via line losses. In its petition to NEPRA, WAPDA has made a commitment (5 a) to reduce energy losses to 20%. Thus WAPDA has acknowledged that they are energy losses and they are above 20%.

My recommendations are as follows:

- a. Ask WAPDA to provide a cost schedule (based on the actual cost structure) and a demand schedule (based on past experience). Only than will it be possible to see if the current tariff is below marginal cost.
- b. WAPDA'S claim for a tariff increase to meet debt obligations should be rejected out right. Efficient pricing has nothing to do with accumulated debt.

- c. WAPDA should be asked to provide more information on how it has calculated line losses. I would argue that losses of above 10% should not be considered acceptable by NEPRA. Also, WAPDA can not make requests for tariff increases to compensate it for its loss in consumer surplus.
- d. If the cost structure and demand curve does suggest a rate revision, NEPRA should only concede this based on strict service conditionalities such as assurance of no load shedding for a specified period, no brown outs and no power fluctuations.

**(PB # 4, 1999)**

# SECTION C: GOVERNANCE



## SECTION C: GOVERNANCE

### Introduction

Land reforms are critical for the success of devolution reforms as evidence of land concentration indicates greater power of the landed elite who are known to influence judicial and election processes in their own favor at the local level by exerting pressure over the local police, bureaucracy including teachers, and magistrates.

Policy brief entitled, "The Case for Land and Agrarian Reforms in Pakistan," argues for the urgency of land and agrarian reforms in Pakistan. Although it was authored in 2001, it remains relevant as the government continues to grapple with long standing demands for greater provincial autonomy and devolution to the grassroots through the 18th Constitutional Amendment and the Local Government Acts passed by the four provincial assemblies in 2012.

The important points highlighted in the policy brief pertain to the economic logic of promoting small and medium sized landholdings for greater and diverse productivity, the logic of justice in the system of redistribution of wealth, and a moral and legal argument enshrined in Islam. It points out that the latter emphasizes the judicious use of natural resources, including land to ensure subsistence for all. It argues that Islamic tradition suggests a three-year period in which land in possession has to be utilized or else dispossessed.

"Land Rights for Pakistani (Muslim) Women: Law and Policy," highlights the lack of recognition associated with the importance of women's land ownership. While it is widely recognized in law and development policy that women are equal, and that women's empowerment is key for progress, the interpretation of religious texts with regard to inheritance laws gives women unequal rights. The brief further highlights that custom and tradition often manage to divest women of these rights as well through arrangements such "Tanazul" (relinquishment) as well as gifting land. It also argues that the compensatory property principle (that women receive dowry, and do not have financial obligations and therefore have a smaller share in property rights compared to men) is generally inapplicable. It examines the Muslim Family Laws Ordinance 1961 with regard to the differential inheritance rights and government policy stances as articulated through the PRSP, the MDGs and the National Policy for Development and Empowerment of Women (2002-2009) and concludes that there is inadequate focus on women's ownership and access to land despite the critical acknowledged link between land and poverty.

The brief recommends the application of a civil code that would take inheritance out of the purview of Muslim Personal Law and would allow the state to enact gender neutral laws granting women equal inheritance rights. Even if Muslim civil codes are to be retained, the brief recommends following other Muslim states that allow for joint ownership of property acquired during marriage. It also states that women should have the right to acquire immovable property as dowry and in a divorce (including khula) situation she should be entitled to maintenance as well as equal division of immovable property. It concludes by stating that the invisibility of this issue from official government policies and plans is a key contributing factor to women's subordinate status and that concrete action is needed in terms of policy to reinforce the many instances when Pakistani courts take a supportive view. This would help achieve long term impact.

*(Introduction to First Edition, 2012)*

## Tax Reforms in Punjab

*Vaqar Ahmed and Ather Naqvi*

### 1. Background

Provinces are gearing up for an active resource mobilization after the additional powers allowed to them under the 18th Constitutional Amendment. The Punjab has three revenue authorities namely: Punjab Revenue Authority (PRA), the Board of Revenue (BoR), and the Excise and Taxation Department (E&TD). The provincial government has suggested in the medium term the merger of all revenue collecting bodies.

Currently, E&TD is responsible for collecting Urban Taxes, e.g. Property Tax and Motor Vehicle Tax. The BoR operates in rural areas and collect land revenue, agricultural income tax, and stamp-duties. Following the 18th Amendment, the Punjab has created its own authority to collect General Sales Tax on Services (GSTS). The PRA started with the collection and enforcement of sales tax on services. Currently, this body is collecting sales tax on 14 services<sup>128</sup>.

In 2015, International Finance Corporation (IFC) launched tax reforms project in the Punjab to reduce the compliance cost burden for the private sector and increase the GSTS net in the province. IFC will conduct mapping of the GSTS system in Lahore to identify serious cost constraints and bottlenecks, which private sector faces while complying with the regulations. That will also include a legal and policy review, capacity and training needs assessment, and organizational structure review. It was expected that the project would also develop a taxpayer charter of rights and code of conduct.

The Punjab government has also decided to establish a dedicated Tax Reform Unit (TRU) within the finance department for tax policy analysis. To conduct research in the field of collections and highlight weaknesses in the system and suggest reforms to increase revenue of the province.

This policy brief makes an effort to highlight: a) key challenges faced by the province in generating revenues, b) inefficiencies in the provincial tax administration and policy, and c) difficulties faced by the private sector and individuals in complying with the provincial tax rules. We also provide policy recommendations based on our interaction with law makers, private sector, government officials, civil society organizations, and academia.

### 2. Revenue Collection: Situation Analysis

The provincial government missed its tax collection target of Rs164.5 billion for the year, 2014-15, with a 39 per cent shortfall. This shortfall has been attributed to weak forecasting capacity, obsolete methods of taxing incomes from agriculture and property, and a collection mechanism that suffers from rent-seeking (Ahmed 2015, Ahmed 2015b).

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<sup>128</sup> In the Budget 2012-13, the Punjab government had made a new legislation for sales tax on services titled the Punjab Sales Tax on Services Act, 2012. The Punjab Sales Tax Ordinance, 2000 was repealed. Services on which tax is collected, include: Hotels, Clubs, Caterers, Advertisements on T.V & Radio Including Cable T.V, Customs Agents, Ship Chandlers, Stevedores, Telecommunication, Insurance and Re-Insurance, Banking Companies, Non-Banking Financial Institutions, Stock Brokers, Shipping Agents and Courier Services.

The White Paper on Budget 2015-16 makes the confession that “currently, the Punjab government has an incomplete picture of its tax system... while the main hindrance is a lack of capacity, there is also a lack of reliable data — economic and sectoral data as well as taxpayer data, which is used as the basis for assessing different taxes that need to be updated.” The provincial income accounts are also not available in regular frequency at the Pakistan Bureau of Statistics or the Punjab Bureau of Statistics.

**Box 1:** Punjab Provincial Tax Revenue Collection

| Taxes                             | PKR Million<br>2014-15* |
|-----------------------------------|-------------------------|
| Agriculture Income Tax            | 1,000                   |
| Property Tax                      | 8,742                   |
| Land Revenue                      | 12,290                  |
| Tax-Profession, Trades & Callings | 720                     |
| CVT on Immoveable Property        | 4,649                   |
| CVT on Moveable Property          | 240                     |
| Other Direct Taxes                | 11                      |
| Provincial GST                    | 46,369                  |
| Provincial Excise                 | 1,783                   |
| Stamps Duty                       | 21,073                  |
| Motor Vehicles                    | 10,284                  |
| Others Indirect Taxes             | 7,089                   |

Source: Annual Budget Statement, Government of Punjab, \*Revised Estimates.

Recent literature has also pinpointed potential issues with existing tax bases available with the provincial government. For example, the Punjab Urban Immovable Property Tax (UIPT) - a local government tax but collected by the provincial government, and then shared with local administration, brings low levels of revenue (Box-1). Key reasons include old valuation tables, lack of incentive for tax officials to improve their performance, exemptions and preferences allowed in the tax schedule particularly for owner occupied properties (Nabi & Sheikh 2013).

Similarly under the Punjab Agriculture Income Tax Act 1997, the taxpayer is supposed to pay the larger of, a) charge on cultivated land, or b) tax on agriculture income. Such a system is leading to tax evasion as it is not compulsory for the farmers to file a return. They can get away by only paying the acreage tax (PILDAT 2011).

### **3. Desired Reforms**

As part of this research exercise, SDPI team interviewed government officials, business community, law makers, civil society and academia in order to prioritize the key reforms that can fetch greater revenues with an additional objective of ensuring basic equity principles.

#### **3.1. Boosting collections from services sector:**

The legal status of PRA needs to be approved and strengthened by the provincial parliament and appropriate cover given to its activities. The issue to double taxation, where Federal Board of Revenue (FBR) is found to be charging excise on services-activities already paying GST to the province, may be resolved. There are assessment problems which can be resolved through a one-time census of services units in the province.

The Finance Act 2013-14 had introduced withholding tax (WHT) on builders, retailers, and educational institutions. In addition, rates of WHT and advance tax have been enhanced in case of professional services. Some of these income activities also fall under the preview of provincial GSTS and such steps are likely to increase cost of doing business, reduce consumer surplus and also increase the cost of compliance for taxpayers. There is a need to conduct a detailed study on the incidence of provincial taxes.

#### **3.2. Revisiting tax on agriculture incomes:**

The current system of taxing through agricultural activity and land-based taxes is not efficient. The land revenue rates are between PKR 100-300 per acre and need to be updated on scientific lines. The land tax should be formulated in a manner that reflects potential income from land. It was estimated, at 2010 prices, that potential tax revenue from agriculture could range between PKR 55-75 billion annually (Nasim 2014). The penalties for non-compliance are not effective. Appropriate legislative changes may be required to strengthen and increase the capacity of collection department. A revenue-neutral reform can be introduced where incomes from agriculture are taxed in tandem with a tax-cut or otherwise reduction in the prices of inputs.

#### **3.3. Realizing the potential of UIPT:**

Regular survey of urban properties is required to ensure that rates under UIPT correctly represent changes in property and rental values. The exemptions and preferences allowed to various types of owners and users of property need to be revisited. The rating areas need to be notified and revised regularly so that coverage of tax net can be expanded. The key reasons of corruption and tax evasion are higher tax rates, differential between owner and lessee-occupied rates, and differential between rates for same type and size of properties in various cities across the country. Such anomalies may be corrected through appropriate legislative and policy changes.

#### **3.4. Need to strengthen progressivity of taxes:**

After the 18th Constitutional Amendment, progressive taxes, e.g. wealth tax, capital gain tax on immovable property, estate duty and gift tax are within the powers of provinces. The Punjab Assembly may introduce these progressive taxes through appropriate legislation. Such taxes can augment the growth in provincial spending needed for health, education, low-cost housing and

public transport. The FBR may also be asked to remove any federal exemptions or concessions allowed to provincial taxpayers.

### **3.5. Strengthen Grievance Redressal Mechanism (GRM):**

A key issue faced by the business community in the Punjab is lack of appropriate and effective GRM. The private sector wants that their ideas on increasing the efficiency of taxes should be heard. A key recommendation from them is the desired reduction in the frequency of tax payments. However, there are four different departments for which this recommendation applies<sup>129</sup>. None of them has a documented and publically communicated GRM, which can guide the business community.

## **4. Way Forward**

In the coming days, provincial revenue authorities are likely to establish a baseline of tax bases for each of the taxes. They should be able to introduce IT-based business processes for tax compliance to reduce human contact between taxpayers and payee. The GIS-based validation of land holdings, commercial wholesale and retail activity may be pursued. A serious effort may be made to improve the taxpayers' information regarding provincial taxes, ideally through one-window operation. The low yielding taxes such as cotton fee, entertainment tax and tax on property transfers may be abolished.

The above-mentioned will require a reform of the tax collection administration. The merger of E&TD, BoR and PRA may be expedited to ensure low administrative costs and better rapport with the taxpayers. The provincial tax ombudsman may be appointed and strengthened with judicial powers. Finally in order to ensure some level of social accountability a tax directory of agricultural income tax and urban immoveable property tax payments should be annually published and disseminated as part of the provincial budget.

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<sup>129</sup> Three revenue collection bodies and Punjab Employees Social Security Institution

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**(PB # 53, 2016)**

## Tax Reforms in Sindh

*Sohaib Jamali and Vaqar Ahmed*

### 1. Background

The province of Sindh boasts a host of potential economic and geographic advantages. However, its recent growth and social development trends indicate that Sindh is not realizing its full potential. A key constraint is the low levels of resource mobilization. The province's own revenue collection remains relatively static vis-a-vis provincial GDP, despite some success after it started collecting GST on services post-devolution.

The institutional mechanism of provincial tax collection before devolution was a carry-over from the British days. However, the formation of Sindh Revenue Board (SRB) to collect GST on services after devolution, and the recent wave of IT-based automation of tax related processes in other tax departments offer optimism, provided the challenges discussed in this paper are resolved systematically.

The provincial government has 15 taxes and other minor levies within its mandate, which are collected by three agencies: SRB, which is responsible for GST on services; Board of Revenue (BoR), which is responsible for collection of registration fee, stamp duty, capital value tax, agricultural income tax, and land revenue; and Excise, Taxation and Narcotics (ET&N) department, which is responsible for property tax, professional tax, infrastructure development cess, motor vehicle tax, excise duty, cotton fee, and entertainment duty.

This policy brief highlights a) key challenges faced by the province in generating revenues, b) inefficiencies in the provincial tax structure, and c) difficulties faced by the private sector and individuals in complying with the provincial tax rules. We also provide policy recommendations based on our interaction with law makers, private sector, government officials, civil society organizations and academia.

### 2. Revenue Collection: Situation Analysis

There are more than five million taxpayers in the above-mentioned taxation categories. Almost 99 per cent of Sindh's own revenues came from 9 of the 15 taxes in 2014, which include tax on services (49 per cent), infrastructure cess (27 per cent), transfer of property taxes (12 per cent) – including stamp duty, registration fee and capital value tax, – and property tax (less than 2 per cent).

**Box 1:** Sindh Provincial Tax Revenue Collection

| Taxes  | PKR Million |
|--|-------------|
| <b>Agriculture Income Tax</b>                | 600         |
| <b>Property Tax</b>                          | 4,500       |
| <b>Land Revenue</b>                          | 600         |
| <b>Tax-Profession, Trades &amp; Callings</b> | 350         |
| <b>CVT on Immoveable Property</b>            | 2,500       |
| <b>Provincial GST</b>                        | 49,000      |
| <b>Provincial Excise</b>                     | 3,900       |
| <b>Stamps Duty</b>                           | 7,000       |
| <b>Motor Vehicles</b>                        | 4,800       |
| <b>Others Indirect Taxes</b>                 | 36,690      |

*Source: Annual Budget Statement, Government of Sindh, \*Revised Estimates.*

When the SRB began its operations, its revenues mainly came from three sectors: telecom, banking and insurance. The reliance on these sectors has come down, and according to 2016 budget documents these sectors are expected to contribute 43 per cent of the total. This diversification was seen after GST's reach was extended to contracts, construction, port and terminal services, franchisees and stock brokers.

BOR's contribution to Sindh's total provincial tax collection is low. Its contribution to total own resources of Sindh is budgeted at about 14 per cent. The bulk of BOR's revenue comes from stamp duty. The collection of direct taxes, specifically tax on agricultural income, remains poor at about 3 percent of BOR's total collection and less than half percent of Sindh's total provincial revenues (Box-1). About 30 percent of Sindh's own revenues come from ET&N. The infrastructure cess accounts for about 70 percent of ET&N's total collection. ET&N's direct taxes – specifically, property tax and tax on profession – remain dismal at less than 10 percent of total revenue collected by ET&N.

The key issues that are preventing Sindh from achieving higher revenues include: lack of coordination between various tax collection bodies; disbursed record of provincial tax payers' liable incomes, difficulties in automation of data, lack of documented tax bases, large informal sector in services, older laws only allowing limited jurisdiction to tax authorities<sup>130</sup>.

There are also coordination issues with the federal government and other provincial governments. For example, Federal Board of Revenue (FBR) continues to charge excise duty on several services

<sup>130</sup> For details, see 'Sindh Tax Revenue Mobilization Plan (STRMP)'. Also see, Vaqar, A (2015b) Time for provincial tax reforms, The News on Sunday, April 5, 2015.

now falling under the provincial GST on services. An absence of inter-provincial coordination mechanism for tax authorities has been creating problems for businesses. For instance, in the case of port-related services, Sindh asserts that tax should be on the basis of where it was rendered, regardless of whether the recipient of service is in Sindh or not. In contrast, the Punjab maintains that GST on services is a consumption tax, and regardless of where the service is rendered, the tax should be paid to the province where the services are being consumed. Likewise, there are similar issues in other sectors, especially telecommunication, advertisement, and insurance.

Some definitional issues also require clarity through appropriate legislative changes. For instance, the SRB had recently imposed GST on services on ‘rent on immovable property (commercial)’. The same has been challenged in the court where the question as to whether rent is a service or not is being discussed. Risks of unnecessary litigation also stem from overlapping and omnibus clauses defining the services. For instance, the ambiguously wide scope of taxation under the tariff headings ‘maintenance services’, ‘business support services’, ‘contract execution of work’, ‘management consultant’, etc. creates immense confusions, thereby opening doors of litigation, corruption and evasion.

### **3. Desired Reforms**

- 3.1. Ending fragmentation in tax collection: Following the Punjab precedence, Sindh government may also think about a gradual merger of the three tax collection agencies. This will allow integration of data and information regarding various tax bases. As currently these three bodies are interacting with FBR and Pakistan Revenue Automation Limited (PRAL) Company independently, this in turn leads to the duplication of work and burden at federal level.
- 3.2. Better forecasting and audit capacity: A professional work force is required which is abreast with the current methods of revenue forecasting and audit. Due to the ban on fresh recruitment, it has not been possible to upgrade the human resource at these departments. For this, institutional linkages with academia may be forged and their capacity may be used until formal recruitments are allowed.
- 3.3. Estimation of services sector tax base: It is important to carry out a census of services sector establishments in Sindh. This applies more to this province due to the large informal sector in services. Cross-validation of incomes and turnover of services sector establishments will only be possible if SRB’s database is integrated with PRAL and National Database and Registration Authority, data warehouses.
- 3.4. Expediting the automation of land records: Manual land record is prone to misuse and rent-seeking. This has implications for agriculture income tax, land tax and stamp duties. The provincial government will need to allocate more resources for speedy completion of Land Administration and Revenue Management Information System (LARMIS). This should be followed by automation of stamp collection and property registration.
- 3.5. Updating Land Valuation Tables: The valuation of property transactions is based on tables notified by BOR. However, these have not been updated for the last 12 years and do not represent actual market values of properties. A system of indexed valuation tables should replace the current tables to prevent erosion of the tax base over time. The index may be linked to growth of

provincial incomes, output or a formula based on Sindh housing index calculated using housing information in consumer price index.

- 3.6. Review of Legislation to Broaden Jurisdiction of Revenue Bodies: Property taxes are calculated on the basis of annual rental value that should be brought at par with fair market value. Apart from the issue of obsolete valuation tables, entry of tax collection staff in several jurisdictions is not allowed by the law. For example, Karachi has more than six cantonment areas, most of which are posh localities with high rental values. Since the cantonment areas are outside the jurisdiction of ET&N, it is deprived of significant potential revenue. Such anomalies may be resolved.
- 3.7. Expanding Scope of Infrastructure Cess: This cess is collected for the purpose of developing and maintaining infrastructure, specifically road and bridges. However, the cess is currently only being collected on “goods entering into the province from outside the country through air or sea” (i.e. imports). Two potentially major revenue generating areas, namely petroleum and goods for Afghan transit trade, are outside the ambit of this cess. Considering that this cess is collected for the purpose of developing and maintaining infrastructure, these exemptions may be revisited.
- 3.8. Correcting Rates and Jurisdiction of Professional Tax: The upper limit fixed by parliament is dated and has not been revised in line with the growth in per capita income seen in the last 16 years. Moreover, there is a jurisdictional issue, whereby the cantonments in Sindh argue that it is they – and not the provincial government – who have the right to collect professional tax within the domain of cantonments. However, Sindh contests this view citing the decisions issued by the Ministry of Inter-provincial Coordination.

#### **4. Way Forward**

Central to the wave of provincial revenue reforms that has begun in Sindh is automation. There is an increased realization across the three revenue collecting authorities as well as in Sindh Finance Department (SFD) that the automation of processes and efficiently managed databases is the way forward. For this purpose, a Tax Reform Unit has already been established in SFD to generate data and information, design and implement specific initiatives or measures for raising tax revenue.

Currently, the balance of opinion on automation is tilted towards having three databases (one each by the three authorities), which have the ability to talk to each other. This seems to be a politically workable solution for now. But, integration towards one single database for the whole of province should be the eventual goal to reduce the cost of developing, maintaining and managing databases and gain efficiencies in tax recovery across different types of taxes.

The role and function of Council of Common Interests and the Ministry of Interprovincial Coordination need to be strengthened. An institutional mechanism also needs to be devised to ensure better and more frequent coordination on taxation affairs among provinces. A move towards having a national tax policy is also warranted to avoid duplication of taxes and overlapping jurisdictions, and to help bring efficiency and equity in the overall taxation structure across the country.

Disputes are an unavoidable feature in tax administration. However, settlement and arbitration processes need to be strengthened, and developed where need be. The provincial tax authorities

also need to become consultative by engaging with the business community and ensuring that the cost of doing business in the province does not become cumbersome.

Tax authorities also need to become more transparent where the publication of quarterly and annual reports and the periodic sharing of key taxation related data on their website are imperative. A tax directory of provincial taxpayers should be published annually as part of the budget.

**(PB # 54, 2016)**

# Pakistan's Government Data: Portals in the age of Open Data

*Junaid Zahid, Irfan Ahmad Chatha,, Sheheryar Haq and Waqas Imran*

## 1. Introduction

Education plays a significant role in producing skilled and educated manpower that leads the economy towards the path of sustainable economic development (Memon 2007). Like many other developing countries, the situation of education sector in Pakistan is not very encouraging – primarily due to ineffective and ill-planning and limited availability of consistent and reliable data in the sector.

This policy brief aims to conduct a comparative analysis of the National and Provincial Education Management Information Systems (EMIS) mainly through the lens of open data concepts – availability of data, quality of the data available, no copyright restrictions and no license fees for data is vital for monitoring and evaluation of government decisions in education and other social sectors (Maude 2012). It also ranks the five EMIS - one national and four provincial – upon the basis of their scores in the evaluation criteria for web portals.

## 2. Acknowledgment of Salience of Data in Pakistan

Notwithstanding the current situation of government managed education data portals, the Education Policy 2009 did acknowledge that “good planning also requires data and indicators of performance”. According to National Educational Policy 2009, along with collection and propagation of education statistics of public sector institutions, the scope/coverage of data collection would be extended to private educational institutions as well as non-formal schools all over Pakistan (Govt of Pakistan 2009). However, the basic ingredient for data collection pursuits, i.e. optimal, effective and sufficient budget allocation has had not been given the due concern and attention by the federal as well as provincial governments.

Access to more accurate and timely information may lead to better decision-making by all the stakeholders. Data extracted through the annual census of schools conducted by the provinces is at present available online. These data are generally known as EMIS (Education Management Information Systems).

## 3. Data Portals

In the context of education, data is a synonym for information. Data can be words, numbers, or observations that are collected systematically usually for a specific purpose (Literacy and Numeracy Secretariat 2008). Educational data include (but are not limited to):

- Student achievement data like teachers' evaluation of students' in class, and their large-scale assessment results
- Other student data like student mobility, attendance data, and homework.
- Contextual data which is not under the direct control of teacher (such as students' linguistic background, gender or community socio-economic factors) but are important to consider when planning for enhance students' learning outcomes.

The federal and provincial governments have education departments, which have sub-departments or separate agencies for collecting and collating data from all schools within their jurisdictions. Most of these departments have been collecting data for a number of years for compiling annual census of school reports. The census included only the government schools with a national census of private schools conducted only twice (in 2000 and 2005), therefore, the latest data on private schools is a dire need in the context of formulation of a new education policy.

The organizations and their relevant data pages (or portals) are as follows:

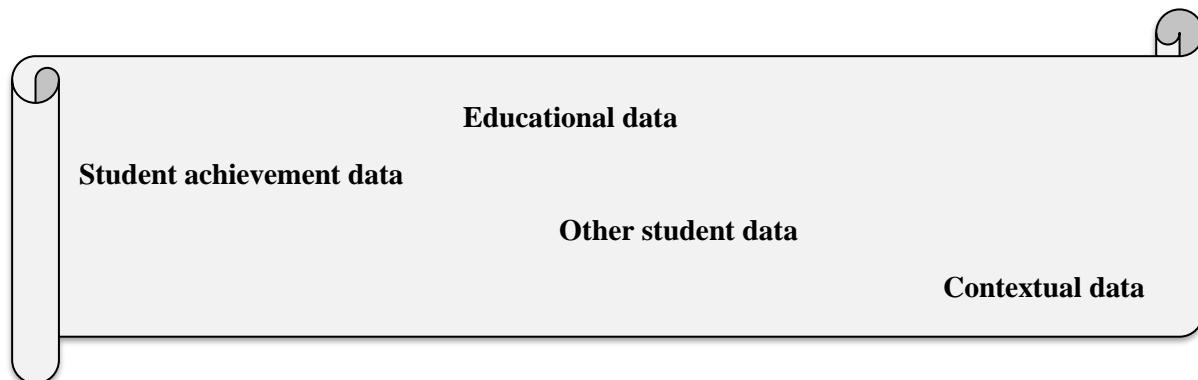
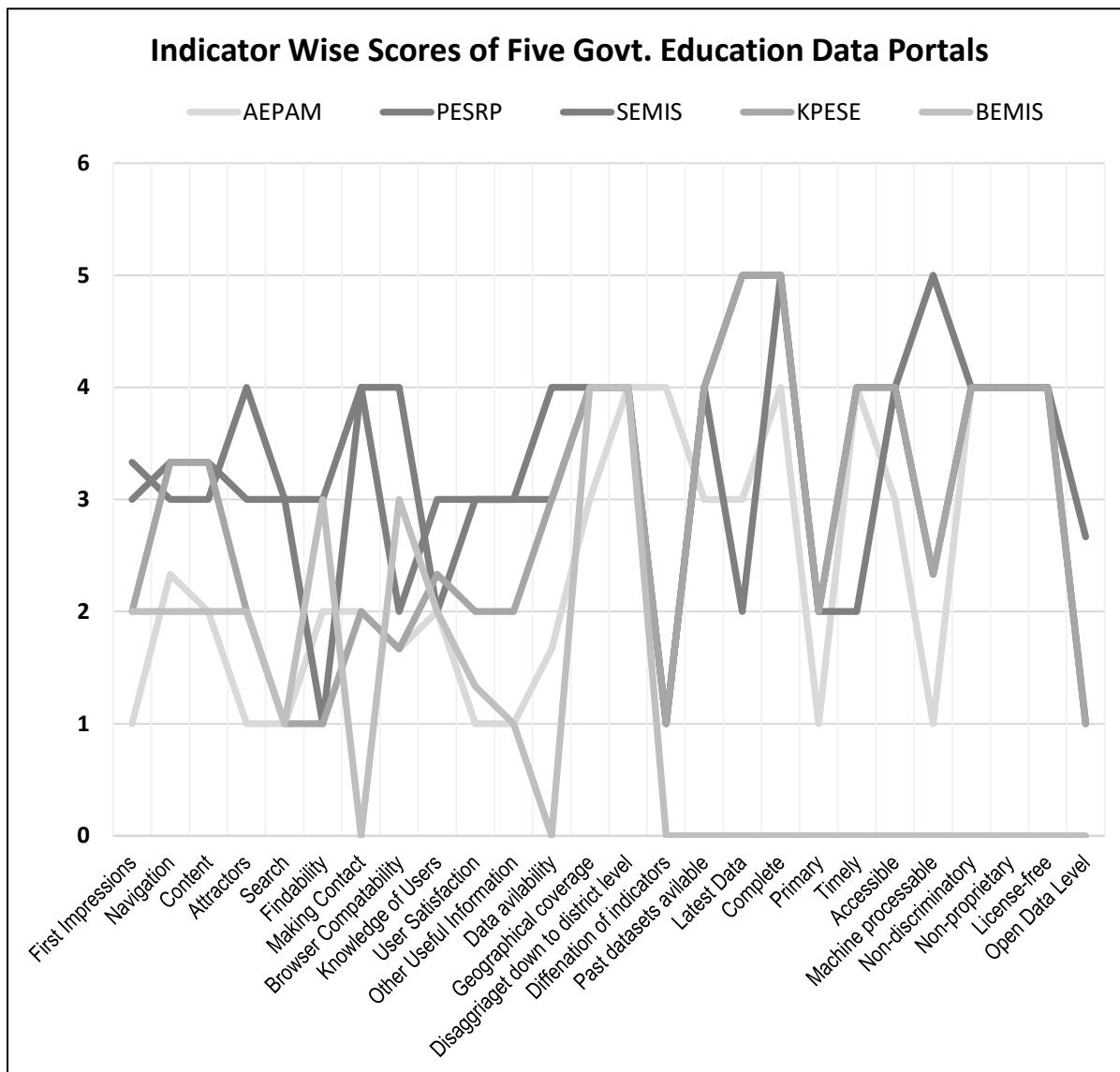
1. Academy for Education Planning and Management (AEPAM), Government of Pakistan
2. Balochistan Education Management Information System (BEMIS)
3. Khyber Pakhtunkhwa Elementary and Secondary Education (KPESE) department
4. Punjab Education Support Programme (PERSP)
5. Sindh Education Management Information System (SEMIS)

## **4. Analysis of Existing Data Portals**

### **4.1. Methodology**

In order to rate/rank the five aforementioned government run data portals, diverse range of parameters (Management Centre International Limited) – that are internationally recognized have been used. Those parameters have been classified into four broad clusters, i.e. website, data, open data (data freely available to use) and open data level. Website cluster includes first impression, content, search, knowledge of users licence conditions, browser compatibility (if it works on all type of browsers), user satisfaction; data includes geographical coverage, latest data, non-discrimination (neutrality in terms of a dichotomy), availability of past data sets; open data includes accessibility, complete, non-proprietary and last is the open data level.

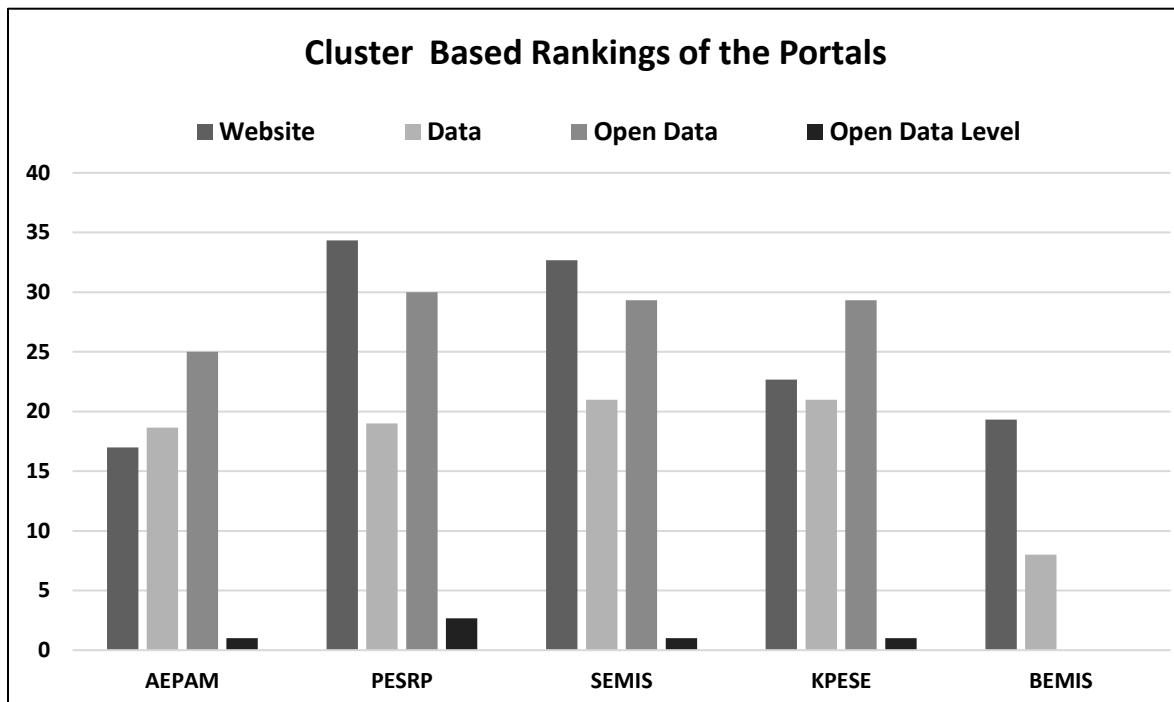
Scoring is based on the definitions (Open Government Data) of indicators. Indicators which are most nearer to the actual definition are scored relatively high and vice versa. Scoring of the five education data portals, according to the parameters/indicators, has been used in the following graph.

**Figure 1**

## 4.2. Results/Rankings

The data portals have been ranked according to their respective scores in the parameters of four clusters. Based on their scores, the rankings of five data portals in the four clusters can be seen in the figure below:

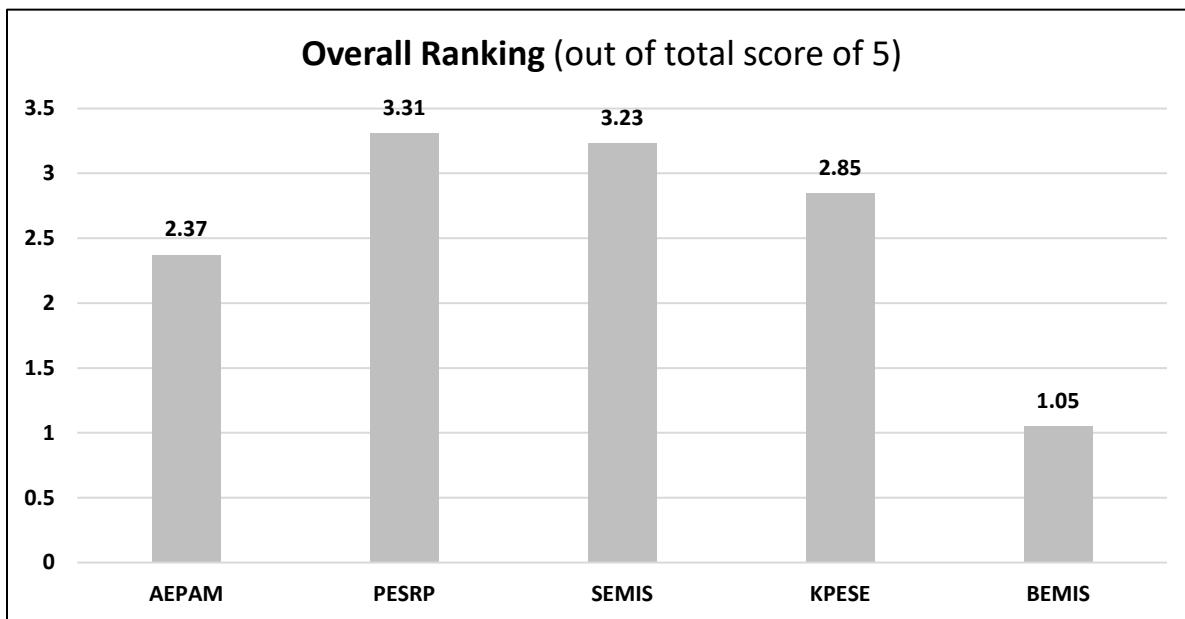
**Figure 2**



Balochistan's online data portal is the lowest performer, having almost zero score in open data and open data level. It also scored zero in case of indicators of data cluster except in case of geographical coverage and segregation of data. This anomaly owes to the fact that BEMIS has district profiles but the data availability in those files is just minimal. Even the Portal is not defined as there are two BEMIS data portals are currently live, creating a huge misunderstanding.

On the other hand, the Punjab and Sindh education department's data portals performed relatively better than the other three data portals – specifically on account of website cluster. PERSP performs slightly better than SEMIS in the website and open data level clusters and SEMIS performs slightly better than PERSP in the data cluster.

KPESE comes at the third rank after PERSP and SEMIS. AEPAM's portal performed low in website clusters. It is lacking in visual, graphic and designing aids that catch the attention of users and enhance the users' satisfaction. AEPAM comes at the fourth rank for it performs lesser than PERSP, SEMIS and KPESE on account of all the four clusters.

**Figure 3**

## 5. Policy Recommendations

Following recommendations can be made in purview of the preceding score based analysis and rankings:

1. All the data portals except PERSP performed the lowest with regard to open data level. The data is mostly available in haphazard form. Data should be available in structured and open/non-proprietary form.
2. Web addresses should be annexed to the data indicators (where needed) according to internationally accepted standards and recommendations so that the data users can access them by just clicking on them.
3. The data should be hyperlinked to other data sources to add corroborative and comparative features to the data.
4. The AEPAM's portal should be made more user-friendly with added features to utilize the data. Search Bar should be available.
5. Data for all the districts of Balochistan should be made available in the district profiles on BEMIS portal.
6. All the data should be freely available even the micro level data, e.g. union council and village level.
7. Proper definitions and descriptions should be given about all the Indicators available online on the portal.

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## Setting the Priorities: Metro Bus Vs Out-of-School Children

*Junaid Zahid and Irfan Ahmed Chatha*

### Introduction

The question as to what are the significant factors in shaping the road to development is of fundamental and primal importance in the present circumstances when the government is focusing more on infrastructure rather than literacy and skills transfer. On social media, there is a clear-cut division between people's perception about Rawalpindi/Islamabad Metro Bus Project versus Education. [1] [Error! Reference source not found.] In the case of China, infrastructure stock, labour force, public and private investment play an important role in economic growth.[9] Similarly development practitioners consider physical infrastructure a precondition for industrialization and economic development.[13] It is critical to deliver growth, reduce poverty, and achieve broader development goals.[10] Over the last few years, Africa has witnessed some modest improvements in infrastructure development, especially in telecommunication sector. But, it is ranked at the bottom among all the developing regions.[7] On the other hand, educated labour has a much higher marginal product. A positive as well as direct effect of human capital on growth has been estimated.[3] Countries that start with a higher level of educational attainment grow faster for a given level of initial per capita GDP.[11] Growth of human capital is the most contributing factor for achieving sustainability. [6] For individuals, societies as well as economies as a whole, investing in human capital is critical, even more so in the context of shifting population dynamics and limited resources.[8] As the proportion of service sector in Pakistan's economy is growing with every passing year, it is imperative to carry out more soft interventions like educating and training our human capital rather than making hard infrastructural interventions.

### Current Scenario

Metro is an about 50 billion rupees project. However, we could have used these funds on our education. According to official figures, our literacy rate is 58%, which shows the state of education in Pakistan is not much encouraging as compared to other regional countries. According to Alif Ailaan report [1], the total number of out-of-school children is 25 million and out of these students, 5,095,866 fall between the ages of 5-9 at primary level. It is astonishing that 498,224 out-of-school children belong to the twin cities of Rawalpindi and Islamabad, which are supposed to be the more educated urban centres.

## Statistical Possibilities

In a broader context, the statistics of constructing a school are as follows:

| <b>Primary school</b>                        | <b>Cost in US \$</b> | <b>Cost in PKR</b> |
|--|----------------------|--------------------|
| Construction                                 | 111600               | 11367018           |
| School Vans                                  | 8600                 | 875953             |
| Land development & Transfer charges          | 4700                 | 478719             |
| Furniture                                    | 7600                 | 774098             |
| Library Books                                | 700                  | 71299              |
| Equipment, utilities & initial supplies etc. | 2300                 | 234267             |
| <b>Total</b>                                 | <b>135500</b>        | <b>13801352.5</b>  |

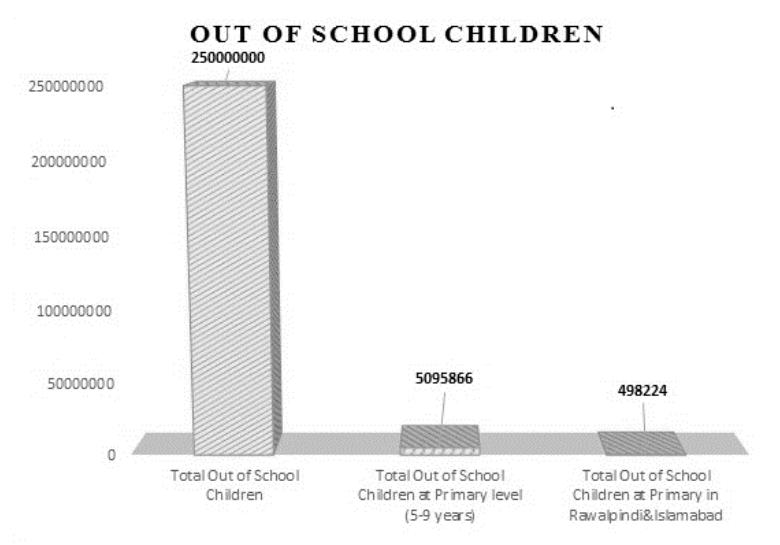
(The citizens Foundation 2014)

The cost of primary school infrastructure is 0.1 billion. Additionally, primary school has six schoolrooms, 240 schoolchildren and 9 tutors to demonstrate Urdu, English, Social Studies, Islamiat, General Science, and Mathematics. The staff is assumed to consist of:

| <b>Staff</b>    | <b>Grade</b> | <b>No. of members</b> | <b>Salary p.m. in</b> | <b>Cost in PKR</b> |
|-----------------|--------------|-----------------------|-----------------------|--------------------|
| Head Teacher    | 16           | 1                     | 10000                 | 10000              |
| Average Teacher | 9            | 9                     | 6200                  | 55800              |
| Clerk           | 5            | 1                     | 5400                  | 5400               |
| Gardner         | 2            | 1                     | 4900                  | 4900               |
| Peon            | 2            | 1                     | 4900                  | 4900               |
| Gate Keeper     | 1            | 2                     | 4800                  | 9600               |
| Sweeper         | 1            | 1                     | 4800                  | 4800               |
| Ayah            | 1            | 1                     | 4800                  | 4800               |
| <b>Total</b>    |              |                       |                       | <b>95300</b>       |

(SDPI, Action Aid & CPDI)

Consequently, Rs 0.139 is needed to enrol 240 out of school children

**Figure 4**

At present, adjust 0.05 million out of school children of Rawalpindi/ Islamabad at primary level.

$$498224/240 = 2076 \text{ (Schools required)}$$

Cost of single school is 13801352.5 PKR

So, an amount of PKR 288.5bn is required to build 2,076 schools. On the other hand, we have spent PKR 50 billion on Metro Bus Project whereas the cost of a single school is 0.139 bn.

$$50\text{bn}/0.139\text{bn} = 360$$

The cost shows that the government can build 360 schools. Moreover, if each school has 240 students then the number of students produced each year would be 86,400. Consequently, instead of using 50bn on Metro project, the government can give priority to 86,400 out of school children of 5-9 years and can send them to school and can invest on a long-term basis.

## Conclusion

An analysis of the whole scenario doesn't mean to criticize infrastructure projects but to rethink about the priorities. Currently, the government should focus on education, as the country needs to improve international indices. In the category of out-of-school children, Pakistan is ranked second after Nigeria. In Human Development Index (HDI), Pakistan is ranked at 113th. Finland was at risk of becoming the economic stepchild of Europe. South Korea was ravaged by civil war. Yet over the past half century, both South Korea and Finland have turned their schools around — and now both the countries are hailed internationally for their extremely high educational outcomes. Our social indicators show a downward trend over the past few years. Our leadership more focuses on short-term investments like roads, mass transits, flyovers specifically Metro projects, but is averse to put in money in education sector which don't generate instant outcome. It brings far-reaching benefits for the country. After a calculation, it seems that the government decision to build Metro is the rigid one as those 86,400 out of school children is a deal for future. South Korea is an ideal example according to the discussion. It is considered in G20 (Group of Twenty) countries because it invested heavily in

education in the 1960s and 1970s and is now reaping the dividends. Its GDP is several hundred times more than Pakistan. It's time for a new strategy. An effective education produces a population having skills and mindset, which are needed for economic progress and prosperity.

## **Recommendations**

1. The government needs to run a comparative analysis before setting their priorities.
2. Both Infrastructure and Education are important components of development so the government should not neglect any of them as a whole.
3. The government should set their priorities on the basis of data.
4. The government needs to improve global indexes.

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**(PB # 51, 2016)**

## Social Protection in Pakistan

*Vaqar Ahmed et al*

### 1. Background

Pakistan has a large number of poor and vulnerable people exposed to unexpected risks like natural disasters, ill health and unemployment. The social protection mechanisms in place for the poor include Zakat, Baitul Mal, citizen's damage compensation, labour market programmes, and Benazir Income Support Programme (BISP). For public and private employees, there exist social protection and assistance programmes at the federal and provincial levels. Most of these programmes are marred by operational inefficiencies, which adversely affect the desired results.

According to a report of Asian Development Bank titled 'Social Protection Index: Assessing Results for Asia and Pacific', Pakistan spends less than 3 per cent of its GDP for the protection of its poor population. With such a low spending, the country's score on Social Protection Index (SPI) is 0.047, which is lower than the South Asian average, i.e. 0.061.

Owing to the low spending, there is a lack of awareness about existence and availability of social protection programmes. Moreover, the procedural complexity make it difficult for the vulnerable groups, including women and workers employed in informal sector, to access unemployment, health, or education-related benefits because they are not 'poor enough' to qualify for social assistance. This 'missing middle' is at a higher risk of falling into poverty in case they suffer from an economic, health or environmental shock.

In Pakistan, since social insurance tends to dominate the overall social protection spending of the government, therefore the benefits of protection mechanisms are not well-distributed and most part of it goes to men and the non-poor. The poor associated with the informal sector may not fully benefit from these programmes. They are instead provided with programmes that are fragmented, inadequate, and not well-targeted.

Contrary to social insurance, allocation of funds is very limited for labour market programmes such as funds for work schemes and skills development. This partially causes rise in youth unemployment in the country. The economy and job market suffers from critical skills gap and a huge number of women workers remain unable to enter to the formal labour market.

### 2. Public Sector Interventions

Pakistan Muslim League Nawaz (PML-N) government, which has taken over after general elections in May 2013, expressed a strong resolve to reform the social protection mechanism in line with its manifesto. It has initiated a youth employment programme besides announcing technical and vocational training programmes for the youth. Loan schemes for small businesses are also being designed.

In its first five months in the office, the government has vowed to continue and further strengthen the previous government's social protection programmes, including BISP. A move to increase the monthly pensions particularly for the life line block is under consideration. A comprehensive Prime Minister's Programme for Youth, which comprises six sub-schemes is also underway. These

schemes include Qarz-e-Hasna (Micro interest-free loans), Small Business Loans, Youth Training, Skills Development, Provision of laptops, and reimbursement of tuition fee of students from the less developed areas.

The federal government has hinted towards taking a multipronged approach for fighting poverty. It aims to reduce the incidence of poverty through generating jobs under the infrastructure development programmes. The private sector will be encouraged to launch labour intensive ventures. In order to ensure food security, the government intends to support prices for staple food items while seeking parliamentary approval by adding a new article about 'Right to Food' in the Constitution.

The argument of increased private sector-led job creation is also important for the areas affected by insurgency and natural disasters. The western parts of Balochistan and Khyber Pakhtunkhwa continue to face external security threats. There is a likelihood that this threat may intensify after the NATO exit from Afghanistan and US drone strikes. Bringing the segments of population living in these volatile western belts of the country in a secure social protection net is important from the humanitarian perspective.

As the federal government plans for revamping social protection, the provincial government in Khyber Pakhtunkhwa led by Pakistan Tehrik-e-Insaf (PTI) shares a similar approach through its manifesto. It also pledges to establish a welfare state in Pakistan. More popular programmes of the previous provincial government, including cash support, conditional transfers (e.g. stipends programme) and food support, are likely to continue. The government in the Punjab already has several of these programmes and lately introduced the transportation facilities that exclusively target the poor. It is understood that people throng from far-flung destinations to seek livelihoods on a daily basis and such initiative may reduce their transactions cost.

### **3. Evaluation of Social Protection**

A recent study by Sustainable Development Policy Institute (SDPI) conducted for United Nations Development Programme (UNDP) analyses the social protection and assistance programmes in some targeted areas after evaluating them on pre-determined criteria. The basic aim of this study was to assess the efficiency of these programmes and to see whether they could be extended to RAHA<sup>131</sup> for sustainable support provision to a wide range of deserving people that include the poor, women-led households, internally displaced persons, physically-challenged people, Afghan migrants and others. This policy brief shares findings from the inquiry based on primary and secondary information in the study.

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<sup>131</sup> Refugee Affected and Hosting Areas.

## **Social Insurance**

Though contributory in nature and available to the formal sector workers, it targets both the employed labour force and retirees. Typically, these programmes provide benefits in contingencies of sickness, maternity, old age, and work-related injury. Presently, there are four programmes running under the federal government, but the benefits of these programmes are confined to federal government employees only. These programmes include: Pension-cum-Gratuity Scheme for public sector employees, public sector benevolent funds and insurance, Workers Welfare Fund, and Employee's Old-Age Benefits Institution (EOBI). Among these, only EOBI is accessible to all the workers in the formal sector of economy while rest of the programmes are limited to the federal government employees.

## **Social Assistance**

Social assistance programmes are non-contributory in nature. They have been designed to extend financial or in-kind help to those who are unable to earn their livelihood. Funding for these programmes usually comes from various channels, including the state, NGOs, and development partners. A number of social assistance programmes are running for the last many years, most significant of which are BISP, Zakat and Pakistan Bait-ul-Mal. These programmes are federally driven with national coverage.

Other social assistance programmes in the country include: citizens' damage compensation programme (under Cabinet Division), a number of subsidies including wheat subsidy, the Ramazan package and commodity subsidy via the Utility Stores Corporation, National Internship Programme and the recently introduced Prime Minister's Programme for Youth. Under labour market programmes, Peoples Works Programme is perhaps the most significant.

## **4. Policy Options**

Going forward it is important for the government to take into account the serious challenge posed by the current levels of unemployment, reduced purchasing power, and the vulnerabilities faced by the poor, women and marginalized. The social insurance and assistance programmes should demonstrate flexibility and respond to the risks faced by the poorest of the poor. Below we highlight a few options for social protection reforms.

- The social protection programmes only benefit government employees. They should be comprehensively expanded to cover the unprotected vulnerable groups, who are at greater risk of falling into severe poverty as a result of reduced job creation, low economic growth, increased intensity of conflict and environmental disasters (e.g. floods).
- Social insurance programmes accrue benefits disproportionately to male population and the non-poor. For not having access to social insurance programmes, poor, disabled and disadvantaged, especially those in informal sectors, receive lesser benefits. Additional insurance instruments can be developed under BISP to take account of informal and agriculture sector workers. The targeting of these is already available under the poverty scorecard data collected under BISP.
- Labor market programmes are not a priority in the country. This negligence is adding to the already rising youth unemployment, critical skills gaps and hindering a large number of

women from entering into the formal labour market. Although the recently announced Prime Minister's Program for Youth is a decent addition, it lacks targeting efficiency. It is important to first assess the extent of youth bulge requiring assistance and conduct a mapping of skills gaps. The private sector should be invited to play a signaling role so that the youth might receive employable skills, which can benefit economic growth and welfare in future.

- Through innovative initiatives, including employment guarantee schemes and construction of basic infrastructure that can spur local area growth, social protection programmes can be used to mitigate rising underemployment. Sustainable employment opportunities can in fact lessen the long-term burden on the government budget allocated for social protection. Equally important is to realize that public sector cannot continue to finance such schemes. Ultimately, local area growth should attract private investment.
- Social protection and social assistance programmes should be integrated and target-oriented. These should enhance people's capacities to cope with financial shocks, natural and man-made disasters. This requires a stringent and effective monitoring system at federal and sub-national levels. The managers of social protection programmes should be asked to demonstrate results-based management with clear key performance indicators.
- Social protection programmes should also have a 'vulnerability preventive' angle instead of focusing only on lending help to the already poor. This can be done through micro-insurance schemes. Such schemes can particularly be useful in mitigating the impact of variable weather patterns and natural disasters affecting crops, dairy farms and small-scale businesses. Examples of vulnerability prevention are already available from several Latin American economies.
- Existing social protection programmes are overlapping and thinly distributed. Expanding protection coverage requires from the state to mobilize additional resources through widening the tax base, improving tax administration and by improving public expenditure management. At the same time, the multiplicity of programmes for the same targeted population can be addressed through improved coordination between the federal and provincial governments.
- The government collects substantial amount of money in Zakat, Bait ul Mal and private sector contributions. It is important that public sector funds management should be reformed on corporate lines. A large part of these funds has recently faced depreciation in its real value for not being invested in risk-free assets.
- Finally, the grievance redressal mechanisms are weak across most of the social protection programmes. There are decent examples, including disaster management authorities, Rescue 1122 and some initiatives under BISP, which exhibit good models for addressing people's grievances. It is expected that these examples will be replicated across other social protection programmes as well.

(PB # 36, 2013)

## Social Protection in Balochistan

*Vaqar Ahmed et al*

### 1. Background

The socio-economic development in Balochistan is challenged by sparsely located population, internal conflicts and pressures from western border neighbouring Afghanistan<sup>132</sup>. A large part of Balochistan is governed by tribal chiefs, making development interventions extremely difficult and in turn posing a challenge to human development and inclusive growth.

Balochistan province also lags behind the rest of Pakistan in almost all key socio-economic indicators, and 16 of its 24 districts (including the RAHA<sup>133</sup> districts Chaghi, Qila Abdulla and Qila Saifullah) fall among the top 20 vulnerable districts of the country. The multidimensional poverty indicators seen across Balochistan show it is one of the poorest across the globe. Furthermore, the province is also bearing the influx of Afghan refugees, which stands around 851,000 persons.

In view of the above-mentioned challenges, Balochistan receives support from the federal government. There are also initiatives by the provincial government to address rising vulnerabilities. Marred by issues related to political interference in development projects, corruption, non-existence of effective monitoring, and lack of grievance redressal mechanisms, the impact of these programmes on the lives of the poor remains weak.

The new provincial government, despite a deteriorated law and order situation, is moving ahead with local body polls to strengthen democratic governance. The recent earthquake, which particularly affected Awaran district and adjoining areas, has exposed gaps in service delivery. This is partially on account of weak capacity of civil administration.

A recent study by Sustainable Development Policy Institute (SDPI) conducted for United Nations Development Programme (UNDP) analyses the social protection and assistance programmes in some targeted areas after evaluating them on pre-determined criteria. The basic aim of this study was to assess the efficiency of these programmes and to see whether they could be extended to RAHA areas<sup>134</sup>.

### 2. Social protection and assistance programmes

These programmes in Balochistan can broadly be divided into two categories, a) social insurance programmes, and b) social assistance programmes.

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<sup>132</sup> This policy brief presents key findings and recommendations from the detailed study on the same subject commissioned by UNDP Pakistan

<sup>133</sup> Refugee Affected and Hosting Areas.

<sup>134</sup> The policy brief exhibits findings from the qualitative and quantitative data collected from Balochistan. Primary data was collected from three districts of Khyber Pakhtunkhwa: Pishin, Loralai, and Chaghi.

## Social Insurance Programmes

In total, there are four social insurance programmes. These are Provincial Government Servants' Pension Programmes (PGSPP), GOB<sup>135</sup> Benevolent Fund (GBF), People's Representatives Programmes (PRP), and Balochistan Employees Social Security Institution (BESSI). Among these, PGSPP and GBF are essentially for the provincial government employees. BESSI is for the commercial and industrial employees of the private sector, while PRP is a programme aimed for the poor.

The pension system's targeting efficiency is satisfactory with high levels of coverage. For not being pegged to the inflation rate, financial support provided under the programme has been termed inadequate. The grievance redressal mechanism is lengthy and slow.

GBF is a contributory fund for which mandatory deductions from the salaries of provincial employees are made whereas all the provincial public employees cannot claim this fund. Under the fund, educational scholarships and marriage allowance for children of the employees, maintenance allowance for the widows, funeral expenses of the deceased employees, paid Hajj opportunity and farewell grants can be claimed.

The Fund has high targeting efficiency, as the service is available to all the eligible provincial civil servants. Owing to the strict criteria for grant processing, large number of employees cannot benefit from it. Some difficulties in access arise, as there is no announced schedule in Department of Services and General Administration (S&GAD) to discuss and screen applications.

During the course of our study, we found number of provincial government employees, who were unaware of the benefits. Adequacy of support is relatively better provided one succeeds to obtain them. Most respondents were also not aware of grievance redressal mechanism. Public employees in the RAHA can benefit from both the pension programmes, and the GBF. These programmes have fairly strong potential to impact Millennium Development Goals (MDGs) related to poverty reduction, education and health.

PRP is a social protection intervention that is managed via grants disbursements to the Members of Provincial Assembly (MPAs). These funds are mainly utilized to benefit individuals through the provision of productive inputs such as sewing machines, electricity and gas meters. The funds can also be utilized to purchase agricultural machines (tractors and bulldozers). Prior to their initiation, all schemes are to be vetted by the Planning and Development Department in Quetta.

PRP's reliance on political representatives has come under question on various occasions. There have been concerns of transparency, which have been partially addressed. The study has found this programme low in its targeting efficiency. Since the schemes initiated under the programme are quite small, their coverage is not satisfactory and there are difficulties in their access. There exists no clearly stipulated or documented grievance redressal mechanism.

Under BESSI the contributions are lower than those seen in other provinces. Employer organizations are bound to provide BESSI a list of all secured workers. Benefits include medical cover, provision of cash during illness; and funeral grants. Cash benefits at BESSI include sickness,

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<sup>135</sup> Government of Balochistan.

and maternity benefits; partial and total disablement pension; disablement gratuity and a survivor's pension.

As BESSI only targets the workers in the formal sector, the extent of programme coverage is low. The workers from industrial sector make a very small population in Balochistan. The BESSI only has three medical units out of which two are situated in Quetta while the third one is in Karachi. The quality of services leaves a lot to be desired. The grievance redressal mechanism is not easy to understand for the beneficiaries.

Contrary to PRP, BESSI has significant contribution towards the attainment of health-related MDGs. If industrial and commercial zones for RAHA districts are opened under the new provincial government, BESSI benefits can be extended to these areas.

### **Social Assistance Programmes in Balochistan**

There are three kinds of social assistance programmes in Balochistan. These programmes are on top of the two social assistance initiatives undertaken by the World Food Programme (WFP). The programmes run by the provincial government include Pakistan Disaster Management Authority (PDMA), Department of Social Welfare, Special Education, Literacy and non-Formal Education. The programmes run by WFP include School Feeding Programme, Early Recovery Programme, and Programme for Afghan Refugees.

PDMA is responsible for the protection during natural disasters and calamities. PDMA has been active during floods and earthquakes. In 2011 and 2012, it distributed 11,097 metric tons of food items in affected areas. In addition, it provided blankets, tents, medicines, and clothes. PDMA's operations have covered 13 districts of Balochistan.

The criterion of benefit distribution by PDMA is not clearly documented. Ease of access in case of PDMA operations has been relatively better. The adequacy of support is satisfactory while grievance redressal is quick and effective. Since the benefits extended are temporary, they do not contribute to the attainment of MDGs. The interventions are also available to the affected people in RAHA.

The Department of Social Welfare, Special Education, Literacy and non-Formal Education is responsible for regulation of voluntary organizations, special education and management of rehabilitation centers for victims of abuse. The department provides Darul Aman for women, working women hostels, training centers, industrial homes, and baby day care centers. The programme has its offices in 30 districts.

The targeting efficiency of these programmes is rather high, but coverage is low and facilities available are not sufficient for a large part of the deserving population. Their ease of access has been termed satisfactory. Most of the benefits are in-kind and offer support to those, who are considered eligible. The programmes still need to strengthen grievance redressal mechanisms and outreach.

The WFP initiated school feeding programme in seven districts of Balochistan, namely Qila Saifullah, Zhob, Noshki, Chaghi, Pishin, Kharan, and Washuk. The school feeding programme however, discontinued in 2012. Under early recovery programme, WFP distributed 13,122 metric

tons of food and reached out to over 362,000 households in the province. Initial livelihood recovery activities were started in Kalat, Khuzdar, Loralai, Qila Abdullah and Lasbela where infrastructure rehabilitation programmes such as desilting of water courses, repair of houses, and cleaning of water ponds took place.

The school feeding programme was run in public schools; therefore, its targeting efficiency was high. Similarly, the cash for work programme targeted the most severely affected people in two districts making sure that all the potential beneficiaries take their due share. Both the school feeding programme and cash for work programme had a lower coverage, as they could not be extended to even one-third of the population.

Nevertheless, despite a lower geographic scope, the ease of access to these programmes was satisfactory with considerable adequacy of support to the target group. One finds grievance redressal mechanism missing. The two programmes did contribute towards the attainment of MDG1, MDG4 and MDG5. In case these programmes are reopened, there can be a fair expectation of extending these interventions to RAHA.

The UNHCR has also been one of the main service providers in Afghan refugee villages in Balochistan. Presently, the agency funds 26 schools for Afghan children in different camps. These schools are run and maintained by Save the Children Foundation. There are 16,500 children enrolled in these schools. More funds are also available for the provision of basic health facilities in all the refugee villages. The health facilities extended by the agency are managed by Save the Children, American Refugee Committee and Taraqee Foundation. Other services include tertiary care and vocational training for which it organized three-month training courses covering a range of subjects. UNHCR also provides child protection services for those separated from their families.

The services provided by UNHCR target only those Afghan refugees having registration cards, and not all the refugees can benefit from these services. The targeting efficiency of these programmes is relatively better with a reasonable geographic coverage. However, the scale of assistance activities has been in decline since long. The refugees living in RAHA are already benefiting from these services. With the exit of NATO forces from Afghanistan, there are apprehensions of a civil war in Afghanistan that may trigger greater influx of refugees inside Pakistan. If it happens, these programmes will be more important in the context of their significant scalability.

Under the Aghaz-e-Haqooq-e-Balochistan Initiative in 2009, the Pakistan People's Party government introduced Prime Minister's Special Initiative on Balochistan. The primary objective of the programme was to lessen the sense of deprivation and to confer cultural, economic and political rights to the people of Balochistan. A number of projects started under this initiative have linkages with the RAHA priorities. There is a strong likelihood that the new provincial government will continue the initiative in some form.

### **3. Policy Options**

After the 2013 general elections, there is a renewed confidence in the new provincial government in Balochistan. The government plans to move ahead with local body polls despite law and order challenges. The region has also suffered from natural disasters, and the difficulties faced during the recent earthquake reflect weak capacity of the province to deliver on poverty and human

development reforms. In case of future social protection interventions, the following policy agenda will be crucial.

- Although targeting efficiency of pension and benevolent fund programmes is high, the amount of **financial support is inadequate** and not indexed to inflation rate. In case of benevolent fund, once retired, a public employee cannot benefit from it. Moreover, there are issues with ease of access under both the programmes. The sense of deprivation should not be allowed to prevail in the presence of such comprehensive programmes. Ease of access should be ensured through the use of e-governance tools and pensions should be revised often to enable the beneficiaries to hedge against poverty and afford standard health and education facilities.
- PRP has been a disappointment in terms of generating employability as well as extending health and education facilities for the targeted communities. The MPAs, instead of initiating activities that meet the community needs have been reportedly opting for activities where vested interests could be served. Such programmes should be stopped in future. Instead, the money earmarked under the PRP programme should be diverted towards better performing department like social welfare and women development, or towards social assistance schemes such as Zakat or Benazir Income Support Program (BISP).
- BESSI has a **limited targeting efficiency**, and it only covers workers from the formal sector and does not include employees from agriculture and informal sectors. The ease of access is relatively better for the beneficiaries living in Quetta and Karachi. Others have to travel from far-flung areas to reach these cities. In order to ensure fair distribution of its services, the BESSI should do a clear mapping of its potential beneficiaries. Once the mapping exercise is completed, the services would be extended to the most crowded areas that are also central to the far-flung locations. Given the high poverty rate prevalent in the province, and its links with political chaos, the department should be reformed to extend social services to as many beneficiaries as possible, and that too with a decent ease of access.
- Department of Social Welfare, Special Education, Literacy and Non-Formal Education exhibits **limited extent of programme coverage**. The drug rehabilitation centers, Darul Aman for women, educational scholarships, and health facilities provided under the programme are not enough to cater to the needs of a large and poor population. In view of the increased NFC<sup>136</sup> award, the funds earmarked for the department should be significantly increased. In order to improve its targeting efficiency, poverty score card data already available with BISP should be used.
- WFP's School Feeding Programme was a good initiative to helping children meet their daily nutritional needs. The programme is now closed due to lack of funding. This programme should be reinitiated in Balochistan, which remains food insecure.
- The financial support for Afghan refugees is now declining. Geographic scope of these programmes is low and there exists no formal grievance redressal mechanism. As long as Afghan refugees are living in the refugee camps, this support must continue to ensure a reasonable and decent living for them.

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<sup>136</sup> National Finance Commission.

Going forward the efficiency of social protection in Balochistan will critically depend upon ability to mobilize resources through development partners, raise own revenues for developmental needs, and build robust administrative capacity that can meet the expectations of the poor. Given the current political economy milieu in the province, the federal government and development partners will need to engage more closely with the new provincial administration.

**(PB # 37, 2013)**

# Social Protection in Khyber Pakhtunkhwa

*Vaqar Ahmed et al*

## 1. Background

Khyber Pakhtunkhwa province represents some of Pakistan's hardest hit areas emerged due to natural and man-made calamities<sup>137</sup>. This situation has been further exacerbated by the ongoing war on terror, and Pakistan's fight against those who have challenged the writ of state. The underlying binding constraints to production activities have also implied capital flight and skilled manpower from the province. This, in turn, has incurred a rising incidence of unemployment and poverty at local level.

This region still faces an uncertain outlook with ongoing drone strikes by US, and fast approaching NATO exit from Afghanistan. However, there is a new government in Khyber Pakhtunkhwa with a younger political representation under the banner of Pakistan Tehrik-e-Insaf (PTI). This new provincial leadership has exhibited a more amplified voice at the national and global level. The change of setup at the political level has also implied raised expectations of individuals and communities facing the above- mentioned socio-economic challenges.

With the help of development partners, Khyber Pakhtunkhwa during the past several years, has put in place social protection programmes that aim to trigger job creation, protect poorest of the poor from rising inflation and augmenting individual and community's capacities to cope with negative effects of increasing militancy in the region. While the reform of social protection programmes is an ongoing exercise, it is important to come up with evidence-based inquiry that informs the communities and policy practitioners regarding the effectiveness of past and ongoing initiatives.

A recent study by Sustainable Development Policy Institute (SDPI) conducted for United Nations Development Programme (UNDP) analyses the social protection and assistance programmes in some targeted areas of Khyber Pakhtunkhwa after evaluating them on pre-determined criteria. The basic aim of this study was to assess the efficiency of these programmes and to see whether they could be extended to RAHA<sup>138</sup> area for sustainable support provision to a wide range of deserving that include the poor, women-led households, internally displaced persons, disabled, Afghan migrants and others<sup>139</sup>.

## 2. Social protection and assistance programmes

These programmes in Khyber Pakhtunkhwa can broadly be divided into two categories, a) social insurance programmes and b) social assistance programmes.

### Social Insurance Programs

<sup>137</sup> This policy brief presents key findings and recommendations from the detailed study on the same subject commissioned by UNDP Pakistan.

<sup>138</sup> Refugee Affected and Hosting Areas.

<sup>139</sup> The analysis exhibits findings from the qualitative and quantitative data collected from Khyber Pakhtunkhwa. Primary data was collected from three districts in Khyber Pakhtunkhwa, which included Buner, Lower Dir and Nowshera.

Currently, there are three social insurance programmes being run in the province. These programmes are essentially meant to extend financial support to public employees and include provincial government servants' pension programme, Government of Khyber Pakhtunkhwa Benevolent Fund and Khyber Pakhtunkhwa Employees Social Security Institution (ESSI).

While provincial pension programme is available for all civil servants regardless of their pay scale, benevolent fund and ESSI are essentially for the poor and the needy. In terms of disbursement, pension system is perhaps most efficient. But in case of benevolent fund and ESSI, some political interventions have been seen.

All three programmes have direct linkages with Pakistan's commitment under Millennium Development Goals related to poverty alleviation and improvement in health and education facilities. The same may see their extension to RAHA districts if job creation in the medium to longer run is able to bring public and private sector workers under the above-mentioned social insurance programmes.

### **Social Assistance Programmes**

There are eight different social assistance programmes in Khyber Pakhtunkhwa - albeit with different geographic and demographic scope. These programmes are running under Provincial Disaster Management Authority (PDMA), Provincial Reconstruction Rehabilitation and Settlement Authority (PARRSA), Bacha Khan Poverty Alleviation Programme (BKPAP), Department of Social Welfare and Women's Development, Special Initiative of the Chief Minister, World Food Programme, Stipends under Khyber Pakhtunkhwa Education Sector Programme and Programmes for Afghan Refugees.

Many of these programmes are in a nascent stage and have relatively limited coverage. The PDMA and PARRSA programmes that aimed at IDPs essentially target displaced and flood-affected persons. The provisions made under the programmes are small and usually make for one time assistance to targeted population during floods and military operations.

Contrary to PDMA and PARRSA, BKPAP uses community targeting mechanisms with limited scope but efficient targeting. At the time of this study, the programme covered only 40 union councils (UCs) of four districts. While the aim is to target households under crisis particularly prior to sowing and harvesting season but support provided is rather small (limited to PKR 5,000). With a potential to be extended to RAHA districts, the programme can prove to be efficient for hedging against various forms of poverty.

Special Initiatives of the Chief Minister is similar to BKPAP. This was in place when the previous provincial government completed its tenure in March 2013, and now the programme is likely to continue in some form under the PTI regime. It aims at promoting employment through small enterprise development. The programme also runs Rozgar schemes in which small loans are offered. Another feature of the programme is Stori-da-Pakhtunkhwa scheme, which offers scholarships to bright students. In view of the human resource deficit, there is a scope of extending this programme to RAHA districts.

Department of Social Welfare and Women Development uses self-targeting mechanism to provide welfare homes, Darul Amans, drug rehabilitation centers and sarkari sarai. All these programmes

are essentially meant to target the transitional needy. The programme currently does not target RAHA districts, but it has the potential to be extended there.

Stipends under Khyber Pakhtunkhwa Education Sector Programme are aimed at promoting girls enrollment in middle schools. Monthly stipends are provided to female students along with free text-books. Though primarily dependent on support from external development partners, the scheme is highly visible and effective. After successful implementation of its Phase-I in seven districts, this facility has now been extended to the girls' public schools in the entire province.

The last two social assistance programmes are largely for calamity-hit areas that target internally displaced persons (IDPs) and Afghan migrants. The programme by World Food Programme caters for health, education, livelihood and nutrition related needs. With substantial scope of its extension to RAHA districts, the programme is contingent upon sustained support from the development partners.

Finally, there are interventions aimed at facilitating Afghan migrants living in refugee camps. With inadequate and scarcely available facilities in the targeted areas, these programmes are targeting only a small proportion of refugees. Provided that funding becomes available, refugees living in RAHA districts can benefit from these programmes.

### 3. Policy Options

Going forward the focus needs to be on efficiency of existing programmes and demand- side accountability in the ongoing initiatives. The need for some specific reforms is discussed below.

- While targeting efficiency and coverage of social insurance programmes in Khyber Pakhtunkhwa is commendable, there are issues regarding ease of access. The problems are severe for the disabled, sick or sparsely located. Many deserving poor are unable to personally appear before the designated offices and produce lengthy documentation. In order to facilitate these disadvantaged groups, the government and the development partners should consider establishing their mobile units and also make access possible via phones.
- The process of grievance redressal is undocumented and cumbersome. Most resolutions require multiple visits of the claimant adding to their costs. The provincial government needs to make these mechanisms simple, transparent, accountable and time bound. If grievances are not addressed on time, the department should be made liable to pay all costs borne by the complainant.
- **Targeting efficiency** of benevolent fund is questionable as not every deserving or needy civil employee can claim it. Many require political sources so that their rightful claim can be processed. The procedural information is cumbersome to understand. There have been past requests to bring the process online. Even after fulfilling the process requirements, the funds are rarely adequate. Stringent monitoring systems should be placed on benevolent funds' distribution. Application process should be simplified and accessible to everyone. Delays in application processing should not be tolerated and if a claim is rejected, reasons should be shared with the applicant in writing.
- The ESSI programme, which is meant for the poor and low paid public and private sector employees, **excludes workers from agriculture and informal sectors**. The quality of

services provided under ESSI health and education programmes need to be revisited. The high administrative costs need to be lowered through prudent process restructuring. There is also a need to improve advocacy of this programme as a large proportion of respondents had no knowledge of this facility.

- Under PDMA and PARRSA targeting efficiency, geographic coverage and ease of access is relatively better. The grievance redressal mechanism of these programmes is clearly documented. However, the support available has been termed inadequate to meet the needs of those in short-term crisis. The intervention is **contingent upon funding by development partners** and this can threaten the sustainability of programmes. Given importance of the two programmes, their financial sustainability should be ensured through mandatory endowment and enhancement of budgetary allocations. Financial support should be made realistic to the needs of grieved families and individuals.
- The BKPAP's limited coverage needs to be revisited. On a number of instances, evidence was quoted regarding **violation of merit in the funds disbursement process**. The programme should be safeguarded from political interference. The support provided under the programme needs revision and may be linked with changing needs of beneficiaries.
- The interventions by the Department of Social Welfare and Women Development, is also marred by **low budgetary allocation**. Other than sarkari sarai, the uptake of services available under the programme is low, partially attributed to lengthy administrative procedures. Those with greater social capital and political connections are better able to access the benefits. The operations under this programme do not have a properly documented grievance redressal mechanism. Since the budgetary allocations cannot be significantly improved in the short run, the government should have clear prioritization of the areas where funds provision should be adequate. These may include initiatives such as vocational trainings for women, and health and educational programmes. In the long run, the department should have its own stable and increasing endowment fund that can sustain developmental initiatives.
- Special initiatives of the Chief Minister (before 2013 general elections) have made impressive effects in terms of promoting education and temporary employment in the province. However, it has **limited outreach, inadequate financial support** to small investors, and **complex application process**. No documented grievance redressal mechanism was found for the Rozgar scheme. Ideally, such initiatives should be based upon research identifying skills and potential of the unemployed youth in the province, and the sectors where investment may be directed for employment and infrastructure development.
- The school feeding programme under WFP was limited in scope, and now it has been completely phased out. The cash for work programme is inadequate to cover a family's food needs. Though WFP does carry out regular monitoring of its work, there is no formal grievance redressal mechanism in place at the agency.
- The scope of the stipends programme in its phase-II is now universal, and the ease of access has also been termed satisfactory. The key issue with the programme is that most of the funding has been derived from external sources. Under changed priorities of development partners, the sustainability of this programme will be difficult.

At the start of the Afghan refugees programme, its targeting efficiency was good; however, amid a massive influx of refugees, scope of programme coverage remained somewhat small. The grievance redressal mechanism was weak.

The PTI government in Khyber Pakhtunkhwa has exhibited the intent to make social protection more comprehensive. The new leadership has recognized prevalence of poverty and expressed the resolve to take up the challenge, and address it through creating jobs and enabling ownership of assets to the poor.

Going forward the above-mentioned resolve will depend critically on the provincial government's capacity for resource mobilization. Currently, most of the above- mentioned programmes are facing funds inadequacy which in turn is partially responsible for poor coverage in some cases. While approaching the development partners has been the usual resort, however, in the post 18th Amendment milieu, it is important that Khyber Pakhtunkhwa government demonstrates an improved tax revenue collection in order to meet its social protection and human development needs. This effort should be supplemented by strengthening social protection governance mechanisms, including monitoring and evaluation framework and grievance redressal mechanisms.

**(PB # 38, 2013)**

## How to Solve Pakistan's Power Crisis?

*Vaqar Ahmed et al*

The Economic Survey of Pakistan notes that during 2011-12 around USD 4.8 billion or 2 percent of gross domestic product (GDP) was lost due to power sector outages. This is a major factor behind Pakistan's disappointing economic performance over the past 5 years, with GDP growth averaging under 3 percent (GoP 2013).

The National Power Policy by the new government recognises that, in addition to the direct adverse impact on growth, the power crisis is bleeding the national exchequer through still high hidden and cross subsidies as well as administrative and line losses (theft). However SDPI's household-level survey conducted to probe people's willingness to pay higher tariffs in the wake of power sector reforms, reveals little understanding of the causes of the crisis. In this brief we touch upon 3 such causes, namely: inability of consumers to understand that elimination of load-shedding will require full economic-cost pricing, insistence of politicians on maintaining untargeted subsidies (having weak impact for poor), and inability to stem administrative and line losses (including theft).

### 1. Willingness to pay for power

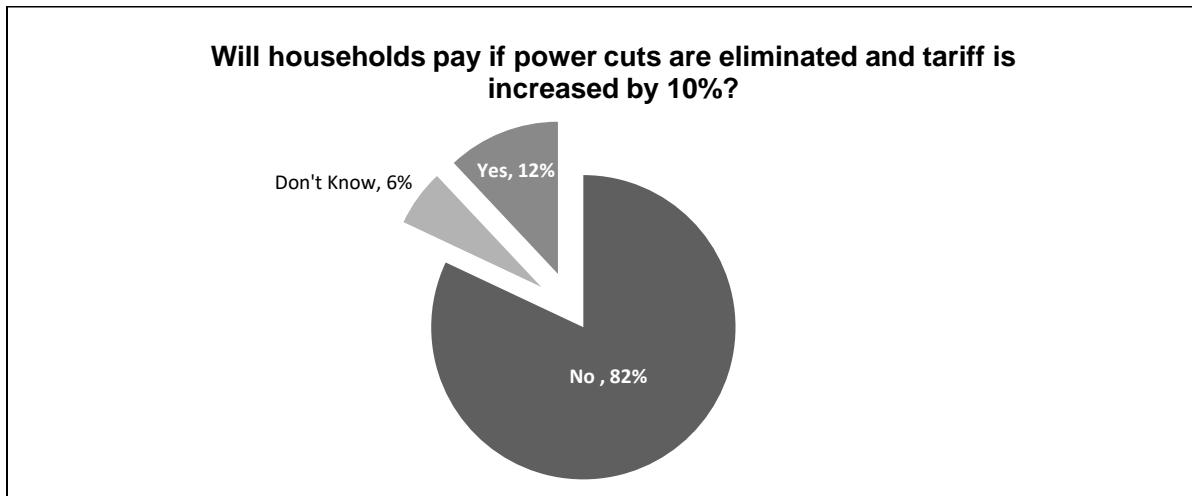
The most fundamental principle in economics is 'getting prices right'. The price of a good indicates how much is consumed (demand) and how much is produced (supply). When fixing tariffs it is important that they cover the costs of generating, transmitting and distributing electricity. Failure to do so will mean that generation companies (GENCOs) and distribution companies (DISCOS) lose money and go out of business.

We establish here the unwillingness at household-level to pay for the power consumed. Below we exhibit how the recoveries of some very large DISCOS have deteriorated over time. Their clients have not paid for the power consumed. In Hyderabad, for example, only 60% of the power supplied in 2012 was paid for – in a city of over 6.5 million people.

| DISCO-wise Revenue Collection |         |         |         |         |
|-------------------------------|---------|---------|---------|---------|
| DISCOS                        | 2007-08 | 2008-09 | 2010-11 | 2011-12 |
| PESCO                         | 71%     | 67%     | 78%     | 68%     |
| HESCO                         | 77%     | 68%     | 59%     | 60%     |
| QESCO                         | 86%     | 80%     | 41%     | 36%     |

*Source: DISCOS Performance Statistics Reports 2008-2012*

DISCOS are also unable to adopt the normal commercial practices in other countries of disconnecting customers for non-payment because of unclear legislation and political pressure. To add to this, federal and provincial governments are also power sector defaulters. Such chronic default by government and non-government consumers is a major reason behind recurrence of circular debt.

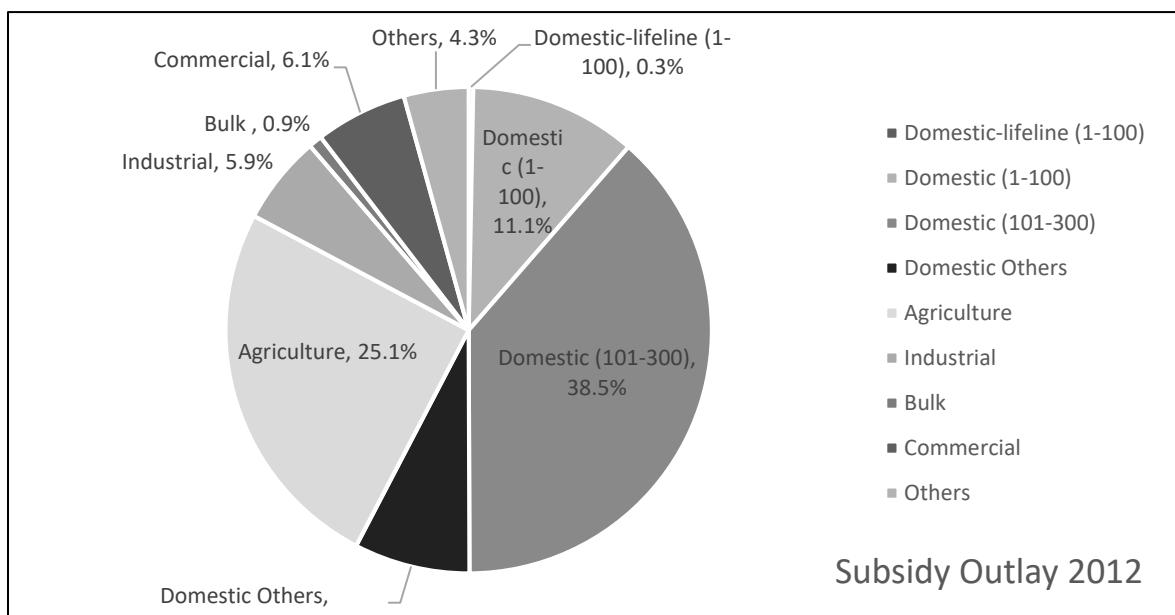


Source: SDPI Survey Unit 2013

SDPI's household-level survey results, (above) reveal little understanding among the consumers that tariffs do not cover costs and that is the main cause of power cuts and stoppages. Consumers want an end to load shedding, but most say they are not prepared to pay the full economic cost of producing power.

## 2. Cost of maintaining subsidies

The fundamental rationale for subsidising electricity tariffs is to augment the paying capacity of the poorest of poor. However once subsidies are provided across the board, people start to demand them as their right and politicians feel compelled to maintain this distortive fiscal burden to win popularity.



Source: Planning Commission of Pakistan, 2012

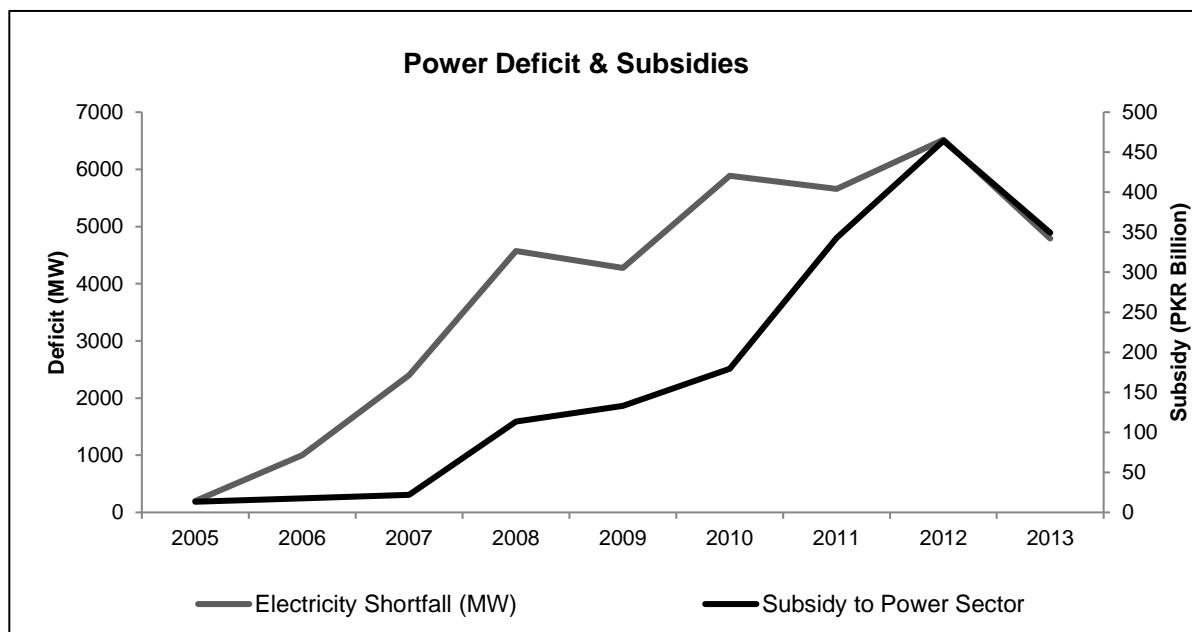
The above chart illustrates the contradiction between the rationale for subsidies and actual practice. Only 0.3% of subsidies in 2012 went to the poorest consumers, those using less than 100 units a month. There is no economic or social logic for subsidising the other consumer categories.

|   | Subsidy by the government on power consumption (Rs/kW) |       |       |       |       |       |       |       |
|---|--|-------|-------|-------|-------|-------|-------|-------|
|   | LESCO  | GEPCO | FESCO | MEPCO | HESCO | SEPCO | QESCO | PESCO |
| 1. Residential, <700 units                | 0.4  | 1.4   | 1.4   | 2.9   | 3.9   | 3.9   | 1.4   | 4.4   |
| 2. Industrial, (66.132 KV & above) -      |  |       |       |       |       |       |       |       |
| TOU (Peak)                                | 2.1  | 2.1   | 2.1   | 3.1   | 6.6   | 6.6   | 4.0   | 7.1   |
| 3. Agricultural, 5 KW & above -TOU (Peak) | 1.5  | 1.5   | 1.5   | 2.5   | 6.0   | 6.0   | 3.5   | 6.5   |

*Source: Economic Survey of Pakistan, 2013*

The table above shows the wide variation in subsidies across sectors, regions and consumption levels. Even residential consumers using above 600 units were being subsidised in 2012. While the new government in 2013 has rationalized subsidies, we argue below that the current subsidies are still more than the global norm of 100 units for a lifeline block.

Since 2005 the typical politician's response to the power deficit has been to keep subsidising expenditures and not risk political office by transmitting full economic cost to consumers. Both power deficits and subsidies have grown in a similar pattern. Suppressed tariffs meant operators had insufficient funds (or incentive) to fully utilize existing capacity or adopt cheaper sources of generation.

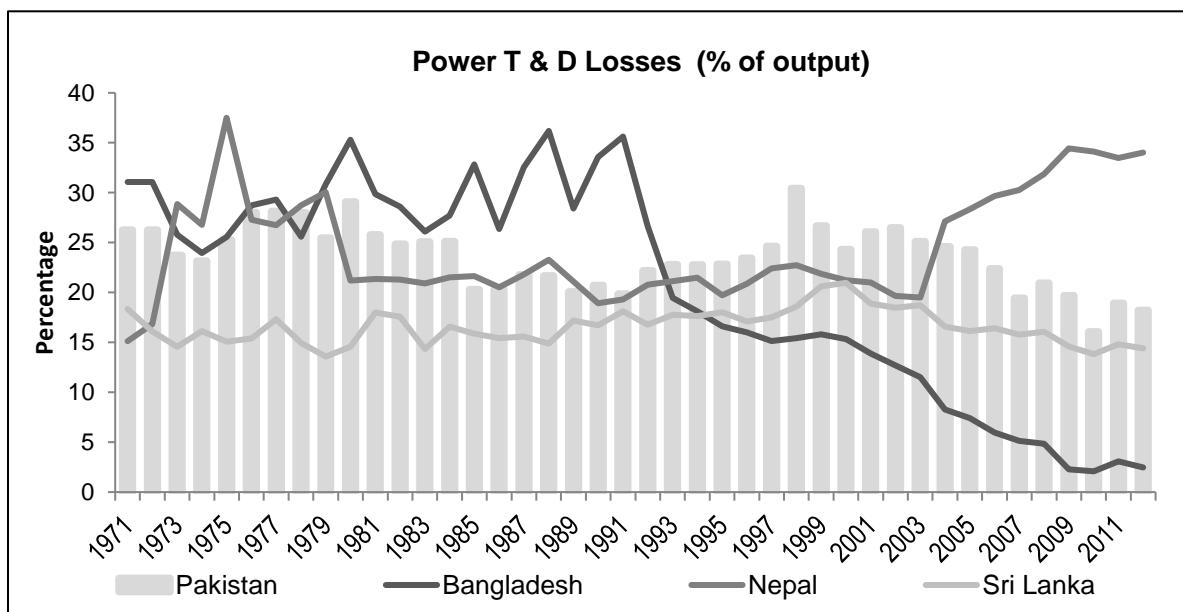


*Source: NEPRA and Planning Commission of Pakistan 2013*

There has also been a lack of transparency in subsidy allocation and tariff setting. Most prices are determined by supply and demand in competitive markets. However, where markets are uncompetitive government regulation may be needed. Since Pakistan's DISCOs are monopoly suppliers in their regional markets, NEPRA was established to ensure monopolies are not abused. NEPRA officials' autonomy has been breached on several occasions. Most notable was the intervention by the Judicial authorities which ended up carving out their own role in 2012 and intervened with orders that hampered implementation of NEPRA orders.

### 3. Administrative and Line Losses

It is unthinkable that responsible governments let incidents of theft and efficiency losses in generation, transmission and distribution (T&D) pass so easily.



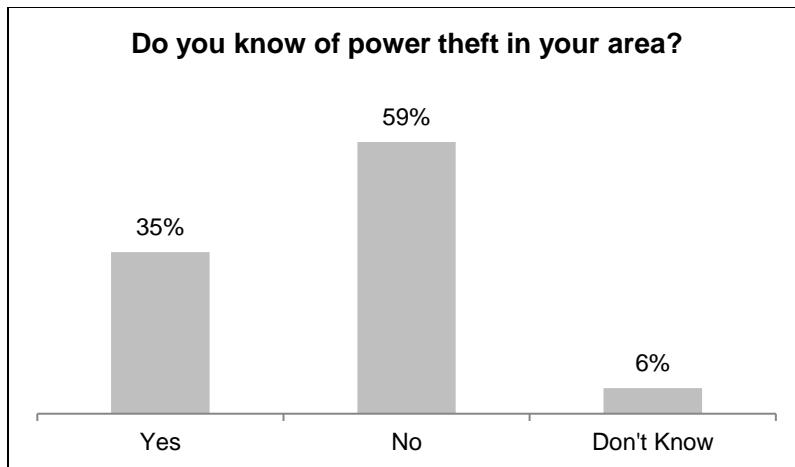
Source: World Development Indicators 2013

The T&D losses in Pakistan are higher than 117 countries in the world. The world average is 8.8% while in Pakistan these losses stand at 25%.

In August 2013, the Secretary of Water and Power Ministry informed the Senate Standing Committee that Pakistan loses annually PKR 150 billion (USD 1.7 billion) in line losses and power theft. Until August 23,770 cases of theft were registered and under trial, but only 3 cases were punished. Moreover, the fine imposed was under PKR 5,000 in each case.

The above clearly indicates lacunae in the accountability mechanism. This requires amendments in Pakistan Penal Code so that there is certainty of effective punishment in cases of energy theft.

SDPI's firm-level survey conducted in major business centres of 4 provinces indicates that the power sector defaulters are well known even in their own communities. Yet they are never reported, as there is a strong perception that there will be no effective trial on such instances of crime.



*Source: SDPI Survey Unit 2013*

#### 4. Hopes from National Power Policy

While the National Power Policy promises a plethora of reforms aimed at strengthening efficiency, competitiveness and sustainability – addressing the above 3 fundamental causes of the energy crisis is of foremost importance.

##### **Tariffs and subsidies:**

The draft policy recognizes that subsidies should only benefit the poorest of the poor. The definition of a poor consumer is someone utilizing less than 200 units of electricity a month. Globally, ‘lifeline blocks’ are typically no more than 100 units a month. We believe that the current ceiling is still high and should be lowered. Similarly, there is no justification for subsidising commercial, industrial and bulk users. The policy aims to phase out subsidies over 3 years. Given the heavy fiscal cost of subsidies we recommend that all subsidies (including hidden and cross subsidies) - except perhaps a 100 unit lifeline block - should be phased out over the next 24 months.

It is important to understand the incentives of buyers and sellers. A much more effective method of protecting the poor than subsidizing items like electricity and wheat – without distorting market functioning – is to provide them (and only them) with cash transfers. Well-functioning targeting mechanisms have already been developed through Benazir Income Support Program (poverty scorecard database).

##### **Curbing theft:**

Unaccounted-for-gas controls should be enforced and the saved gas diverted to the power sector. The policy notes that just a 10 percent diversion can produce an extra 2000MW.

Current transmission losses of 3.6 percent are higher than the NEPRA allowed losses of 2.5 percent. This immediately calls for introducing performance contracts (clearly mentioning targets for reduction in losses) for grid stations under National Transmission and Dispatch Company.

At the DISCOs level as well the power policy aims for a similar mechanism of performance contracts aimed at increasing accountability of heads of DISCOs. It is further recommended that

such contracts should have specific clauses on reduction in distribution losses and full collection of receivables from consumers.

**Competing for fuel allocation:** The allocation of fuel to GENCOs should be linked with their efficiency levels. If the Independent Power Producers (IPPs) are better performing in efficiency terms then IPPs should get preference over GENCOs in fuel allocation. According to Ministry of Water and Power's own estimates a 4000mtoe shift from GENCOs to IPPs will save PKR 77 billion annually. Whereas GENCOs spend PKR 13 billion per month to generate 650 MW, IPPs spend only PKR 10 million per month to generate 1150 MW.

## **5. Conclusion**

The main objective of this policy brief is to highlight the link between lower than economic-cost tariffs and load shedding. If tariffs do not cover GENCOs' operating costs they are unable to buy sufficient fuel. This is why many power stations are operating below capacity. To eliminate load shedding Pakistan needs not only to increase utilisation of existing capacity, but also substantial investment in new capacity. However, investors require tariffs high enough to cover both operating and capital costs, i.e. including a return on capital invested. There has been minimal investment in recent years because tariffs have been too low to cover operating, let alone capital, costs. With growing demand this has meant an inevitable increase in load shedding. The only way to eliminate load shedding in the short term is by increasing tariffs.

Once consumers understand that artificially suppressing tariffs is largely responsible for load shedding, it should become easier for the political representatives to take the difficult decision to reduce untargeted subsidies and pass on the full cost of supplying power to consumers. Finally, these political representatives will also need to assert themselves and confront the power sector defaulters and crackdown on theft that is resulting in losses well above international norms.

**(PB # 40, 2013)**

## Structural Imbalances in Global Governance System

*Shakeel Ahmad Ramay and Mikail Toru*

Since its existence, mankind has been endeavouring for the recognition of its individual identity and way of life. Gradually, it evolved from communal to various modes of living throughout the chapters of time. History narrates that such progressive transformation to communal livelihood was followed by societal expansion and ownership of resources that includes land, minerals, water, etc. As a result conception of localities/regions, and countries were pursued. Consequently, the concept of global living and governance was determined, as one can observe it prevailing today.

The notion of globalization can be traced back to the tenacious desire of historical warriors for capturing vast regions in order to rule and enhance prosperity, well-being, security, and reflect its power, e.g. Alexander, Roman Empire, Persian Empire, Mongol Empire, etc. Warriors or Empires were governed by the basic instinct of humanity regarding its eagerness of dominance, rule, and authority of influence over others. Explorers, preachers and traders complemented the process of globalization alongside these specified warriors of ancient times. Explorers traveled with the intent to discover new worlds for settlement and tourism. Preachers had the purpose to attract the consideration of the populace in their belief system e.g. Muslim, Jewish or Christian. Traders traditionally strived to maximize their profit by establishing or penetrating new markets for investment and trading of goods and services.

The intuition of dominance comprises two major forms in order to realize its objective; first, resolute power that can include swaying to brutality, and the second, supple power that incorporates the supremacy of character, high moral and ethical values. Warriors and Empires habitually adopted the first form whereas the preachers used the second form of supremacy. Traders or economic players on the other hand used either of these ones or the blend of both. The idea or approach could vary, but the objective intended was and is yet to dominate. War or competition is still on and different actors playing to achieve the dominance with changed names, tactics or means<sup>140</sup>.

The process of globalization became more complicated with the invention of new technologies and novel horizons. Information, communication and transport, and technological breakthrough have shrunk the borders of nations and the world we reside in has become more interconnected and interdependent. Consequently, such Interdependence and interconnectivity also introduced a set of predicaments at the global level, e.g. what laws and rules to be followed, as to how conflicts over different issues be managed, who will set standards, how to transit trade and other transnational problems/phenomena etc. These questions or issues bring in light the importance and need to have a global system of governance<sup>141</sup>. However, literature shows that global governance always lagged behind the process of globalization<sup>142</sup>.

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<sup>140</sup> Lamb, H 1996, 'Global Governance: Why? How? When? - Part 1', Murchison Chair of Free Enterprise College of Engineering, <http://www.engr.utexas.edu/cofe/governance>

<sup>141</sup> Global Governance:Developing global connections, MacMillan Center.  
<http://yaleglobal.yale.edu/about/global-governance.jsp>

<sup>142</sup> Chanda, N 2008, 'Global InsightsRunaway Globalization without Governance Global Governance', MacMillan Center, pp. 119–125.

Formal developments regarding the formation of global institutions began in the mid-19th century with the formation of the International Committee of Red Cross and Postal Association. However, this paper will focus on process of global governance from the start of 20th century.

20th century started with antagonism of ideas, ways or means to dominate the world. Process of global institutions became more robust especially after World War-1, the economic recession right through the 1930s and the episode of World War-2. These three events left the world with sufferings and serious perils. The event of World War-1 arose so many questions on the future of sustainable peace and development. Economic recession of 1930 was most alarming in nature. It traumatized the basic economic structure of the world and compelled millions of people into unemployment. As the world was struggling to sustain the economic crisis, simultaneously the Second World War spread across the globe. The war caused a colossal number of causalities, mass migrations for shelter, and numbers left homeless. Livelihoods and habitation opportunities of millions were compromised. The testing era of the 1930s and beginning of 1940s emphasized the need to have a global system that confronted these issues.

## **What is Global Governance?**

Concept of global governance is generally associated with the presence or establishment of global government. Both the proponents and opponents have a plethora of documents as evidence to prove their stance, but to-date we do not have any substantial evidence to pass a final judgment. However, rather than advocating for a specific school of thought, the focus of this paper would be on the integral issue of discussing what is global governance and on its relevant conventional definitions. James Rosenau defined it as “an order without the central government or authority” (Rosenau 1992b: 7)<sup>143</sup>. Adil Najam said it’s governing the world without formal government. By using markets lenses, it can be defined as “integration of all economic actions beyond borders using the markets as a toll”<sup>144</sup>. I define global governance as “it’s a system to secure the interest of powerful through manipulation and avoiding responsibilities, again through manipulation”.

Debate on the concept, significance and role of global governance is a continuous process and it attempts to adjust according to the existing circumstances. Emergence of new hubs of growth and economies started to challenge the set path of global governance. Along with other countries and factors, China’s rapidly increasing share in international market, soft market and developing military is demanding a change in global governance system. However, the debate is likely to continue as it is an acknowledged fact that the power dynamics always tend to change.

## **Global Governance Institutes**

World War-1 concluded with a weakened worldwide economic, social and political infrastructure. After the war, countries started looking for a global association to control the initiation of warfare and a permanent solution to maintain peace at global level. League of Nations was created and it was aspired as how the world would be better able to tackle the global issues. As nations were still struggling to

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<sup>143</sup> Rosenau, J & Czempiel, E (eds) 1992, ‘Governance without Government: Order and Change in World Politics’, Cambridge: Cambridge University Press.

<sup>144</sup> Wolf, M 2004, ‘Why Globalization Works’, Yale University Press, p. 14.

endure these issues, a subsequent economic recession struck the global economy, which further deepened the state of problems. Finest brains of the world at that moment in time assembled together and started looking for more appropriate and sustainable solutions for peace and economic sustainability. Political leadership was also actively engaged in looking for solutions.

On the intellectual aspect, the process was led by Lord John Keynes of UK and Harry Dexter White of United States of America. Both were prestigious economists of that time. Keynes put forward the idea of formulating a more reconstructive and development-friendly institute, which had minimum implications on governments' sovereignties. He proposed the creation of a cooperative type bank, but unfortunately his proposal could not get approval. However, White's proposal to create incentive based mechanisms for bank and fund were approved. Nevertheless, Keynes argument for rule based management was accepted with varying degree. Fundamental similarity between the Keynes and White's was that both were working for their own country's interest<sup>145</sup>.

On political front, Woodrow Wilson was the most prominent figure to advocate for the globalization on the basis of idealism and moral values. He also pushed the Americans to think beyond the national economic interests. He was very active during and after the World War-1 for the creation of League of Nations<sup>146</sup>. However, his initiative did not reign long and the United States of America attempted to acquire another rout. Still USA was trying to portray herself as the champion of idealism and moral values as Henry Morgenthau said:

"the bewilderment and bitterness" resulting from the Depression became "the breeders of fascism, and finally, of war". Proponents of the new institutions felt that global economic interaction was necessary to maintain international peace and security. The institutions would facilitate, in Morgenthau's words, "[the] creation of a dynamic world community in which the peoples of every nation will be able to realize their potentialities in peace<sup>147</sup>.

Simultaneously, efforts were also made for the creation of a new institute at global level for sustainable peace and security. From here the concept of United Nations emerged and USA President Roosevelt first used it in 1942. United Nations was built on the concept of outcome of International Conference on Peace in Hague 1899, and Organization of League of Nations 1919<sup>148</sup>.

Both systems were created concurrently, therefore, at times these are identified as sister organizations.

These two bodies were shaped with broader aims to secure the world from economic crisis and war adversities. The remaining part of the paper will be discussing the following general categories:

1. Financial and Economic Institutes
2. UN System

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<sup>145</sup> Boughton, JM 2002, 'Why Whie, Not Keynes? Inventing the Postwar International Monetary System', IMF Working Paper Policy Development and Review Department, WP/02/52.  
[www.imf.org/external/pubs/ft/wp/2002/wp0252.pdf](http://www.imf.org/external/pubs/ft/wp/2002/wp0252.pdf)

<sup>146</sup> World War One and Wilsonian Diplomacy, 1914-1920, <http://history.state.gov/milestones/1914-1920/foreword>

<sup>147</sup> What are the Bretton Woods Institutions? Published: Tuesday 23rd August 2005, last edited: Thursday 25th January 2007, Viewings since posted: 55622 <http://www.brettonwoodsproject.org/item.shtml?x=320747>

<sup>148</sup> History of United Nations, <http://www.un.org/en/aboutun/history/>

## Financial and Economic Institutes

After World War-I, countries started looking for viable solutions to go back the pre-war state of economies<sup>149</sup>. Exercise ended without any success, as economic recession hit the world economy in 1929 and it spread all across the world in 1930. World war-II further exacerbated the situation and some people believed that war was the result of economic depression<sup>150</sup>.

For that reason, leading economists assisted governments to devise an improved resolution to avoid economic turmoil in future. With these objectives in mind, different economic and financial institutes were created. Regrettably yet in the presence of all global instruments, the crisis hit back repetitively through different time periods, including the economic crisis of late 1960s, 1970s, 1990s and the present one from 2007 that is still ongoing along with food insecurity, poverty, health, Vietnam War, Afghan turmoil since 1978, Iraq war etc. Moreover, there is a new set of threats and crises such as unrest and conflicts, changing power structure, rebellious mobilization of terrorism and cybercrime etc. The incidence of Arab spring spread across many countries which instigated colossal sum of losses to individual countries in regards to property and human life. Occupy Wall Street is an entirely new phenomena on this account.

Still these financial and economic institutes are the most powerful instruments to control the world resources and national sovereignties at present. There are a number of financial and economic institutes, which govern and control the global financial and economic systems, however, this paper will be limited to the following institutes;

1. World Bank
2. International Monetary Fund

Moreover, discussions will be focused on structure and not the performances of these institutions.

## International Monetary Fund (IMF)

Inflation, which was on the rise in the 1920s, has rampantly engulfed the world economy. Inflation was accompanied by decrease in world trade due to strict control and restrictions of countries. Restrictions further complicated the situation and world recalled to be widely interdependent witnessed the worst economic recession within a decade of the specified year. Currency of different countries started to depreciate, and since there was no standard currency or other regulators to control it, world leaders stressed on the significance of a global system to avoid restrictions in future.

International Monetary Fund (IMF) was established in December, 1944 and it started to work on 1st Mach 1945<sup>151</sup>. Major objectives of IMF are:

1. To ensure the exchange rate stability
2. To control and avoid or eliminate barriers on exchange rate

<sup>149</sup> Dammasch, S, 'The System of Bretton Woods, A lesson from history 155905', IMF & World Bank.  
<http://www.ww.uni-magdeburg.de/fwwdeka/student/arbeiten/006.pdf>

<sup>150</sup> What are the Bretton Woods Institutions? Published: Tuesday 23rd August 2005, last edited: Thursday 25th January 2007, Viewings since posted: 55622 <http://www.brettonwoodsproject.org/item.shtml?x=320747>

<sup>151</sup> IMF 2013, Cooperation and reconstruction (1944–71), International Monetary Fund.<http://www.imf.org/external/about/histcoop.htm>

3. Facilitate trade by providing above services
4. Help countries to come out of poverty

Signing members agreed to value against the dollar and USA dollar will be valued against gold reserves. In 1973, USA announced the suspension of dollar convertibility to gold and countries were free to choose the value of their currencies except the gold standard.

The following table comprehensively explains IMF at a Glance<sup>152</sup>

#### **Box-1**

- **Member States:** 188
- **Headquarters:** Washington, D.C.
- **Executive Board comprises** 24 directors
- **Bank has almost** 2,475 staff members in 156 countries
- **Total quotas:** US\$360 billion (as of 8/9/12)
- **Additional pledged or committed resources:** US\$1 trillion
- **Loans committed (as of 8/9/12):** US\$243 billion, of which US\$186 billion has not been drawn **Biggest borrowers (amount agreed as of 8/9/12):** Greece, Portugal, Ireland
- **Surveillance consultations:** Consultations concluded for 128 countries in FY2011 and for 117 countries in FY2012
- **Technical assistance:** Field delivery in FY2011—198.2 person years
- **Transparency:** In 2011, about 90 per cent of Article IV and program-related staff reports and policy papers were published
- **Original aims:** Article I of the Articles of Agreement sets out the IMF's main goals:
  - promoting international monetary cooperation;
  - facilitating the expansion and balanced growth of international trade;
  - promoting exchange stability;
  - assisting in the establishment of a multilateral system of payments; and
  - making resources available (with adequate safeguards) to members experiencing balance of payments difficulties

IMF acted as a dynamic organization, as it aimed to adjust itself according to altering environment. In the 1970s, IMF was liberated from its control over exchange rates. From the 1980s onwards, the institute further restructured itself and worked on the principles of so-called Washington Consensus. It introduced the structural adjust program, which is still ongoing at present.

IMF is engaged in a key role regarding smoothing of the exchange rate and to support the liberalization in trade. However, many people question the role of IMF and its negative impact on national economies, especially for developing and least developed countries. These queries are further strengthened by the prejudiced power structure in the favor of western countries.

Quota is determined by the financial contribution of member countries. Table below shows that the power structure highly skewed in the favor of most developed countries<sup>153</sup>. USA has veto power in major decision-making process, as it holds 16.75 per cent votes. It may be mentioned here that for any major decision regarding policy or loan 85 per cent votes are required, which is impossible to get without approval of USA<sup>154</sup>. Veto power of USA and four other members (Japan 6.23, Germany 5.81,

<sup>152</sup> The IMF at a Glance, August 22, 2012, <http://www.imf.org/external/np/exr/facts/glance.htm>

<sup>153</sup> Blomberg, B & Broz, JL2006, 'The Political Economy of IMF Voting Power', First Version, International Monetary Fund.

<sup>154</sup> Weiss, TJ & Daws, S 2006, 'Oxford Handbook on the United Nations', Oxford University Press.

France 4.29 and UK 4.29) helped developed countries to manipulate decision in their favor and according to their demand and requirements.

**Table-1<sup>155</sup>**

| <b>IMF Member country</b> | <b>Percentage out of total votes</b> |
|---------------------------|--------------------------------------|
| USA                       | 16.75                                |
| Japan                     | 6.23                                 |
| Germany                   | 5.81                                 |
| France                    | 4.29                                 |
| UK                        | 4.29                                 |
| China                     | 3.65                                 |
| Italy                     | 3.81                                 |
| Saudi Arabia              | 2.8                                  |
| Canada                    | 2.56                                 |
| Russia                    | 2.39                                 |
| India                     | 2.34                                 |
| Netherlands               | 2.08                                 |
| Belgium                   | 1.86                                 |
| Switzerland               | 1.4                                  |
| Mexico                    | 1.47                                 |
| Spain                     | 1.63                                 |
| Brazil                    | 1.72                                 |
| South Korea               | 1.37                                 |
| Australia                 | 1.31                                 |
| Venezuela                 | 1.08                                 |
| Pakistan                  | 0.44                                 |
| The rest of 165 countries | 31.16                                |

Though, the power structure is biased and in favor of western countries, the main expenditures and earnings come from the loans to poor or developing countries.

## **World Bank**

History of World Bank is similar to IMF with a slightly different mandate. Established in 1944, the bank evolved from the International Bank of Reconstruction and Development (IBRD) to a grouping of affiliated institutes, i.e. International Development Association (IDA), International Finance Corporation (IFC), the Multilateral Guarantee Agency (MIGA), and the International Centre for the Settlement of Investment Disputes (ICSID).

<sup>155</sup> IMF Members' Quotas and Voting Power, and IMF Board of Governors, Last updated 24 February, 2013, <http://www.imf.org/external/np/sec/memdir/members.aspx>

Primary purpose of creating the World Bank was reconstruction and development after the event of World War-II and the Economic recession of 1930. World Bank has gradually widened its role, and it is also working to reduce poverty in poor countries. On the poverty front, IDA is playing a very critical role in compliance of its mandate from IBRD. IBRD was created on the assumption that it would be self-sustaining by means of working as a bank and providing loans. However, IDA was created to provide concessional loans on very low interest rates or with no interest rate for a long period of time, e.g. 25-40 years<sup>156</sup>.

**Box-2**<sup>157, 158</sup>

What World Bank Do?

- It will work for the promotion of economic development of poorest countries. Bank will help the developing and poor countries through long-term funding for development projects and programs..
- Bank will give funding for economic development to countries, which have less than \$865 GNP through IDA.
- It will promote and encourage private sector through the provision of funding by IFC.
- On financial resource side, the bank will create it through the borrowing from international bond market
- The staff of 9,000 will be hired from 168 member states

Highlights of World Activities

- Biggest funder of education sector
- Biggest funder for HIV/AIDS
- Leading player in fight against corruption
- Strongly support for debt relief
- Heavily investing in biodiversity projects
- Biggest funder of water supply and sanitation projects in world

Like the IMF, the World Bank also has recognized structural problems in its governance system. In 2010, the voting system was reformed, but it still in need of further reforms. USA is still major player with voting share of 15.85 per cent, and for all major decisions its approval is a must<sup>159</sup>. Reforms of 2010 increased voting quota of some emerging economies like China and India, etc., but Bank did this at the cost of developing and least developed countries. As a result the voices of marginalized countries became more marginalized. Moreover, the responsibility of developing countries (countries which gain in voting power) without getting much power<sup>160</sup>.

<sup>156</sup> <http://www.worldbank.org/ida/what-is-ida.html>

<sup>157</sup> <http://web.worldbank.org/WBSITE/EXTERNAL/EXTABOUTUS/0,,contentMDK:23063010~menuPK:8336848~pagePK:50004410~piPK:36602~theSitePK:29708,00.html>

<sup>158</sup> <http://www.imf.org/external/pubs/ft/exrp/differ/differ.htm>

<sup>159</sup> <http://siteresources.worldbank.org/NEWS/Resources/IBRD2010VotingPowerRealignmentFINAL.pdf>

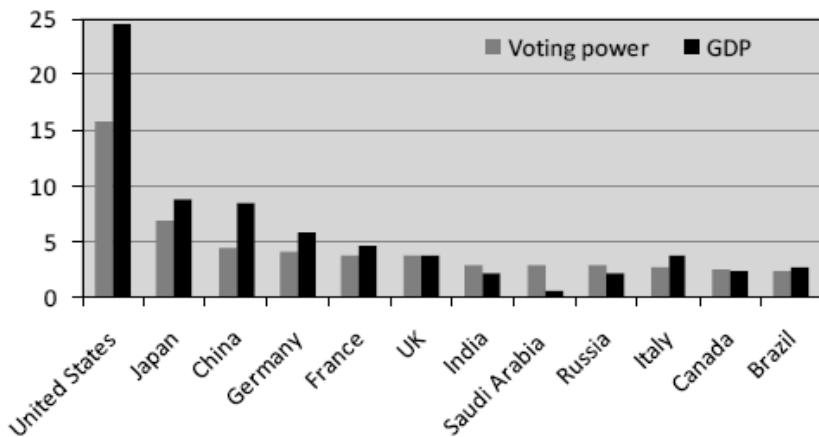
<sup>160</sup> Stumm, M 2011, 'More Responsibility for Developing Countries', World Bank.

**Table-2<sup>161</sup>**

| <b>Country</b> | <b>World Bank New Voting Share</b> |
|----------------|------------------------------------|
| United States  | 15.85%                             |
| Japan          | 6.84%                              |
| China          | 4.42%                              |
| Germany        | 4%                                 |
| France         | 3.75%                              |
| UK             | 3.75%                              |
| Italy          | 2.64%                              |
| Brazil         | 2.24%                              |
| Spain          | 1.85%                              |
| Canada         | 2.43%                              |
| India          | 2.91%                              |
| Russia         | 2.77%                              |
| Australia      | 1.33%                              |
| Mexico         | 1.68%                              |
| South Africa   | 1.57%                              |
| Netherlands    | 1.92%                              |
| Turkey         | 1.08%                              |
| Indonesia      | 0.98%                              |
| Switzerland    | 1.46%                              |
| Belgium        | 1.57%                              |

<sup>161</sup> World Bank reforms voting power structure <http://economistonline.muogao.com/2010/04/world-bank-reforms-voting-power-structure.html>

### Countries with largest World Bank voting shares and their share of global nominal GDP, %

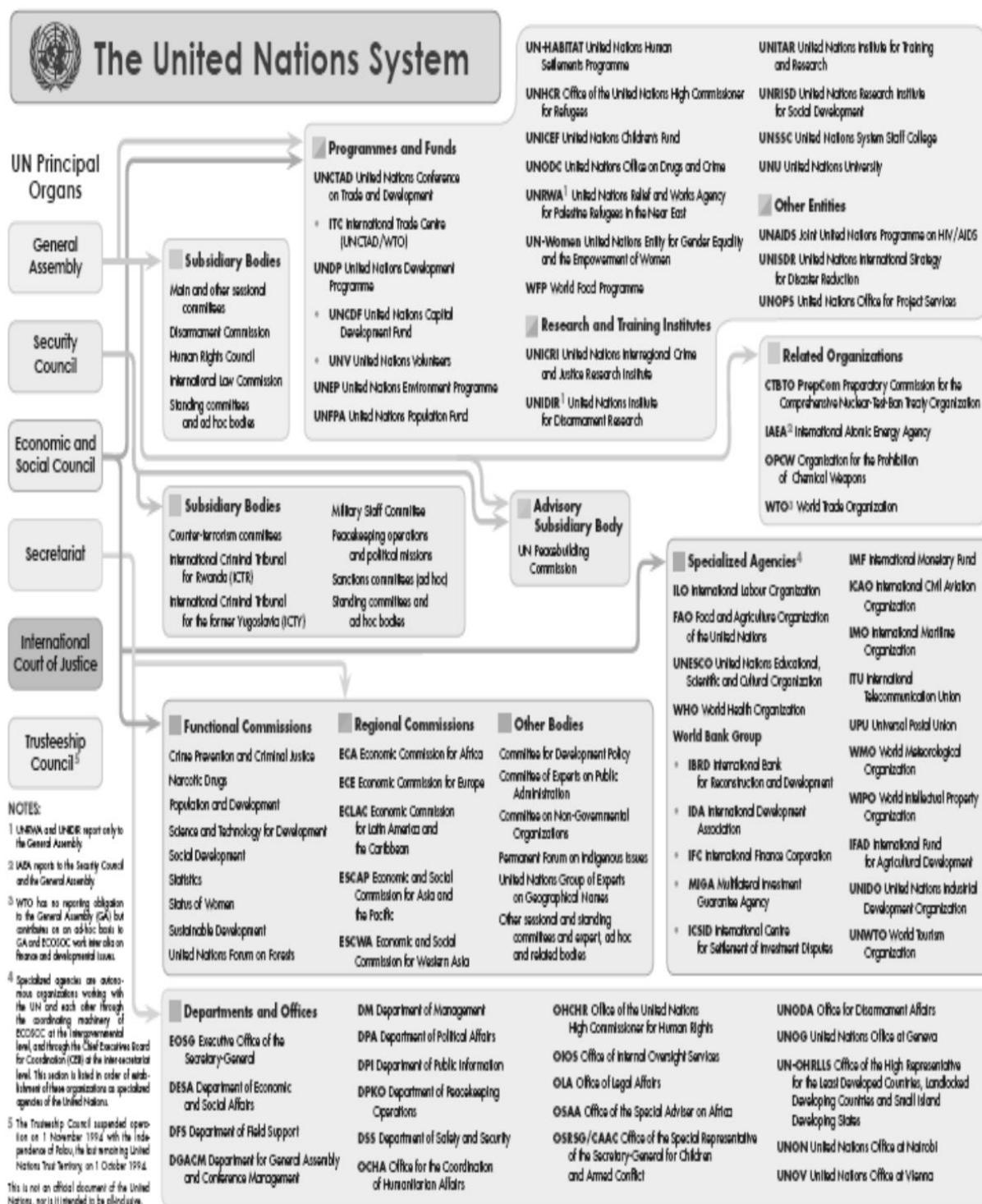


Source: IMF World Economic Outlook

## United Nations

On account of the United Nations, it can be traced back to the establishment of League of Nations (LoN). The League was created on January 10, 1920, to manage the breakouts of wars and maintain peace. Woodrow Wilson, one of the most prominent figures who advocated for the creation of League of Nations, urged Americans to rethink and develop foreign policies on the basis of morality, ethics, and democracy. Unfortunately, not enough support was drawn from USA congress and Senate, and eventually USA did not adhere to League of Nations. League of Nations, however, seized to operate in the beginning of Second World War.

Apart from USA decision not to join the League of Nations, it also had some fundamental flaws. LoN did not consent to Germany and Russia joining the same on the basis that Germany initiated the callous war and Russia embraced a communist party, leaving the three most powerful countries at the time aloof. Moreover, it did not have the power to implement its decisions. At the time of formation of the United Nations, the primary issue of "having the power to implement" was measured and discussed among the participants. However, that fundamental question of power is still here. The UN till the present has been unable to implement particular decisions that were deemed pertinent, like the resolution of Kashmir and Palestine. But, the UN also has a good number of success stories. UN functions through a number of bodies with the likes of Security Council, General Assembly, UNDP and UNEP etc.



Coming back to the relevance of structural imbalances, UN also has some inherent discrepancy in its power structures. Foremost, I believe, the UN establishment process had some fundamental flaws since it was negotiated amongst a certain group of countries that were minuscule. Second, we can distinguish

that the process after the Atlantic Charter between USA and UK, it can be indicated that the transfer of power from one superpower to another was ascertained.

Third, most of the UN agencies are located in developed countries, which in turn weaken the ability of developing or least developed nations to contribute and secure their interests. Furthermore, most importantly the power to influence the decisions at the UN level is exceedingly biased in favor of developed or prevailing countries. However, for the rationale of the paper's subject of matter, only the analysis on the structure of UN Security Council, WTO and UNFCCC is to be conducted.

#### **Box-3<sup>162</sup>**

1. Both USA and UK agreed not to go territorial expansion after the World War II.
2. Future rearrangement or adjustment of boundaries of any would only be made after consulting the real stakeholders
3. Everyone have equal right for independence and self-determination.
4. Efforts will be made whole-heartedly to facilitate trade by lowering trade barriers
5. Social welfare and economic cooperation would be priority
6. All efforts would be made to make world peaceful and free from all types of fears
7. Sea will be free for movement on equality basis
8. USA and UK would work together disarmament, especially for aggressive nations

## **United Nations Security Council**

The UN Security Council was created with the mandate to maintain and secure peace and security of the world. The Security Council also takes lead on determining the state of threat or offensive related behaviors of countries. Box below profoundly illustrates a snapshot of the functions and responsibilities of the UN Security Council.

#### **Box-4**

- Security Council will work to ensure the peace and security of world by keeping in mind the principles and purpose of UN
- Investigation of disputes and conflicts, which might cause international crises
- Propose different ways to settle these disputes and conflicts
- Work for the formulation of framework to manage the armaments
- Security Council will work to detect and decide about any aggressive act or potential threat to peace and security of world and will propose the appropriate measures to combat it
- Ask member states to act and impose the economic sanctions and soft measures against an aggressive country to stop the conflict or dispute
- As the last resort to take military action to control the conflict and ensure peace and security
- Decide on the entry of new member states
- Provide strategic leadership for whole UN system
- Give recommendations for the appointment of Secretary-General and Judges of International Court of Justice of UN to General Assembly

These functions and responsibilities given to the Security Council are truly imperative and reflect on the sense of desolation associated to the previous world wars. Much emphasis was given on the

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<sup>162</sup> Kelly, M 'Atlantic Charter A Vision for a Post-World War II World,[http://americanhistory.about.com/od/worldwarii/a/atlantic\\_charte.htm](http://americanhistory.about.com/od/worldwarii/a/atlantic_charte.htm)

maintenance of peace and security. Moreover, the world was reminded the lack of implementation of power by League of Nations, making it essential for all member countries to accept the decision of Security Council. Functions and responsibilities clearly show that major powers are confined with the Security Council, e.g. nomination of Secretary-General and acceptance of new members, etc.

However, the power distribution in Security Council is highly inclined to influential countries. The Security Council consists of 15 members (five permanent and 10 non-permanent members). Permanent includes United State of America, China, United Kingdom, France and Russia and non-permanent members are selected on the rotational basis. Each non-permanent requires 2/3 of casting votes to become the member. Permanent members enjoy the power of veto, which is mainly responsible for the discussed structural imbalance along with other factors.

First, representation at permanent portfolio is unequal, as three white nations from Europe and one USA and it is considered apartheid system<sup>163</sup>. Diversity of religion is also missing and it represents only one religion along with communism of China. This is in violation of charter of the UN which clearly solicits for non-discrimination on all basis and levels. Second, history shows that veto power is approximately always used for the protection of respective national interests rather than the concern of humanity or globe. Example can be quoted of USA 32 vetoes from 1980s onwards, which had some impact on Israel<sup>164</sup>. Process of decision-making and implementation becomes more complicated when one of the permanent is involved in conflict, e.g. Algeria (1954–62); Suez (1956), Hungary (1956), Vietnam (1946–75), the Sino-Vietnamese war (1979), Afghanistan (1979–88), Panama (1989), Iraq (2003), and Georgia (2008).

Third, selection of Secretary-General is done through the Security Council, which requires endorsement of all permanent members. It sometimes results in a deadlock, e.g. Dag Hammarskjöld in 1953 was selected Secretary-General after several candidates were vetoed. Dag Hammarskjöld was considered a compromised candidate at that time. Selection of Secretary-General depicts that any candidate must be adequate to veto members before they institute the process in the UN General Assembly. Fourth, membership process of new ones can only be initiated after the approval of Security Council or in other words after the approval of permanent members.

Fifth, Security Council can start deliberations on any issue which they jointly perceive is a threat or a potential threat in the future. Permanent members can also provide propositions on any type of binding and non-binding orders. According to chapter VII that it is obligatory for all member states to accept and implement the decision of Security Council<sup>165</sup>.

Sixth, the permanent members (P5) take all decisions on peace and security, imposition of sanctions, and deployment of peace forces. Although decisions are taken by the permanent members regarding peace keeping missions, they usually show reluctance to send their troops to the troubled areas, e.g. China and USA on no account have sent their armies as peace missions. A major portion of peace forces

<sup>163</sup> Alexander, T 1996, 'Unravelling Global Apartheid: an overview of world politics'. Polity Press. pp. 158–160.

<sup>164</sup> Mearsheimer, J & Walt, S 2006, 'The Israel Lobby and U.S. Foreign Policy', KSG Faculty Research Working Paper Series. Harvard University. SSRN 891198. KSG Working Paper No. RWP06-011. Retrieved 2011-12-11.

<sup>165</sup> United Nation Security council, <http://www.un.org/en/sc/>

is provided by the developing and least developed countries. Therefore, developing and least developed countries feel that P5 enjoys power on the table and other small and less developed countries fight at field.

Lastly, the selection of Security Council is an integral and very complicated process. Countries with significant lobbying power can only become member of council. It should be made aware that 70 countries by no means became members of the Security Council.

## **UNFCCC and WTO**

The structure of UNFCCC and WTO is different from UN Security Council. In UNFCCC and WTO, all members have equal voting right and every member's vote has equal weight. All decisions are made with consensus. It means that rejection of any decision by any member will be the rejection of that decision. There are two schools of thought, which have contrary opinion about this structure of decision-making. First group, mostly comprises developing countries and scholars think it is good that these organizations have this arrangement. It safeguards the interest of weak countries. It hinders the way of most developed countries to twist decisions in their favor. Second group thinks it is slowing down the pace of decision-making and sometimes it hinders the process of decision-making.

However, reality is different in these two organizations. Developed or powerful countries still manipulate decisions in their favor. For example, in WTO after Doha development agenda progress is very slow and developing and least developed countries almost failed to get promised benefits. Moreover, developed countries continued to provide subsidies to their producers and pushing the developing and least developed countries to lower down the tariff and open trade. In the same way in UNFCCC, after Bali progress started to slow down after 2009 and right now extensive negotiations are going on. In 2009 at Copenhagen, developed and emerging economies also bypassed the system of negotiation and had a deal in small group. Promises made at Copenhagen, e.g. fast track financing, still need to be fulfilled by the developed countries.

Moreover, developed countries also use Britten Wood institutes to get their desired results. For example, IMF pushes agenda of trade liberalization and removal subsidies through Structural Adjustment Program. The same way, the World Bank brought into debate the Washington Consensus. Now, World Bank also has initiated the lending for climate related activities.

These examples clearly show that industrial power still dominates the power structure. Although these organizations have given equal voting rights, but still decisions are made or manipulated by powerful countries.

## **Conclusion**

Conclusion of such a miscellaneous theme is quite impossible. It was observed during the literature review that the system of global governance was complicated. It was drafted in a very sophisticated manner and has all the elements to be manipulated in favor of a few powerful stakeholders. For example, in the World Bank and IMF, veto power of major decisions lies with the USA, but apparently the system appears very democratic. Permission or the consent of USA is a prerequisite to the start of processes on any important issue because the required number of votes can never be attained without the consent of USA. Both IMF and World Bank requires 85 per cent votes for any major decision,

which can never be attained without the participation of the US, as they account for 16.75 per cent and 15.83 per cent of the votes in the IMF and World Bank respectively.

Therefore, the working framework or attitude of both the institutes changes with the varying preferences/ideologies of the US administration. The first loan subsequent to World War-II was sanctioned to France, and soon after Marshal Plan was followed for sanctioning loans to European countries for development. With the appointment of McNamara, the focus of the Bank shifted to poverty reduction through investment on mankind, e.g. food, education, health, etc. The ideology of McNamara changed with the appointment of A.W. Clausen as the new president of World Bank in the 1980s. Clausen was the one who introduced the Structural Adjustment Program, which reversed the McNamara development process. Structural Adjustment Program is still on-going and is pursued by the World Bank and IMF.

Explicit power of USA at IMF and World Bank also gives USA the power to attain its foreign policy objectives. At the time of first loan sanctioning, USA asked France to remove communist members from cabinet and France had to comply on that. Although the group of influential countries had increased at both the institutes, USA still enjoys final authority to veto any decision. However, it is hardly a reality that decisions are motivated by political preference, as it happened during the Cold War era when allies of Russia were not given preference for loans<sup>166</sup>.

The case of Security Council is not much different except the number of veto countries is five and the fact is that they adopt decisions keeping in view their national interests, e.g. USA, China, France, UK and Russia. These five countries in fact decide as how to interfere in the affairs of other states on the grounds of self-defined or perceived threats to world peace and any act of human rights violations, genocide etc. Recent events in Afghanistan and Iraq can be referenced as prominent examples. The Security Council also uses the instrument of Right to Protect and Intervene such as on the occurrence of Libyan and Mali conflict that can be quoted as examples.

Finally, the literature review also highlighted the point that corporate business empires are endorsing a very important and influential role in the global governance. Business empires use different tactics to achieve their benefits by investing heavily in research and media departments and in some cases indirectly control the specified sectors as well. For example, leading and influential research organizations are funded by these business empires. Brookings, Council on Foreign Relations, and Woodrow Wilson Center are all heavily funded by big corporations like Coca Cola, Pepsi, Ford, Barclay, Citibank, AT&T, Rockefeller, etc. These corporations heavily invest in the anticipation of promoting their business interests.

These are the means through which these corporations enhance their influence and power on such institutes. Apart from areas like economic, social, foreign policy, etc. now these practices are engulfing the security and intelligence departments as well. Brookings recently announced the establishment of Mini CIA in the name of Center for 21st Century Security and Intelligence<sup>167</sup>.

Picture of global institutes above indicate the structural imbalances and influence of different countries and corporations. In such situations, developed or least developed countries ought to strive and secure

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<sup>166</sup> Thacker, SC 1999, 'The High Politics of IMF Lending'World Politics, pp. 38-75.

<sup>167</sup> Brookings Launches a "Mini-CIA", Thursday, March 14, 2013, <http://www.thinktankwatch.com/>

their rights alongside their dignity at global level. The answer can be upright and simple or very complicated. Simple answer is that renegotiate the power structure, but the complicated part is HOW TO DO IT.

However, the world can address these imbalances by reforming the existing structure of global governance institutes. Most of the UN agencies and Britton Wood Institutes were created after World War-2. These institutes have become old and unable to address the modern day challenges, e.g. terrorism, cyber security etc. Moreover, economic development is also shifting from North to South, and this shift also puts pressure on emerging economies take more responsibility and share the burden of international development. But, the power structure of UN and Britton Wood Institutes favors the North, which emerging economies consider a hindrance to their role.

Therefore, there is a dire need to reform existing institutes and create new institutes to cater to the emerging challenges.

## **Recommendations:**

1. Veto power in Security Council should be dissolved or must be diluted.
2. Role of General Assembly must be strengthened and major decisions should be taken in General Assembly, e.g. nomination of Secretary-General etc.
3. Financing structure of UN should be reformed.
4. Strong role of IMF and World Bank in northern countries should be minimized and veto power of USA must be abolished.
5. Representation of developing and least developed countries should also be enhanced at all decision-making bodies of IMF and World Bank.

Most importantly, the world needs to follow the strategy, which Woodrow Wilson advocated to USA people at the time of formation of League of Nations. Woodrow Wilson asked for thinking beyond the economic interests and make decision on the basis of morality and ethics. World should follow it now, otherwise the situation will become worse.

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# Withdrawal of Regulatory Duties: A Step Taken by the Government

*Afsheen Naz*

## **Introduction**

Pakistan is a developing country and has registered a very low growth rate (2.4%) according to the economic survey of Pakistan 2010-11. At present the country is suffering from massive internal crisis, both natural and manmade, and external pressures. To cope with the crises, the revenue generation side of the country has proved to be very weak. Due to these limitations the dependence on foreign loans has increased over a period of time. Heavy foreign debt is the major reason for Pakistan's loss of sovereignty.

Different measures have been adopted at various periods of time for the improvement in revenue machinery. The federal budget 2011-12 introduced many reforms including reduction in sales tax from 17% to 16% and broadening of the tax base. The revision of the federally announced policy in 2008 regarding the removal of regulatory duties (RD) is also amongst one of the announcements.

In 2008, 379 items were notified to bring in a regulatory duty net.<sup>168</sup> Most of the items which brought in the RD net consisted of edible items and some of them were machinery items. Two major reasons were identified for taking such an action at that time of which one was the reduction in import bill and other was volatile trends in international market prices<sup>169</sup>. However, the list of RD items was reviewed in 2009 and under the notification of SRO 482(I)/2009, a total of 397 items brought in RD net. These items were subject to the RD rate between the ranges of 10% to 50%.

In the current budget the list of 397 items has been reduced to 60 items under the notification of S.R.O.479 (I)/2011<sup>170</sup>. The decision of the government on the removal of RD is two fold; one to combat the smuggling of goods through the porous Pak-Afghan border and second to curtail inflationary pressure on the economy.

The current paper attempts to estimate the quantitative impact of the government's decision to remove regulatory duties on revenue collection, trade balance and domestic industry.

Specific data of the revenue generated by Regulatory Duties (RD) was difficult to obtain as the revenue figure is usually reported under the broad head of custom duties. Due to a dearth of exact figures, the figures used in the paper are based on reasonable approximation. Data on the 337 items, which are now RD free, has been collected with the help the website of the Federal Board of Revenue. However, data has been collected for the period of May-June 2010 to May-June 2011.

According to the collected data, it has been estimated that these items contributed approximately Rs. 5.65 billion to the total revenue of the country and comprised 3.99% of the total revenues generated under custom duty head during the period of one year. The removal of duty on these items is projected

<sup>168</sup> "Impact of regulatory duty on luxury imports and revenue generation" PITAD 2011

<sup>169</sup> The News, August 28, 2008

<sup>170</sup> Revenue Division, Ministry of Finance and Revenue, Government of Pakistan

in a deterioration in balance of trade and revenue collection bill. Moreover, a move towards an “open” economy will severely affect the domestic industry.

## **Context of the Study**

Regulatory duties are considered to be an additional part of customs. Basic motives for applying regulatory duties are;

- I. To regulate price structures and work towards attaining balance of payments
- II. To protect and provide incentives to the domestic industry
- III. To generate revenue

According to article 77 of the constitution of Pakistan, the decision of levying or removing of regulatory duty is the domain of the Federal Government of Pakistan. The Federal government in response to the international price trends set regulatory duty rates on certain goods. According to the Custom Act 1969, S.R.O.896 (I)/2008, the items which are imported under Free Trade Agreements (FTAs) and Preferential Trade Agreements (PTAs) are not subject to regulatory duty.

In 2007 the global financial crisis was observed. Additionally, increased food and energy prices on a global scale were also observed. Pakistan’s economy, which was experiencing a stable growth in economic indicators during 2001 to 2007, was severely affected due to this global crisis. Consequently, revenues fell in the government’s treasury which led to the balance of payment crisis. Subsequently, the value of the rupee depreciated and the inflation rate increased. A frequent usage of the term ‘Panic Protectionism’, among trade specialists was seen during 2008<sup>171</sup>.

The government of Pakistan took the decision of levying regulatory duties to cope with the balance of payment crisis. The IMF prepared a rescue package for Pakistan. The result of the rescue package was that 379 items were brought under the subject of RD where the RD rate was applied. The action was done without violating WTO rules as “the WTO regime allows its member countries to impose regulatory duties temporarily on their imports, if faced with macroeconomic and BOP shocks”<sup>172</sup>. The regulatory duty on imported food items helped to keep the market for domestic produce afloat. Most of the items under RD head were food items. Nevertheless, some luxury vehicles were also brought under the list.<sup>173</sup> However, this list of 379 items enhanced in 2009 and a total of 397 items were brought under the RD net.

The action of 2008 has been reversed by the federal government in the current year. At present, many of the items have been exempt from Regulatory duties. The list of 397 items has been reduced to 60 items under the notification of S.R.O.479 (I)/2011<sup>174</sup>. However RD on luxuries items like cars have not been withdrawn.

In the budget 2011-12, while taking different budgetary measures related to customs, various policy objectives have also been announced. These policy objectives include; Equity in tax system, industrial

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<sup>171</sup> *Ibid*, page 01

<sup>172</sup> *Ibid*, page 01

<sup>173</sup> Note: List of products subjects to Regulatory Duties in August 2008 can be reached under annexure 01

<sup>174</sup> Note: List of continual regulatory duty items can be reached under annexure 02

incentives for growth and expansion through reduced cost of raw materials, tariff rationalization to facilitate trade, amendments in legal provisions to remove arbitrage and ambiguity and export promotion<sup>175</sup>. Whereas, “removal of regulatory duty, particularly on edible items” come under “relief measures” head of the Customs Budgetary Measures 2011-12.

In the federal budget, other than squeezing RD net, an ambitious increase of 11% in net revenue receipts has been projected in comparison with net revenue receipts of last year. On the contrary, in Pakistan, out of a population of 180 million only 2.8 million individuals are registered for income tax while only 1.5 million actually pay taxes, whereas, about 2.3 million people have been proposed to be brought under the tax net in the current fiscal year<sup>176</sup>.

## **Objective of the Study and Database**

The focus of the paper is to analyze the impact of withdrawal of regulatory duty on 337 items on the revenues, trade balance and domestic industry of the country. A period of May 2010 to May 2011 has been selected, to collect the data on cumulative values as well as respective generated revenues on these 337 items.

The record of revenues generated by regulatory duty items is hard to find as it is merged in the head of “Customs”, therefore a self-collection of the data was applied. Whereas, to collect the data, relevant Pakistan Customs Tariff (PCT) Codes of the items were identified. For acquiring the appropriate and authentic data, help from the website of Federal Board of Revenue was taken.

All the data collected on items is in US Dollars. However, conversion of the dollar into rupees has been used during the analysis. According to the Economic Survey of Pakistan 2010-11, the average rate of dollar to rupee in 2010 remained Rs.85.3. The same average has been used in the paper for the conversion purpose with the assumption of CeterisParibus.

## **Analysis**

According to estimation, the total money Rs. 81.49 billion was spent on the import of 337 items, during the period of one year. The import of these items is not concentrated from one country but from various countries. It has been estimated that under the regulatory duty head these items contributed revenue of Rs.5.65 billion<sup>177</sup> during the same period of time.

The items on which data was collected under the study can broadly be categorized under these heads<sup>178</sup>;

- (i) Butter, Other Fats and Oil (ii) Fruits (Fresh and Dried) (iii) Sausages and Meat (iv) Cane Or Beet Sugar And Chemically Pure (v) Malt Extract; Food Preparations Of Flour (vi) Pastas (vii) Vegetables and Other Eatables (viii) Waters, Including Natural or Artificial (ix) Essential Oils (Terpeneless Or Not) (x) Soap; Organic Surface-Active Products (xi) Worked Monumental Or Building Stone (xii) Sheet Pilling of Iron or Steel (xiii) Padlocks and Locks (xiv) Nuclear Reactors; Fuel Elements (Fans) (xv) Electric Motors and Generators (xvi) Seats (xvii) Worked Ivory, Bone, Tortoise-Shell (xviii)

<sup>175</sup> FBR, Customs Budgetary Measures 2011-12

<sup>176</sup> Text of Federal Budget 2011-12 Speech delivered by DR. ABDUL HAFEEZ SHAIKH (Geo TV)

<sup>177</sup> Note: the collected revenue excludes revenue generated under PCT code of 8517.1210-cellular phone head, due to non availability of data

<sup>178</sup> Complete list of items along with RD rates can find at; [dartways.com/uploaded/laws/2008sro896.pdf](http://dartways.com/uploaded/laws/2008sro896.pdf)

Polymers of Ethylene, In Primary Forms (xix) Uncoated Paper and Paperboard (xx) Refractory Bricks, Blocks, Tiles and (xxi) Glass in Balls (Other Than Micro-spheres)

The money spent on fruits (fresh and dried) is Rs.1.3 billion, similarly it adds up to a total of 3.33% in total RD revenue. Similarly, the head of “vegetable and other eatables” comprises spending of Rs. 0.28 billion which embraces 0.98% of total RD revenues.

## Impact on Revenues

The net revenue receipt of the country comprises of four major heads (i) Direct Taxes (ii) Sales Tax (iii) Federal Excise Duty and (iv) Custom Duty. Total revenue of Rs. 1588 billion has been collected during the fiscal year 2010-11, that is actually the revised target of Rs. 1,667 billion which was set in budget 2010-11<sup>179</sup>. According to FBR reports the custom duty head adds up to Rs.141.60 billion in total revenues. Whereas, the self calculated revenue from regulatory duties, during the aforementioned period, is of Rs. 5.65 billion.

**Table:** Revenue collections under CD and RD Heads: (Rs. In billion)

| Period                                | Custom Duty Revenues (CDR) | Regulatory Duties Revenues (RDR) | % of Custom Revenues | Revenue Loss (CDR-RDR) |
|---------------------------------------|----------------------------|----------------------------------|----------------------|------------------------|
| <b>May-June 2010 to May-June 2011</b> | <b>141.60</b>              | <b>5.65</b>                      | <b>3.99%</b>         | <b>137.61</b>          |

If trends of importing of these items remain same in current fiscal year, then a revenue loss of Rs.5.65 billion can be projected in the government’s treasury. Hence, a rise in the deficiency of the government to meet the set revenue targets can also be projected. This will lead, again, to repeating the history of revising set targets. Historically, set revenue targets have often not been achieved but revised, for instance in budget 2010-11 a total of Rs.1,667 revenues were target but during the fiscal year the revenues were revised and collected at Rs.1588 billion.

The revenue generated under the RD head is also calculated in a report *“Pakistan’s Trade Policies: Future Directions”* by Pursell et al. (2011). The report talked about the abolishment of regulatory duties but also suggests adopting certain substitutes to fill in any gaps. For instance, the levying of equivalent ad valorem excise duty in the replacement of regulatory duties on same products was suggested in the report. On the contrary, in the current budget no alternate policy was announced to combat the revenue loss or protected economy in the result of announced policy.

Despite the fact that certain measures have been adopted in the budget 2011-12 to enhance the tax base but without proper planning to combat the revenue loss occurred through withdrawal of regulatory duties; the gap may not be filled or may be partially filled. The hypothesis can be strengthening with the fact that the country is passing through the same issues which were experienced in the previous year. Unfavorable conditions i.e. due to natural calamities such as the floods, the energy crisis and security issues are still present in the country. This results in the projection of loss on the revenue generation side.

<sup>179</sup> FBR, Pakistan

Moreover, the government's step in the current year of empowering the provinces can also be considered in the wake of revenue collection or contraction. Provinces are proposed to generate a share of Rs.1, 203 billion in net revenue receipts in the current fiscal year 2011-12. At the same time, all the four provinces were expected to present a surplus of Rs.124.88 billion in their provincial budgets 2011-12, which comprised of 5% of the total revenues. On the contrary, not a single province was able to present surplus in their budgets.

Although, the revenue generated by regulatory duties in the said period is not a wide-ranging contribution towards overall revenues of the country, without initiating or announcing an alternative, such decisions proved to be harmful.

## **Impact on Trade Balance**

The country's trade always presents a dismal picture as the trade deficit has been registered in most of the period of the time. The trends in trade deficit have, however, changed with periods of time. The trade deficit in the first ten months of the year 2010-11 recorded at \$ 8,285 million where exports and imports during the same period were recorded at the amount of \$ 20,526million and \$ 28,811million respectively<sup>180</sup>.

According to the Economic Survey of Pakistan 2010-11 imports of the country grew by 14.7%, which amounts for \$4.1 billion, in the period of July10-April11 in comparison with the same period during last year. There were two reasons for this; higher global crude oil and commodity prices have been identified behind such rise in imports in the economic survey. Import of food items has been categorized as the second most imported item during the same period of time, whereas machinery items are the first most imported items. The import in food items contributed \$ 1,528 million in import bills which is 13.4% of total imports, the economic survey states.

Hence the trade balance is further projected to deteriorate due to lifting up of RDs on food items. A further rising trend in food items can be envisaged which could prove to be harmful for the balance of payment.

## **Impact on Domestic Economy**

The consequences of such instances could also possibly be seen on the domestic markets of such products. The dependence on international markets will increase more which will not let the economy, even being an agrarian country, be a food independent country as import of food items are already contributing in very high ratio of 13.4% in total imports of the country.

Most of the regulatory duty free items come under the category of consumer goods especially household appliances and processed food (Pursell et al. 2011). According to the same IGC report, almost all of the regulatory duty items are produced in Pakistan. Hence, domestic producers were highly protected. These industries are no longer vulnerable.

After lifting up the protections, the non-competitiveness of the domestic industry is a considerable factor as it would not compete with the low prices hence will be captured by international competitors who are comparatively cheaper and more efficient. This non-competitiveness can be attributed with the

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<sup>180</sup> Economic Survey of Pakistan 2010-11

presence of many unfavorable factors. Improper production environment in the wake of high input cost, fundamental-old production methods, heavy dependence on natural resources i.e. water, high cost of doing business, energy outages, perilous security situation, negative advisories etc. are amongst such factors which do not allow the domestic industry to grow in a proper manner. In the backdrop of this scenario, lifting up the protection rates on the majority of the items fall under RD and particularly fruit and vegetables, will definitely result in severe losses to the economy.

Moreover, shutting domestic industries will end harming the economy of Pakistan in multiple ways. A rise in trust breakage of the investors and unemployment are major side effects of such openness of the economy. Such negative outcomes of the trade liberalization i.e. loss to industry, production, employment and moreover loss to firm specific human capital, have been identified by Matusz and Tarr (1999) in their study "Adjusting to Trade Policy Reform". This cycle of effectees will go on in the absence of opting proper measures to wisely handle such decisions.

## **Recommendations**

The Governments should adopt different measures to combat certain issues faced by the country so that well-built economic growth can be attained. Policies should be aligned with adopted measures. Sustainable economic growth can only take place if the internal side of the economy is strengthened while controlling structural weaknesses.

Despite abolishing all the RDs, partial abolition should have been adopted. The country is and has been suffering from uncertain internal and external shocks that severely affect the economy. Lack of proper planning to cope with and to manage uncertainties, is the major reason which has stopped the country from taking major steps for the betterment of the economy. An abrupt step like abolishing RDs can prove to be harmful in case similar situations of the past are repeated. This is so because the economy of Pakistan is vulnerable to internal and external shocks.

The partial abolition of regulatory duties also fits into the suggestion posed by Pursell et al. (2011). It has been argued in the report that the production of high cost import substitutions will increase more in the country if RDs prolonged. Against this backdrop, a partial removal will end with little competition. This will result in production of normal cost import substitutions.

Above all, if full abolition was planned to be done, alternatives such as are suggested by Pursell et al. (2011) would have to be adopted i.e. replacement of current regulatory duties with equivalent ad valorem excise duty on the same products. This will serve as protection and will result in avoidance of any sort of abrupt shock to the domestic producers as well as to the government treasury.

The global financial crisis can again be foreseen in the future as for the first time, America has experienced a dip in credit rating from AAA to AA+. Hence, careful insight is needed before taking any step.

The country is heavily indebted with foreign loans. The debt is given on the proviso by foreign creditors on imposing certain limitations. Some of these conditions are very tough for the growing economy of Pakistan, for instance, the condition of increasing gas prices and withdrawal of subsidies. In the presence of such an unfavorable environment for investment and production and even for sustenance

of the present industries, the action of opening the economy without providing proper protection to the domestic industry will definitely further harm it.

Although different vigilant steps have been announced in the current budget for generating and eventually enhancing revenues, again domestic uncertainties matter. Lack of political will along with political unrest, the presence of the element of lack of coordination between government institutions and problems in administering any issue properly, are amongst those domestic issues that can prove as hurdles in the successful implementation and completion of any strategy.

Instead of completely opening the economy to foreign products, domestic producers should be strengthened. Incentives in the wake of availability of the investment environment should be provided to the local producers so that the supply side of the economy is enhanced. With an increase in domestic production it is hoped that there will be less need for imported products. Through increasing domestic production the demand and supply gap can be filled which would also control smuggling. Consequently, some sustainable improvements in trade balance and balance of payment can be achieved.

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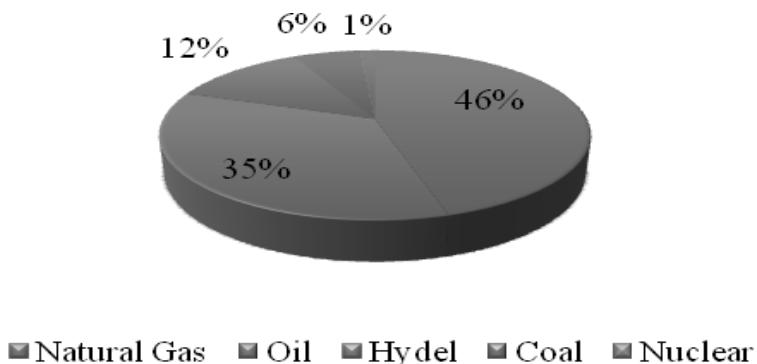
## Monetary Policy Response to Rising Oil Prices

Muhammed Zeshan<sup>181</sup> and Vaqar Ahmed

*All exact science is dominated by the idea of approximation. – Bertrand Russell*

Since the last one and a half decade, the energy demand has exhibited an expansion which grew by 80% particularly for primary energy. More precisely, in 1995, the primary energy demand was 34 million Tons of Oil Equivalent (TOE) and it reached to 61 million TOE just in next 15 years<sup>182</sup>. Pakistan depends heavily on fossil fuels to satiate her energy requirement; among these fuels, oil and indigenous natural gas are major energy sources that are contributing 35% and 45.4% respectively in total energy blend, (see Figure 5 for details). It presents various energy sources and their contribution in the energy mix. Due to a substantial share of imported oil in total energy blend, external oil price shocks gain much importance for Pakistan. Current global oil prices are once again showing upward volatility. For the first 9 months of the current fiscal year, 2011-12, the imported oil bill reached to a historical high level of \$11.36 billion against \$8.38 billion for the corresponding period of last year; indicating a rise of 38%.<sup>183</sup>

**Figure 5:** Primary Energy Demand in Pakistan



Source: Ministry of Petroleum and Natural Resources, Pakistan

In international literature oil price shocks are partially held responsible for recessions because most of the oil price shocks precede all major recessions<sup>184</sup>. Pakistan is a net oil importer that makes her vulnerable to these shocks. For the first nine months of the fiscal year 2011-12, soaring oil prices have intensified Pakistan's trade deficit by \$ 4.4 billion. Furthermore, it pushes consumer prices because oil prices have a large weight in Consumer Price Index (CPI) which witnessed a growth of 52.5% over the last four years<sup>185</sup>.

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<sup>182</sup> Petroleum Institute of Pakistan 2011, Pakistan Energy Outlook (2010/11 to 2025/26), Pakistan.<[http://www.pip.org.pk/images/Outlook\\_Executive\\_Summary.pdf](http://www.pip.org.pk/images/Outlook_Executive_Summary.pdf)>.

<sup>183</sup> Ministry of Finance 2012, Economic Survey of Pakistan 2011-12, Pakistan.  
<[http://www.finance.gov.pk/survey\\_1112.html](http://www.finance.gov.pk/survey_1112.html)>.

<sup>184</sup> Hamilton, J D 1983, 'Oil and the Macroeconomy Since World War II', Journal of Political Economy, 91, 228-248.

<sup>185</sup> State Bank of Pakistan 2012, Various Monthly Reports for the period 2007-08 to 2011-12, Pakistan.  
<<http://www.sbp.org.pk/reports/quarterly/fy12/Second/qtr-index-eng.htm>>.

There are two channels through which oil prices impact the economy. The first channel is through commodity prices while the second channel is through production. Both channels ultimately lead to a higher cost of production for firm sector. Under the first channel, increase in oil prices causes firms to reallocate their resources; they can purchase less oil and other production inputs as before. Under second channel, the availability of less production inputs undermines production activity. It is obvious that most of the production losses occurred in large scale manufacturing which witnessed a 2.6 % fall in production, and the resultant increase in industrial unemployment was 6.73% since the oil price shocks of year 2008. Fall in investment activities was very obvious-total investment decreased by 17.6%. Decomposition of different sectors indicated that most of investment losses were borne by construction, transportation and communication. Moreover, the manufacturing sector witnessed 36% loss in investment. This fall in production and investment activities further intensified the recessionary impact in Pakistan<sup>186</sup>.

It is always a challenging situation for monetary authorities to overcome the recession as a result of oil price shocks. A tight monetary policy may moderate prices but at the cost of production losses. Change in interest rate operates through the demand channel, a higher interest rate would encourage people for savings and aggregate demand may fall<sup>187</sup>. Prices will also fall and firms will lower output intensifying the recession. On the other hand, a loose monetary policy might lessen the production losses but it would boost inflation in the economy. When the interest rate is decreased by monetary authorities, people have lesser incentive for saving. It fosters aggregate demand and firms will raise their production to take the benefit of this higher demand. Nonetheless, the opportunity cost of stabilizing the output is higher future prices. For empirical analysis, only one study is available for Pakistan which quantifies output loss associated with oil price shocks and a resulting tight monetary policy. It asserts that an oil price shock contributes just 17% in recession whereas 83% in recession is contributed by a resulting tight monetary policy (Zeshan, 2012)<sup>188</sup>. Furthermore, Malik (2008) unearths that monetary policy in Pakistan does not follow any rule whereas a rule based policy can bring better macroeconomic discipline<sup>189</sup>.

The debate over rule versus discretion is also very important in this scenario. If a central bank enjoys discretionary powers, it can freely exercise its decisions based on its own judgment. In contrast, a rule imposes restrictions on monetary authorities and every task is accomplished within specified boundaries. A central bank can achieve its goals in a better way by following specified rules. Explicitly defined rules are more important for the survival of macroeconomic system than discretionary powers (Taylor<sup>190</sup>, 1993; Barro and Gordon<sup>191</sup>, 1983). In addition, discretionary policies are time inconsistent

<sup>186</sup> Ministry of Finance 2012, Economic Survey of Pakistan 2011-12, Pakistan.  
[http://www.finance.gov.pk/survey\\_1112.html](http://www.finance.gov.pk/survey_1112.html).

<sup>187</sup> Agha, A I, Ahmed, N, Mubarik, Y A & Shah H 2005, 'Transmission Mechanism of Monetary Policy in Pakistan', SBP-Research Bulletin, Volume 1, Number 1.

<sup>188</sup> Zeshan, M 2012, 'Oil Shocks, Systematic Monetary Policy and the Economic Activity', M. Phil Thesis, School of Economics, Quaid-i-Azam University.

<sup>189</sup> Malik, W S & Ahmed, A M 2007, 'The Taylor Rule and Macroeconomic Performance in Pakistan', PIDE Working Paper, 2007:34.

<sup>190</sup> Taylor, J B 1993, 'Discretion versus Policy Rules in Practice', Carnegie-Rochester Conference Series on Public Policy 39, 195–214.

<sup>191</sup> Barro, R J & David, B G 1983, 'Rules, Discretion and Reputation in A Model Of Monetary Policy', Journal of Monetary Economics, 12:1, 101–121. .

while rule based policies are robust over time. At present, Pakistan lacks clearly specified rules to make monetary policy more responsive to output losses. This briefly investigates the optimal change in interest rate due to oil price shocks. It quantifies the impact of different changes in interest rate on macroeconomic variables and takes the help of the Taylor (1993) rule to achieve this end<sup>192</sup>. Other than the Taylor rule based interest rate, simulated values of interest rate are calculated to find optimal change in interest rate that minimizes output loss arising from oil price shocks. Basically, this study is an extension of Zeshan (2012).

## **Identification of Oil Price Shocks**

At this point, it would be important to discuss the behavior of the interest rate in Pakistan. For the period of 1992-2010, the average interest rate was 12.78%; it reached the historical high of 20% in October 1996. It was recorded at its minimum level 7.5% in November 2002. A detailed graphical representation of these facts follows below. The historical rise took place in the fourth quarter of the year 2000 with a rise in 540 basis points. Such spikes are very obvious, and the most notable examples are fourth quarter of year 1996 and fourth quarter of year 2000<sup>193</sup>. Such large movements in interest rate are very detrimental because investment is sensitive to change in interest rate. First, it creates uncertainty in the economy because all previous investment decisions become suboptimal. Second, it discourages the new investment because cost of doing business increases in case of higher interest rate.

Now we move on to look at the pattern of oil prices. Historical data reveals eight oil price shocks in Pakistan during the period of analysis<sup>194</sup>. Furthermore, four of them were more devastating in terms of their relative change; see Figure 6 and Source: Author calculated based on SBP data. for movements in oil price shocks and resultant adjustments in macroeconomic variables<sup>195</sup>. It is evident that there are production losses when ever an economy is hit by an oil price shock. It seems as if oil price shocks are causing loss in production but the role of interest rate cannot be ignored at this stage. The State Bank of Pakistan (SBP) raises its discount rate to overcome inflationary expectations that might arise from oil price shocks; see

Figure 7Source: Author calculated based on SBP data. which indicates the movement in interest rate, inflation and GDP over time<sup>196</sup>. This tight policy response by SBP might be the source for stable inflation in most of the episodes. It is important to note that domestic oil prices are linked with international oil price since the last decade<sup>197</sup>. It is a challenge for policy makers to overcome the

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*Taylor rule can be defined as :  $i = r^* + \pi + 0.5(\pi - \pi^*) + 0.5(y - y^*)$*

*where  $i$  = nominal interest rate,  $r$  = real interest rate,  $\pi$  = inflation rate,  $y$  = logarithm of real output,  $r^*$  is real interest rate,  $\pi^*$  is target inflation rate, and  $y^*$  is logarithm of potential output.*

<sup>193</sup> State Bank of Pakistan 2012, Various Monthly Reports for the period 2007-08 to 2011-12, Pakistan.

<<http://www.sbp.org.pk/reports/quarterly/fy12/Second/qtr-index-eng.htm>>.

<sup>194</sup> Hamilton, J D 1996, 'This is What Happened to the Oil Price-Macroeconomy Relationship', Journal of Monetary Economics, 38 , 215- 220.

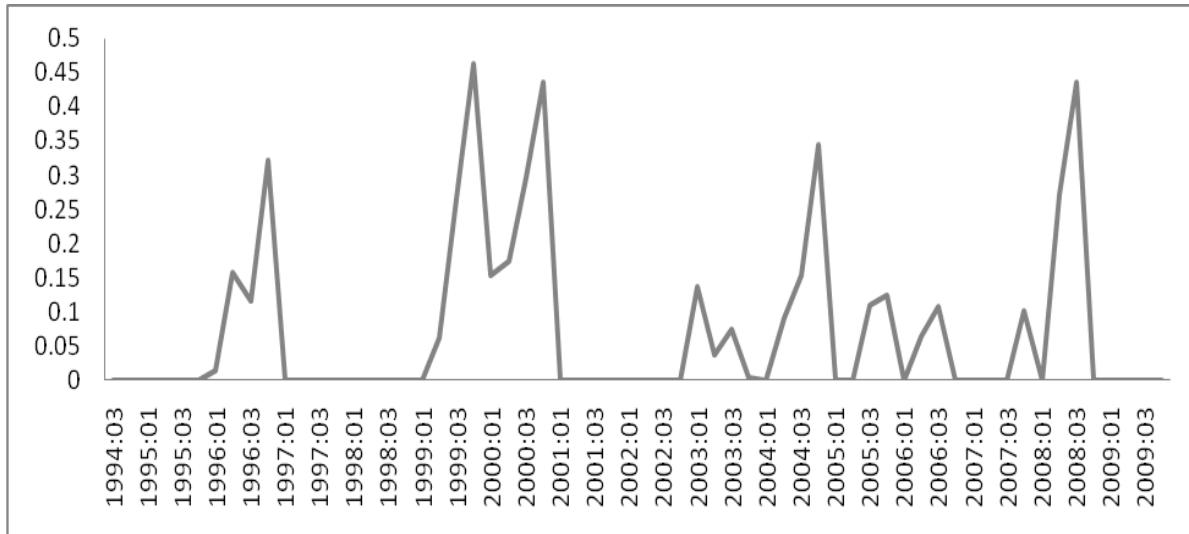
<sup>195</sup> Period of analysis is 1994:1-2009:4, consistent with Zeshan (2012).

<sup>196</sup> Call Money rate (CMR) is used as a proxy of Discount rate.

<sup>197</sup> Pesnani, R, Saleem M & Rahooja, S 2008, 'Fuel Price Trends: An Analytical Review', State Bank of Pakistan.

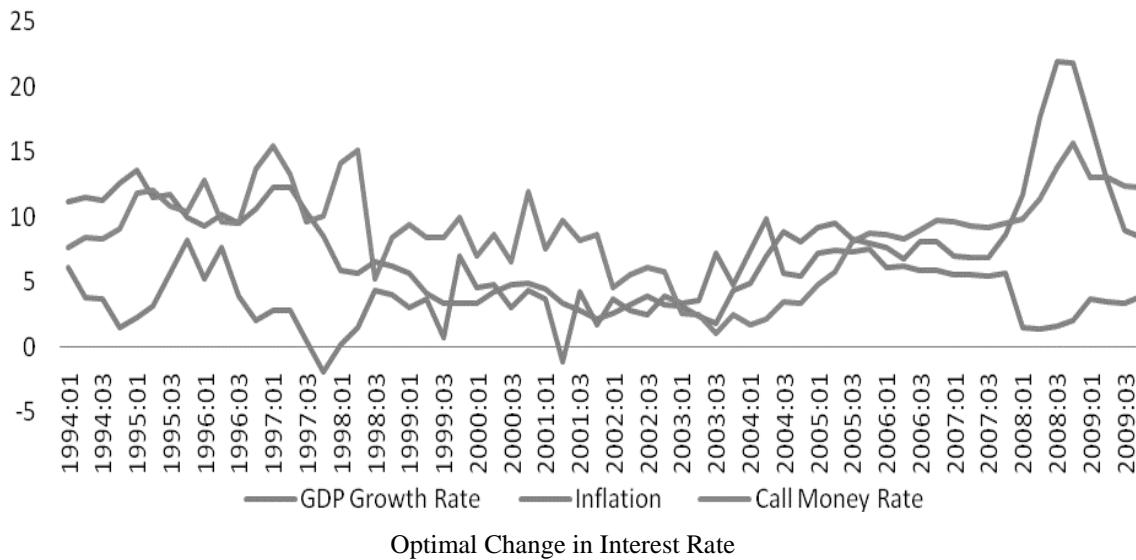
negative aspects of oil price shocks because in Pakistan it is more vulnerable to oil price shocks after linking the domestic market with international oil prices. That is why the oil price shock of 2008 was the most devastating compared to previous oil price shocks resulting in overall terms 25% inflation, 15% discount rate and a meager 2% GDP growth rate.

**Figure 6:** Oil Price Shocks (in %)



Source: Author calculated based on SBP data.

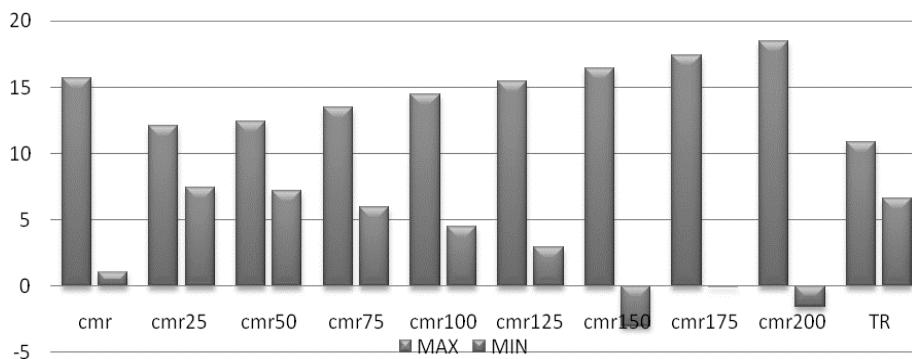
**Figure 7:** Behavior of Important Macroeconomic Variables



As discussed previously, monetary policy can perform better if it follows some rule. For this purpose, this section compares the performance of rule based monetary policy with actual monetary policy adopted by SBP. These simulations are conducted by a 25 basis points (denoted by cmr25) increase in interest rate up to a maximum increase of 200 basis points (cmr200). It provides a range of policy simulations which are helpful for finding the optimal change in interest rate. Results indicate that actual policy rate is quite deviant from the Taylor rule. However; a rule is adopted such that interest rate

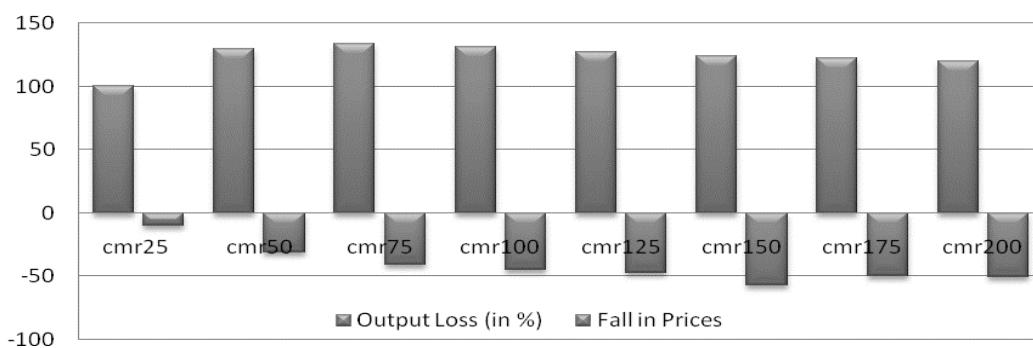
increases up to 25 to 50 basis points and is consistent with the Taylor rule. Hence, it can be concluded that a rule of 25 or 50 basis points rise in interest rate provides robust results over time. This change in interest rate assures a minimum and certain variation in the policy rate which lowers uncertainty in country. The least variation in the policy rate warrants least uncertainty which keep economy stable on the face of oil price shocks. This is shown in Figure 8 where by a policy rate within the range 7% to 11 % brings us close to the Taylor rule.

**Figure 8: Simulated and Taylor Rule Interest Rates (in %)**



Now we may move ahead to quantify the output losses resulting from changes in interest rates as a response to oil price shocks. From Figure 9, it is evident that production loss is minimal if policy rate is increased by 25 basis points while it becomes maximum if policy rate is raised by 75 percent, (see Figure 9 for details). Production loss decreases if interest rate is increased more than 75 basis points indicating asymmetric behavior of the GDP with the change in interest rate. On the other hand, fall in prices is minimal if interest rate is raised by 25 basis points whereas fall is maximum if there is 150 basis points increase in interest rate. For a developing country like Pakistan where unemployment is a major problem, a minimal production loss is more favorable with a moderate fall in prices. On these grounds, the present study suggests raising the interest rate by 25 basis points if oil prices increase by 15% to 20% (as expected by most forecasts).

**Figure 9: Production Losses and Fall in Prices (in %)**



(PB # 29, 2012)

# Land Rights for Pakistani (Muslim) Women: Law and Policy

*Nausheen Ahmad*

## Background

Women's land ownership and control have important connections with their empowerment in Pakistan's agricultural context. However, the link between these has largely remained unexplored; and there has been negligible research to determine how many women own or control land in Pakistan. The Sustainable Development Policy Institute (SDPI) carried out a multiple pronged national study in 2007-09 to fill this knowledge gap and to examine the causality behind women's land ownership and empowerment. The research focused on women's rights vis-à-vis the inheritance framework of private agrarian land.

This Policy Brief discusses and analyzes the laws applicable to property rights (of women) in Pakistan and reviews Government policy and international conventions in this area in order to examine the Government's approach towards the issue of women's land rights. The Brief concludes by giving specific recommendations on the subject.

## Review of Law

The Law and the Constitution of Pakistan under Article 23, allow the citizens of Pakistan equal rights to acquire, hold, own and dispose of property, but reserve the right to intervene in the property rights if the ownership or disposal of property clash with what is perceived to be the broader public interest. The State is also responsible for providing protection to its citizens. Thus the State, under Article 24 of the Constitution of Pakistan could interfere in an individual's property rights to protect the rights of those who are disadvantaged in the areas of ownership and devolution i.e., women and children. However, such pro-active involvement has not been evidenced either in the case laws reviewed or the codified laws.

## Applicable Civil Law

In Pakistan, adult women have the right under law to hold, acquire, transfer, sell or dispose of property whether for consideration or as a gift and can contract any terms or in any manner whatsoever in the same way as a man can. Women as owners of property also have the right to mortgage such property to obtain financing. The law recognizes the independent property rights of a married woman if she has written title to that property. Hence, the courts recognize that both the husband and wife have independent property rights. The Civil Laws governing property transactions e.g. the Contract Act 1872, the Transfer of Property Act 1882 or the Registration Act 1908 do not make a distinction based on gender for adult persons (over 18 years of age).

## The Islamic Laws of Inheritance

Whilst the civil laws dealing with ownership and transfer of property are gender neutral, however, inheritance rights are subject to Muslim Personal Laws. In matters of succession and inheritance, Muslim women are subject to laws which, however, give them a differential status. Pursuant to the

West Pakistan Muslim Personal Law (Shariat Application) Act 1962, the issue of inheritance is dealt with under the personal law of each citizen residing within the State. The main principle governing the Islamic Law of Succession is that only blood relatives may inherit, therefore, adopted children are not able to inherit. Inheritance devolves according to the ‘Quranic Shares’ which are pre-defined. These include all properties (which are free from encumbrances e.g. mortgages) movable, immovable, ancestral or self acquired. According to the pre-defined Quranic Shares under Hanafi Law there are twelve sharers, four male sharers and eight female sharers and under Shia law eight sharers.

Under Hanafi law, the sharers include the wife or wives, the mother, the true grandmother (could include either maternal or paternal grand mother as defined), daughters, son’s daughters, uterine sisters and full sisters. The general principle with regard to allocation of shares is that the women sharers receive half the share of a male sharer. Therefore, under Hanafi Law, the father would receive 1/6th share and the mother would receive 1/3rd share. The husband would receive  $\frac{1}{2}$  share and the wife would receive  $\frac{1}{4}$  share of her husband’s estate. Daughters would receive half the share of the sons. Shia Law, on the other hand, allows female heirs to be the sole heirs.

Given the fixed and immutable nature of the Quranic Shares, historically, a number of devices have been used to allow a person to deal with his property according to his own free choice. The most important of these devices are Gifts and Wills. An oral gift made to a wife and to a daughter has been declared permissible by the courts. A gift, however, can be challenged on the basis of Marz ul Maut, which means a gift was made under the pressure of the imminence of death. Wills are only allowed by the courts to the extent of 1/3 of the Testator’s total estate and they are open to challenge by the legal heirs after the death of the Testator. Dowry is mostly specified in terms of a sum of money rather than property, and that too in most cases is deferred. Hence, the compensatory property regime does not deliver equitable access to land.

Pakistani courts whilst enforcing Islamic inheritance rights at the same time accept the concept of Tanazul (relinquishment) whereby a woman has the right to relinquish her share of inheritance. Whilst the practice of relinquishment is fairly common, very few challenges to this have been taken up in the courts.

## **The Compensatory Property Principle**

Objectively, the inheritance rights granted to Muslim Women under Islamic Law are discriminatory and contribute greatly to the inferior status of Muslim women. The National Commission of Inquiry 1997 has clearly recognized that women’s inheritance rights are half those of men and that even these rights are ignored. The framework of inheritance, however, has been justified in various ways. The widespread belief (which is repeated by the Courts in a number of cases) is that women were not required to take on financial obligations and therefore were given a share in property commensurate with that. It is also pointed out that women first received their share of property rights through Islam. According to John Esposito, “The status of women in Islam was profoundly affected not only by the fact that Islamic belief interacted with and was informed by diverse cultures, but also, and of equal importance, that the primary interpreters of Islamic Law and Tradition (Hadith) were men (religious scholars or Ulema) from those cultures.”

Scholars have also put forward the justification that Islam provides a ‘compensatory property regime’ for women in which the woman is theoretically supposed to obtain property through other avenues such as gifts, dowry and maintenance in marriage. However, women in practice do not have access to the compensatory property regime, dowry, for example, by application of custom, is generally deferred (not paid at the time of entering into the marriage contract) and later waived by the wife.

## **The Muslim Family Laws Ordinance 1961**

The Muslim Family Laws Ordinance 1961 which codified a number of matters dealing with Muslim Personal Law does not totally codify the laws relating to Islamic inheritance. The Constitution of Pakistan under Article 227 declares that religion dictates all the laws of the State. Thus, the provisions of law which discriminate against women regarding inheritance of property have not been challenged legally or constitutionally, nor has any reform been proposed. The differential inheritance rights for women have often been justified by the formal legal system and religious scholars on the basis of arguments like ‘the compensatory property regime’ provided by Islam for women, whereby women are said to be entitled to obtain property through alternate avenues like gifts, will, dowry and maintenance in marriage.

## **Customary Law**

Customary laws which have been considered valid by courts to decide issues related to the inheritance of agricultural land also discriminate against women and allow limited rights of ownership for a woman during her lifetime. Due to these limited rights, a woman cannot gift or alienate the land, nor can she easily obtain rights related to land ownership like demanding access to water and having her name on the revenue record etc.

## **Property Rights of Women arising out of Marriage**

Pakistani law does not recognize the rights of women to property which may have been acquired during marriage. Currently, the law does not have the concept of co-ownership of marital property. Therefore, a woman would have no ownership claim to household land despite working on it and despite the fact that her work (paid or unpaid, as household labour) may have contributed to the purchase of that land by the family during the marriage. Though contribution in kind is not recognized under the law, if a woman is able to prove that she contributed cash, then, she may be able to lay a claim to property under the principle of *benaami* (anonymous) transactions. However, this is a difficult principle to prove and generally the law recognizes title only if a person’s name is on the title document. In case of divorce, a woman cannot claim a share in her husband’s property and she is not entitled to maintenance in the long term. Her claim to dowry also has to be forfeited if she has asked for *khula* (divorce). In the agricultural context, a divorced woman would lose her right to work on the household land or access any common land which perhaps was being used by her husband’s family as tenant farmers or share croppers.

## **Analysis: Law**

The cases decided by the Superior Courts show that whilst the Pakistani courts always invariably uphold the principle of inheritance according to the Quranic Shares, no inquiry is ever made as to whether the woman did receive property in actual fact under any other head.

In deciding matters of inheritance, the superior judiciary has generally tried to favor interpretations which are more beneficial to women and in this their attitude is at variance to the generally biased stance taken when deciding issues of criminal law (The Hudood Ordinances) or matters relating to marriage and divorce. The reason for this could be that issues related to inheritance and related property rights for women are decided squarely within the religious context and with reference to the Quran and Hadith.

In order to enforce inheritance rights, women have to be able to access the formal court system which is complex, expensive and slow. In any event women in general have restricted access to formal law generating mediums which are all at the command of a patriarchal state apparatus. Decisions in property cases may take up to ten years or more. Even if a case is decided in favor of a woman it does not mean that the decision will be effectively implemented and that women especially in the rural context will have their names registered in the Revenue records. Very few women will eventually exercise control over their property. In a 1995 survey of over 1000 households in rural Punjab only 36 women owned land in their own name and only 9 had the power to sell the land without permission from the male members of the family.

The few instances where the courts have taken supportive decisions towards women are not based on the perception of women being equal citizens. Women are perceived to be weak, illiterate, and dependent, in need of protection and ill equipped to handle property matters. Thus, any decisions favoring them seem to be based on paternalistic considerations rather than an acknowledgement of equal citizenship of women.

## **Review of Policy**

### **International Conventions and Declarations**

Given the link between ownership and access to land and poverty, a number of international conventions focus on land rights issues and women's rights in this area. Thus, Article 17 of the Universal Declaration of Human Rights states, "everyone has the right to own property alone as well as in association with others." The Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) ratified by Pakistan in 1996 under Article 16 (h) states that Parties shall provide "the same rights for both spouses in respect of the ownership, acquisition, management, administration, enjoyment and disposition of property whether free of charge or for a valuable consideration" Under Article 14 (g), States Parties are required to take steps to ensure that women have access to "agricultural credit and loans, marketing facilities, appropriate technology and equal treatment in land and agrarian reform as well as in land resettlement schemes." Even though this Convention was ratified by Pakistan it did so with a reservation under Article 2 that it would not undertake steps which would be in violation to its Constitution or Law (which would include its Islamic Law provisions). In Pakistan, devolution of land rights through inheritance is, therefore, continues to be governed by the Personal Law of each citizen.

While the link between access to land and poverty is generally recognized by international conventions; the emphasis is on ensuring that women have full and equal access to land rather than on ownership of land and, international UN instruments do not emphasize equal inheritance rights. The Beijing Platform for Action (1995) for example refers to only “an equal right to inheritance”, which essentially means that women should be able to exercise or assert their right of inheritance on the same basis as a man however, it is not necessary that their inheritance share would be equal or in the same proportion as that given to a man. This takes into account the principle of the Islamic Law on inheritance which provides for smaller Quranic Shares for women.

### **Invisibility of Land Right Issues in State Policy**

Policy documents of the Government of Pakistan do not focus specifically on issues around women’s ownership and access to land despite the critical acknowledged link between this and poverty. The draft report of the National Commission on the Status of Women “Policy Research on Women’s Right to Inheritance and its Implementation,” does not focus on this issue specifically.

The National Policy for Development and Empowerment of Women (2002) does not highlight this issue as a fundamental one. It states, however, that the aim of the policy is “to remove inequities and imbalances in all sectors of socio-economic development and to ensure women’s equal access to all development benefits and social services.” In its key action areas only education and skills training are emphasized. In addition, it states that “steps are to be taken to ensure the access of poor rural women to land, agricultural and livestock extension services and support mechanisms and facilities; providing women easy access to micro-credit...” Women’s access to inheritance rights or issues created by custom/customary laws are not mentioned in the section on drafting of appropriate legislation which focuses on equal remuneration and sexual harassment at the work place.

Earlier, in the National Plan of Action for the Advancement of Women under the Beijing Platform (1998) (NPA) certain issues related to land rights were taken up however these are not emphasized in the 2002 National Policy.

Currently, Pakistan is working actively to achieve the Millennium Development Goals. Goal 3 is to “promote gender equality and women’s empowerment.” While the framers of the Millennium Development Goals Strategy recognize the link between access and ownership/inheritance to land and female empowerment, the actions taken by Government programs and projects do not in any way address this issue. The issue of access to micro credit is addressed, but only in the context of income generation, rather than asset ownership.

### **Analysis: Policy**

The gap between the identification of structural impediments to women’s empowerment/poverty alleviation and concrete action plans is particularly stark. While Government commissions and policy documents highlight the critical need for women to have access to land and more importantly to have ownership and control of land, Government programs and projects do not translate this critical need into concrete actions. Similarly, while the Government has signed or ratified International Instruments, when it comes to translating provisions of these instruments into domestic law and policy, the Government falls short.

The Report of the Commission of Inquiry for Women (1997, p. xi) argues that Pakistan can not divorce itself from international norms in the long term. The Report says “(it) needs to address its domestic issues in ways that are in some harmony with the international perspective and universally accepted norms. If it does not do it now, it will be compelled to do it later, after much damage.”

## **Recommendations**

In Pakistan, the application of a Civil Code taking inheritance out of the purview of Muslim Personal law would allow the state to enact gender neutral laws granting women equal inheritance rights. Even keeping within the confines of Muslim Personal law, lawmakers may take a more progressive interpretation by following examples of other Muslim states e.g. Morocco which automatically provides for joint ownership of all property acquired during the pendency of a valid marriage or the Shia Law which allows a woman to inherit the total estate of the deceased without any residual share reverting to a male heir.

Women should have a right to acquire immovable property as dowry (if the parties can afford it) and the property mentioned as dowry should be transferred at the time of the Nikah (formal marriage ceremony). In a divorce situation not only should maintenance be provided for a certain period of time (e.g. five years), but there should also be an equal division of immovable property acquired during the validity of the marriage. Women should also be granted the right to retain their dowry even when khula (dissolution of marriage) is applied for on the basis that dowry is consideration for entering into the marriage contract and theoretically should have been transferred at that time.

Along side this there is an urgent need to have these matters decided by Special Courts so that the delays in the regular Court process are minimized. Courts should not restrict their judgment to merely deciding the entitlement of applicants, but should pass implementing orders also directing e.g. that a women's name should be entered in the Record of Rights within a specified period of time.

This must be coupled with awareness campaigns. The registration of the birth of a female infant is important as it may later impact on her claim of inheritance and women must understand that securing title to property requires formal registration which only becomes possible if they have a National Identity Card. The Government could encourage registration by stipulating a concessional stamp duty and registration fee for women. Further, women should be given access to concessional credit by using land as security for the loan. This again would encourage ownership of property in the name of women. This principle could be cascaded down so that even the grant of micro credit could be linked either to evidence of ownership of land or access to land for farming purposes. Contracts between land owners and women should be encouraged so that women do not lose their right to work on common land in the case of divorce. These measures may indirectly encourage women to exercise a degree of control over the land also.

Given the invisibility of this issue from official Government policies and plans the real challenge is to have this recognized as a key contributing factor to women's subordinate status so that this may be prioritized for concrete action. Though in many instances the Pakistani courts have taken a supportive view, this action in the absence of policy support will not have long term impact.

**(PB # 23, 2010)**

# The Case for Land and Agrarian Reforms in Pakistan<sup>198</sup>

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## Abstract

We show that, at least for the one province (NWFP) for which data are available from the Federal Land Commission, land ownership is highly concentrated and has become much more so between 1980 and 1990. The Agricultural Census done every ten years collects data on operational holdings. These data suggest that operational holdings have become much more fragmented, and between 1980 and 1990, there was an increase in total farm sizes below 12.5 acres from 80 percent to 88 percent of the total land cultivated. As land becomes more fragmented, it appears that large landlords, who have the requisite liquidity, add to their holdings. Thus the agenda for the state is to both ensure a fair distribution of land holdings and also to ensure broader agrarian reform to ensure that small farm cultivation is both just, if under tenancy contact, and sustainable if under self-cultivation. We indicate that the case for land reform is very strong particularly on grounds of justice more broadly, but specifically from an Islamic perspective. Islam views natural resources, including land, as a trust, with individuals having usufruct rights only from the amount they can reasonably cultivate and only if they are actually cultivating it themselves. We also build the case for land reform on several other grounds including the economic argument of higher productivity of small farms and the need for land reform to make devolution and accompanying reforms successful since these reforms are subverted by landed power, and finally to enhance education since landed power has been shown to be inversely associated with mean educational attainment in villages. Finally, we indicate how a new round of land and agrarian reforms could be made more effective by avoiding the pitfalls and mistakes of past half-hearted attempts.

## Introduction

No single set of policy initiatives by this government could be as significant as land and agrarian reforms for providing sustainable livelihoods to the poor majority in the agriculture sector, and by linkage, to those in the rest of the country. This argument rests on several planks in Pakistan's unique institutional and socio-economic context. This policy brief reviews the vantage points from which the case for land reform can be advocated. However, prior to that, we establish that landholdings are indeed highly concentrated and that large landlords continue to wield tremendous political and economic influence due to land ownership.

## Concentration of land-ownership

It is only possible to infer something about the inequality of land ownership or land concentration from land-ownership data available from the Federal Land Commission. Khan (1999, p. 121) utilized this data and estimated gini coefficients as a measure of land concentration<sup>199</sup>. His estimates show that inequality in landownership was very high, but had declined overall and also in the Punjab, Sindh and

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<sup>198</sup> This brief was initiated by Omar Ashghar Khan, Federal Minister for Local Government and Rural Development. Very useful and extensive comments on an earlier draft from Mahmood Hasan Khan are gratefully acknowledged.

<sup>199</sup> Gini coefficients vary from zero (complete equality) to one (complete inequality) and a ratio of 0.40 is considered to be high as a reflection of inequality.

NWFP between 1950 and 1980-81. However, for the former two provinces, the gini coefficient was still very high at 0.49 and 0.55 respectively in 1980-81, the last year for which estimates are provided. For NWFP, estimates are also provided for 1990 and the data show a massive jump in land concentration from 0.38 in 1980-81 to 0.57 in 1990. It is very likely that as land is fragmented into uneconomic units due to inheritance laws, large landlords have the liquidity to add to their holdings.

The Agricultural Census reports operational holdings (i.e. farm size cultivated rather than owned). The latest information available is from the 1990 Census and one can use this to make some inferences pertinent to the issue of agrarian reforms. Also, a recent Government of Pakistan (2001) study has made some data available enabling projection beyond 1990.

Examining data for the last two Agriculture Censuses indicates two important findings<sup>200</sup>. First, large farms (defined by the Census as > 60 acres) accounted for a negligible number of total farms in both 1980 and 1990, but the area they cultivated more than doubled from 3 percent to 7 percent of the total. Second, the middle farm size categories thinned out, and there was greater cultivation by the smallest and largest farm-size categories.

Another interesting development between this census period is that the numbers of landowners in the country increased from 2.227 million to 3.491 million. There was a concomitant decline in the number of owner-cum-tenants and tenants, suggesting a move towards owner cultivation as land gets subdivided. Thus, the total amount of land in owner cultivation increased from 24.53 million acres to 30.72 million acres and there was a corresponding decline in the other two categories.

Government of Pakistan (2001) estimated that in 1990, farms less than or equal to 12.5 acres accounted for 80.6 percent of the total cultivated area, while this increased to 88.2 percent in 1998-99<sup>201</sup>. Farms less than 5 acres increased from 47 percent to 51 percent of the total. There were declines in areas cultivated by all other farm sizes except for the largest category of greater than 150 acres. The area cultivated by this largest farm size category increased from 0.32 percent of the total to 0.46 percent of the total, and this was significant enough to raise the average size of farm from 7.6 to 9.0 acres. Given that such a large proportion of total land is farmed in very small operational holdings and given the move towards owner cultivation, the broader issue of agrarian reform, rather than just land reform, needs to be explored to ensure sustainable livelihoods for the very large numbers of very small farms.

Finding out how the agrarian trends towards fragmentation have played out in terms of the concentration and inequalities of landownership will need to await information made available by the Federal Land Commission. However, if the trend in the NWFP between 1980 and 1990 is indicative for the rest of the country, land concentration has massively increased in Pakistan. As will be made clear from evidence reported later, the political influence of large landlords is significant. We turn now to the case for land reform on several grounds including justice (from an Islamic perspective), economic efficiency, political empowerment at the grassroots level, educational attainment and poverty alleviation.

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<sup>200</sup> This information is reported in Economic Survey 1992-93, Statistical Supplement, p. 77 for 1980 and Economic Survey 1995 - 96, Statistical Appendix, p. 53, for 1990.

<sup>201</sup> The big jumps occurred in the 1 – 2.5 acre and 5.0 – 7.5 acre categories respectively.

## The case for land reformJustice

There are many theories of justice within which to view the issue of land reforms<sup>202</sup>. However, from a Pakistani perspective, the Islamic concept of justice would be the most relevant. The preoccupation with justice in Islam is wide ranging and one can categorically say that it's espousal by all schools of thought represents the most notable consensus in contemporary Islamic thinking<sup>203</sup>. It is also the most ubiquitous principle of Islamic law. This is not surprising, since justice is referred to in the Qur'an the third most frequently (over one thousand times) after "God" and "knowledge"<sup>204</sup>." In the next subsection, we explore how this concept of justice in Islam pertains to land ownership and land reform.

### **Islam and land reform**

Sunni Islam recognizes no intermediaries between humans and their creator and reinforcing this is the Qur'an's (54:22, 32, 40) reminder to the reader that, notwithstanding some verses whose true meaning is hidden from all, "it has been made easy to understand<sup>205</sup>." Yet, over the centuries, many scholars have argued that only they have the right to interpretation by virtue of their scholarship and understanding of the historical context in which the Qur'anic verses were revealed. Our view is that most verses speak for themselves, and the relevant ones have been cited below to indicate an Islamic view on landownership<sup>206</sup>.

The Qur'an, (2:285) in very clear terms declares that God is the Creator of this Universe, and that everything here and above belongs to Him. This is repeated in (2:285) which unequivocally declares, "To Allah belongs whatever is in the heavens and whatever is in the earth -." Again, (7:20) states, "To Him belongs whatever is in the heavens and whatever is in the earth, and whatsoever is in between them, and whatsoever is beneath the moist sub-soil." These verses give rise to the view that natural resources in Islam are a trust and not subject to individual ownership, since God is the owner<sup>207</sup>. Hence, strictly speaking, individuals who cultivate the land, or use other natural resources, have the right to the usufruct but cannot acquire property rights.

However, property rights have been the reality in Islamic societies right from the on-set of Islam, and so one again turns to the Qur'an for guidance on the nature of such rights. An important recurring theme in the Qur'an in this regard is that it always makes a reference to the collective with regards to the provision of livelihood. Thus (7:10) declares "And we have established you in the earth and provided for you therein the means of subsistence - but very few express gratitude for this." More notably, (17: 31) urges "And slay not your children for fear of poverty. It is we who provide for them

<sup>202</sup> Rawls (1971) in this regard is particularly notable.

<sup>203</sup> For details see Khan (1985, pp. 16-18).

<sup>204</sup> Naqvi (1981, p. 86).

<sup>205</sup> The first number in the parentheses represents the chapter and the second, or those following the colon, the verse(s).

<sup>206</sup> Naturally, we recognize that scripture has been cited throughout the ages for advocating particular purposes. Our position is that, in this context, first, this process has been very one-sided and that the verses cited above are often neglected and second, another recurring theme of the Qur'an is enjoining on humans to use their intelligence which has been provided both as a blessing for productive use and for reinforcing faith.

<sup>207</sup> Some scholars who have advocated such views include Yusuf (1971, p. 19), Abu Sulayman (1976, p. 22), and Alam (1968, pp. 24-26).

and also for you.” The Divine assurance of the provision of subsistence for His creation is also evident in (6:151) and (29:61).

The first set of verses combined with the second set very clearly indicate that the Creator has provided natural resources, that remain His property, as a trust to the community to ensure subsistence for all. The embodiment of the community in this regard is the state that acts on behalf of the community. There still remains uncertainty on the principles on which the state would distribute the Divine trust to ensure sustenance for all. Such inferences are certainly not new and are embodied in Islamic tradition.

For example, a tradition of Prophet Muhammad, reported on the authority of Rafeh, son of Khudej, states that a person in possession of land is supposed to cultivate it himself; otherwise the land should be given to some one else and it should neither be leased nor rented. Abu Huraira Jabar, son of Abdullah, Abu Saeed Hazri and Ibn-e-Umar, also support this tradition of Rafeh. Thus, the view that the means of production, like land, cannot be owned but are subject to use by the community to ensure sustenance for all is well established. It has also been argued that Islamic tradition suggests a three-year period in which land in possession has to be utilized or else dispossessed.

Several Islamic principles for land and agrarian reform are thus evident. First, that natural resources are a trust and are meant to serve the whole community. Second, that those in possession of a trust must utilize it or face dispossession. Third, that only the amount that a family can cultivate by utilizing the current state of technology be allowed them since sharecropping and renting are frowned upon. All other land can therefore be made available to other families that do not possess a means of sustenance<sup>208</sup>.

One needs to address the reasonable counter-argument to land reform that if land is to be appropriated by the state for distribution, then why not industry and even other forms of private property like homes. Two counter-arguments are applicable here. First, the reference above via Qur’anic authority has been to natural resources, including land, and not to private property. Second, while Islam endorses the free operation of the market, large landholdings lead to undue market power and the appropriation of rental income, both of which Islamic scholars have defined as riba and hence against Islam<sup>209</sup>. The case against large-holdings is the equivalent of anti-trust action in industry and it is necessary for diffusing economic power to avoid economic exploitation of the weaker parties in a contract. We will show in a subsequent sub-section that diffusing such economic power is also necessary to diffuse political power, which can become the basis of a further accumulation of economic power. However, prior to that, we consider the economic case for land reform since a poor country can ill afford social reform that comes with a high economic price tag.

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<sup>208</sup> Neither the Qur'an itself nor verified traditions of the Prophet Muhammad explicitly mention ceilings on land holdings. Thus conclusions in this regard are based on inference from Islamic and other principles of equity and justice already cited in the text and other political, social and economic arguments that follow in the text.

<sup>209</sup> Proponents of this broader view of riba include Haque (1980) and Abu Sulayman (1976, pp.-54).

## The economic case for land reform: the inverse association between farm productivity and farm size

There is considerable empirical support for the argument that small farms are more productive and contribute more to economic development than large farms. We state some of the main hypotheses in this regard and then present the evidence with a focus on the literature in Pakistan.

### Hypotheses postulating an inverse size-productivity association

- a. Large farms almost always cultivate huge quantities of single crops (monoculture) with one or, at most, two crops per year, to take advantage of the heavy machinery they utilize. Small farmers intercrop various varieties on the same field, plant multiple times during the year and integrate crops, livestock production and aquaculture. This means that small farms use land more efficiently.
- b. Given the smaller resource base, small farmers make more efficient use of precious water resources than large farms.
- c. Small farms use labor-intensive techniques, typically utilizing motivated family labor, which are more successful than large farm absentee cultivation. They also absorb a larger amount of the labor force in agriculture, which is very important given that the carrying capacity of urban municipalities in Pakistan is over-stretched.
- d. Again, given the smaller resource base, small farms employ less chemical fertilizer and insecticide per unit than large farms. Thus, small farms typically employ environmentally friendly techniques that are more intensive in the utilization of traditional knowledge. These methods do not harm the soil irreversibly as do the chemical input-intensive techniques of large farms.<sup>210</sup>

These hypotheses have empirical support, as shown below, and hence they demonstrate that small farms have higher land productivity (output per acre).

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<sup>210</sup> Pesticides, for example, create pollution of water, air and soil, and also harm crop productivity by negatively interfering with crop ecologies, as argued by Hasnain (1999, p.14). According to the Government of Pakistan (2001b, p.144), only 15 percent of farms less than 10 acres report using insecticides, while 33 percent of farms greater than 10 acres report insecticide use.

### **Empirical support for the inverse size productivity relationship**

A wealth of literature now exists on the relationship between farm size and land productivity. Much of the literature indicates that average output decreases as farm size increases<sup>211</sup>. This relationship is now widely recognized by specialists across the world as the “inverse size-productivity relationship,” indicating that the total productivity per acre is highest on small farms, and decreases as farms increase in size.

Leading development economists at the World Bank have also accepted that re-distribution of land to small farmers leads to greater land productivity, improves macro-economic performance and the distribution of income and reduces poverty. This is argued to be as true for an industrial as it is for a less developed country. Thus Rosset (1999) reports that the smallest farms in the USA, those of 27 acres or less, have more than ten times greater dollar output per acre than the largest farms. He also reports, based on a review of the evidence, that, in less developed countries, small farms are two to ten times more efficient than large farms.

The use of “green revolution technologies” had begun to change the inverse relationship, as large farms were more able to adapt to new technology packages including seed, mechanical and chemical input and access to water. However, it has been shown that the large farm advantage was only a short term one, since the technology rapidly diffused to the small farms also. Moreover, the initial gap itself was primarily a result of inequitable access to innovation, technology and extension services (mostly through political contacts); if this infrastructure were provided to small and large farmers equitably, the lag in productivity is found to diminish<sup>212</sup>.

The research from Pakistan is for the most part supportive of an inverse association of farm size and productivity. Berry and Cline (1979) estimated that productivity on the largest farms (more than 150 acres) in the Punjab was less than 40 percent of the productivity on farms of less than 12.5 acres. Based on a sample of 732 farms of varying size and tenure in the Punjab and Sindh, Khan (1981) reported a significant inverse relationship between farm size and productivity. Haque and Mahmood (1981) findings were supportive of a U-shaped association with the small and large farms being more efficient than medium sized ones. Chaudhury (1982,1883) cited evidence against a negative association, with Khan (1983) contesting these findings. However, in a subsequent study, Chaudhury, Gill and Chaudhury (1985) report the existence of an inverse association.

Based on a study of four villages in the Punjab, Nabi et.al. (1986), also indicated the existence of an inverse association between farm size and productivity, with the strength of the association reported to be higher for barani farms. Zia (n.d., p.27-28) supports the argument and cites Salam (1986), Chaudhary and Chaudhary (1990) and Sampath (1990). A study by Parikh, Ali and Shah (1995) on technical efficiency, cited by Ahmad and Qureshi (1999), reports that small farmers are more efficient

<sup>211</sup> For support for such an association, refer to Banerjee (2000, p.254), Berry and Cline (1979, pp.80-81), Faruqee and Carey (1997, p.7) and Rosset (1999). Naqvi et.al (1989, p.22) also support the argument, citing Cornia (1985), Dorner (1972), Dorner and Kanel (1971), Johnston and Tomich (1985), Prosterman (1987) and Ruttan (1969). Ahmad and Qureshi (1999, pp. 1136-1138) review the literature and argue that the debate is as yet inconclusive.

<sup>212</sup> Berry and Cline (1979, p.92, p.96-105) argue that equitable provision of research and extension services is thus one pre-requisite for small farms to show efficiency. Banerjee (2000, p. 271) makes the same argument.

than large farmers in the study area. Ahmad and Qureshi's (1999) own results are mixed across different districts. Thus while there is some opposing evidence in the Pakistani context, in our view, the bulk of the supporting evidence in Pakistan, along with similar evidence from other less developed countries and industrialized countries, represents substantial support for the inverse farm size-productivity association.

Very small farms, less than 5 acres in irrigated areas and less than 12 acres in barani areas, can be less productive due to diseconomies of scale, an inability to use inputs optimally because the farm size is too small. Almost 88 percent of operational holdings in Pakistan in 1998-99 were less than 12.5 acres. Thus, land reforms need to be viewed in the larger context of agrarian reforms that enable efficient joint cultivation, extension support, and most important, a fair contractual relationship to the tenants and share-croppers of large landlords. In addition, such reforms need to take off where the last reforms left off to ensure continuity. We return to the issue of implementation of prior reforms in section 4, but turn now to other arguments for land and agrarian reform.

### **Poverty and livelihoods**

Poverty alleviation has become the main focus of attention for this government and also how international financial institutions like the IMF, the World Bank and the Asian Development Bank define their objectives. Indeed, the structural adjustment facility has been renamed the poverty reduction and growth enhancement (PRGE) facility. This is based on the recognition that poverty itself generates mechanisms, such as the inability to invest in health, education and environmental conservation, which reinforce poverty. Thus, an important method of dealing with poverty in the long run is to address its main determinants in the short run.

In view of this growing emphasis on poverty alleviation, the government has, with the support of the Asian Development Bank, founded The Center for Research in Poverty Reduction and Income Distribution, (CRPRID), housed in the Planning Commission. In the first working paper prepared on behalf of the Center, Government of Pakistan (2001, p. v) concludes that the two main determinants of poverty are the lack of access to land and education.

We have already addressed the issue of land reform to ensure sustainable livelihoods for the poor. However, given the centrality of this argument to the issue being discussed, it bears repeating. Since Pakistan is a country in which the capacity of towns and cities to deliver urban services is far over-stretched relative to the demand for such services, it is vital to promote sustainable livelihoods in the countryside. The most effective way of doing this is via land reform to ensure landless and tenant farmers have access to their own economic holdings.

Currently, the Government may be moving in the reverse direction. Budget 2001-2000 provided several incentives for the corporatization of agriculture<sup>213</sup>. The danger is that this may generate a move towards concentration of land holdings, displacement of rural labor to the cities and enclave production for foreign markets that have very few linkages to the domestic economy. Small productive farms, to the contrary, have the advantage of being highly integrated with the local economy and will produce a stimulus for other sectors of the local economy on both the production side and also on the consumption side as productivity, income and demand increase.

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<sup>213</sup> Government of Pakistan (nd., p. 15).

## **Education**

There is no single more important investment in nation building than ensuring high quality mass education. The economic history of newly industrialized countries including, Japan, Korea and Taiwan, suggest that land reform and quality mass education were two central features accounting for their success. Pakistani policy makers have from the start paid lip service to education, but never taken it seriously, even though the lack of it undermines all institutions, including a healthy democracy and even the military.

Research shows that there is a link between large land-holdings and the lack of education. Khan and Siddiqui (1997) used data on land ownership for 1980s and showed that there was a strong inverse association of absolute landed power (defined by the size of land ownership of the largest landlord in the village) and mean educational attainment in a village. Thus, there is empirical support for the anecdotal evidence that large landlords oppose education in the villages they dominate because they want to assure themselves continued access to cheap labor (the educated find other jobs) and because they fear that education leads to empowerment and hence the villagers are not as easily dominated or as pliable. Thus, land reforms, apart from possessing the many other advantages cited above, would also be an important mechanism for eliminating an important source of opposition to the spread of mass education. Impeding mass education is not the only mechanism large landlords have for perpetuating their power. Evidence shows that land reforms may also be very necessary to ensure political empowerment of the masses because landed power is a source of ensuring continued political dominance.

## **Devolution**

The most emphasized reform initiative this government has underway is the attempt to devolve power to the grassroots level. We argued during the planning stage of this reform that there are some important pre-requisites, in the form of accompanying reforms, that are needed in order to make this very important reform a success<sup>214</sup>. Based on both conceptual reasoning and empirical evidence, we had argued that land reforms were the most important of such reforms. Research conducted during and after the local election confirmed this view.

As currently planned, the devolution is to the district level such that the elected representatives have jurisdiction over the whole district. One needs to be concerned about whom, in the current socio-economic milieu, the power is being devolved to and, therefore, to understand the sources of power. Prior to devolution, an important source of power was the district administration, including the police and courts. In Pakistan, the police and courts are widely perceived as being corrupt and, instead of serving the ordinary people, are viewed as oppressing them<sup>215</sup>.

While poor salaries are part of the problem, the other problem is that large landlords have been able to exploit the needs of the police and courts to serve their purpose. Had land been completely equally distributed, the abuse of police and magistrates would still be present without far reaching police and judicial reforms. However, given very unequal land holdings, it is likely that such reforms would be

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<sup>214</sup> Khan (2002).

<sup>215</sup> Yasin (1999, p. 22).

subverted. Thus, the issue of land concentration as a source of power that allows the capture and subversion of district government via elections is a real problem in many districts.

Most reports on the local government elections confirmed our worst fears. Research conducted by Khan, Akhtar and Khan (2001) showed that in districts where landed power was expected to be a factor, they completely dominated the elections by controlling the panels<sup>216</sup>. Such findings were corroborated by serious journalism from across the country<sup>217</sup>. Even reports that showed that the elections did throw up “new faces,” as hoped, conceded that the large landlords captured the all-important nazim seat even at the union council level<sup>218</sup>. Thus, if devolution and accompanying reforms are to succeed in the long run, it is vital that this government engage in sincere and effective land reform, and more broadly agrarian reforms. In doing so, there is much to learn from the half-hearted attempts of past governments in Pakistan.

## **Implementing past reforms<sup>219</sup>**

### **Some hindrances and loopholes**

As mentioned in section 3.3.2, new land reform needs to be viewed in the perspective of addressing the unfinished agenda of past reforms. The three land reforms in Pakistan’s history, in 1959, 1972, and 1977, have all largely failed to achieve the objectives that were stipulated when embarking upon them. The common drawback of all these reforms was that they were ceiling reforms that did not guarantee that landless tenants, or sharecroppers, would necessarily gain but only that the largest landlords would have their holdings reduced. Also, given the nature of the ceilings per individual, rather than household, the re-distributive effect was always likely to be small, simply because there were a lot more landless farmers that had to be allotted land than there was going to be land to be redistributed.

In 1959, President Ayub Khan stated clearly that while there was a need to address the skewed distribution of land in the country, it was important not to create disincentives for “progressive farmers,” and therefore the ceiling was deliberately set high. The result was that the reforms did not seriously affect land ownership relations in the country, with many landlords even disposing of wasteland and benefiting from compensation. Less than 1.3 percent of the total land was resumed, and most tenants receiving land had to pay for it<sup>220</sup>. Many landlords completely evaded the redistribution by claiming exemptions or “gifting” land, and many also officially transferred land to others within the family<sup>221</sup>.

In 1972, President Bhutto claimed that his land reforms would be more far-reaching and comprehensive, and he reduced the ceilings accordingly. However, internal politics within the Pakistan

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<sup>216</sup> More recent research by Akhtar and Khan (2001), that used theater as a research tool to explore pre and post-devolution service delivery problems, indicated the complete dominance by large landlords (sardars, waderas, khans and jagirdars) of local politics.

<sup>217</sup> See Herald “Enter the Pawns,” August 2001, “Reading the Road Map,” September 2001, and Newsline, “An Engineered Order,” September 2001.

<sup>218</sup> Bari (2001).

<sup>219</sup> For good sources on the implementation of past reforms see Herring (1983, pp. 85-124) and Khan (1994). A summary table on the implementation status of past reforms is reported in Appendix 1.

<sup>220</sup> See Appendix Table 1.

<sup>221</sup> Exemptions were allowed on various grounds including game lands, stud farms orchards, tractors, tube wells, military service and gifts.

People's Party (PPP) and a need to placate powerful landlords ensured that these reforms were also relatively ineffective. There were numerous methods employed to thwart the reforms, including concealing of land and alteration of records, both of which were possible because of political connections and corruption. There was also the familiar practice of transferring land to family, friends, and sometimes, even tenants (land was naturally, forcibly repossessed later). Many landlords simply did not file a declaration of ownership. Overall, it was apparent that the political will needed to implement these reforms was simply not there. Only 0.6 percent of the total land was resumed and tenant beneficiaries were less than 10 percent of all totally landless tenants.

The final reforms of 1977 set the ceiling at 100 acres for irrigated land and 200 acres for non-irrigated land per person. Compensation was offered, unlike in 1972, but was considerably lower than the market rate for land. The results were similar to the previous two experiences, largely because landlords could choose which land to retain and which to give up, and naturally, they almost always relinquished wasteland rather than cultivable land. Thus, only 0.09 percent of the total land was resumed. The standard practice of transferring land to next of kin or subordinates continued. This land reform was modest even in comparison to the earlier rounds because of the political upheaval that followed their announcement.

### **Ensuring successful implementation of future reforms**

Some lessons from the implementation of past reforms are self-evident and cited above. Others issues requiring careful consideration are as follows:

- a. Reliable land records would be required for all individual and joint landowners and their holdings above the "ceiling". These records should be computerized as has been announced by government several times.
- b. The ceiling should apply to households to prevent intra-family transfers as in past reforms. Continuing with past reforms, the upper ceiling for the household should be 100 acres for irrigated lands and 200 acres for un-irrigated (barani) lands<sup>222</sup>.
- c. Only cultivable land should be resumed unlike in past reforms in which almost three-fifths of total resumed land was waste<sup>223</sup>.
- d. Landowners should be compensated at a reasonable rate for the resumed land; they should be given some cash plus redeemable long-term bonds.
- e. The provincial land commissions should be given the responsibility and resources to resume and redistribute the land. The land revenue departments should be required to coordinate with the land commissions. The judicial process for appeals should not be cumbersome or long to avoid delays in implementation.
- f. The minimum parcel per family should not be less than 5 acres irrigated and 12 acres unirrigated (barani). These small farms would need to be supported by broader agrarian reforms to ensure the non-reversibility of reforms.

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<sup>222</sup> Thanks are due to Mahmood Hasan Khan for sharing these thoughts, other than b and f, for the policy brief. For details, refer to his book on the subject (1981, pp. 162-202).

<sup>223</sup> Herring, (1983, p. 99).

The last point is of particular importance<sup>224</sup>. As earlier mentioned, about 88 percent of all operational holdings are less than 12.5 acres and just over 50 percent less than 5 acres. Thus, to create sustainable livelihoods for the bulk of small farmers, and for those who are beneficiaries of land distribution based on the land reforms, there is a need for broader agrarian reforms.

New landowners -- landless tenants and small landowners – should be given low-interest long-term loans, with a grace period (say of three to five years) to pay a large part of the price of land they receive from the government. Small landowners in general should have access to soft loans, perhaps through the Khushali Bank, for agricultural inputs and land development if that is needed. Extension support is important to ensure sustainable organic farming. Land fragmentation has become a serious problem and land consolidation needs to be facilitated by the state<sup>225</sup>. Finally, there is the need to address the issue of tenancy reforms to strengthen tenants relative to landowners and similarly legislative cover is needed to protect agricultural workers' rights.

## **Summary**

The case for both land reform and, more broadly, agrarian reforms, is premised on the need to create sustainable livelihoods which is widely agreed to be the most effective method of alleviating poverty. In addition, land reform combats social injustice while achieving sustained economic growth.

Land ownership in Pakistan is highly concentrated, and, in the one province (NWFP) for which data are available from the Federal Land Commission, has become much more so between 1980 and 1990. More recent data, not available to researchers, is needed from the Land Commission, to update these findings for all the provinces. Land reforms that are based on specifying a ceiling on individual land holdings create the opportunity to distribute land to landless labor and tenant farmers. However, without the strong support network of agrarian reforms, the redistribution of land per se may not create sustainable livelihoods.

Agrarian reforms are also called for because, over the last 56 years, the trend has been and remains that of a rapid increase in the number of small farm as a proportion of total farms. Data on operational holdings (size of farms) suggest that land has become much more fragmented, and between 1990 and 1999, there was an increase in total farm sizes below 12.5 acres from 81 percent to 88 percent of the total land cultivated. Just over half the total farms in 1999 were less than five acres in size. Another interesting development between this census period is that the numbers of landowners in the country increased from 2.227 million to 3.491 million. There was a concomitant decline in the numbers of owner-cum-tenants and tenants. These numbers suggest fragmentation of land holdings, probably due to inheritance laws, and also a move towards owner cultivation. Thus, the total amount of land in owner cultivation increased from 24.53 million acres to 30.72 million acres and there was a corresponding decline in the other two categories of owner-cum-tenants and tenants.

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<sup>224</sup> Thanks are due to Mahmood Hasan Khan for most of the points in this paragraph and for emphasizing the importance of agrarian reforms and for situating land reforms in this broader context. This point was also emphasized by Omar Asghar Khan.

<sup>225</sup> Under the devolution plan, village councils could be a natural implementation mechanism for such agrarian reforms.

As land becomes more fragmented, large landlords, who have the requisite liquidity, can add to their holdings. Thus the agenda for the state is to both ensure a fair distribution of land holdings and also to ensure broader agrarian reform to ensure that small farm cultivation is both just, if under tenancy contact, and sustainable if under self-cultivation.

The case for land reform is very strong particularly on grounds of justice more broadly, but specifically from an Islamic perspective. Islam views natural resources, including land, as a trust, with individuals having usufruct rights only from the amount they can reasonably cultivate and only if they are actually cultivating it themselves. The case for land reform also rests on several other grounds including the economic argument that small farms are more productive. In addition, recent research has demonstrated that unequal landholdings can subvert the success of other key reforms such as devolution of power to the grassroots level and accompanying judicial, administrative and police reforms and hence condemn the poor at the grassroots level to continued oppression.

A recent Government of Pakistan Report argues that the two main determinants of poverty are the lack of education and land. Mass education and land reform also happen to be the two main determinants of nation building and economic progress, as demonstrated by the experience of newly industrialized countries such as Japan, Korea and Taiwan. Mean educational attainment is inversely associated with absolute landed power. Thus, land reform would directly impact poverty by providing a means of sustainable livelihood, but also indirectly, by removing an impediment to educational attainment.

Pakistan has much to learn from the half-hearted attempts of the last three land reforms. First, it is important to eliminate exemptions such as for orchards, stud farms, farm machinery and gifts. Second, the ceiling must apply to households rather than to individuals. Third, only cultivable and not wasteland should be resumed. Fourth, it is critical to ensure that the resumed land is actually distributed in a timely fashion. While, eventually a large portion of the resumed land was distributed according to Land Commission records, this took much time in happening. Fourth, the legal system will need to be streamlined to ensure that the appeal process does not block the reforms via the courts. Fifth, to ensure the reforms are not reversed, extension and credit support will be necessary. The benefit of past experience should ensure success for the next round of land reforms.

However, as earlier indicated, land reforms need to be part of the much larger agrarian reforms that would provide support to those who newly acquire land from the state and to the large majority of small farmers in Pakistan. In this regard, some of the key reforms include land consolidation, fair and effective tenancy contracts and credit and extension support for sustainable agriculture on small farms. The Government may be moving in the reverse direction with regards to reform in the agricultural sector.

Budget 2001-2000 provided several incentives for the corporatization of agriculture. The danger is that this may generate a move towards concentration of land holdings, displacement of rural labor to the cities and enclave production for foreign markets that have very few linkages to the domestic economy. Our cities and municipalities are already over-burdened and simply do not have the carrying capacity to accommodate more migration. Small productive farms, to the contrary, have the advantage of being highly integrated with the local economy and will produce a stimulus for other sectors of the local economy on both the production side and also on the consumption side as productivity, income and demand increase.

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# A Indicative Model for Power Devolution to the Grassroots Level<sup>226</sup>

*Shahrukh Rafi Khan*

## 1. Introduction

Senior policy makers in Pakistan have indicated that power will be distributed across four tiers i.e. center, provinces, districts and a lower tier, perhaps villages or wards/town committees in urban areas<sup>227</sup>. Since most of the power is currently concentrated in the center, the devolution is to be to the provinces, districts and the lower tiers. Our view is that villages or wards are the appropriate last tier for power devolution, and so we will work with that premise in this policy brief. This brief will also focus on the interaction between the last two tiers, since that is currently the focus of attention. The premise is that more effective devolution and participatory democracy will result from starting to build from the grassroots level<sup>228</sup>. Other than the main objective of using devolution as a mechanism to build a participatory and hence a “real” democracy, the other expressed policy objectives includes the following:

- To build an institutional structure that empowers the poor and hence gives them a vested interest to protect.
- To ensure cost-effective service delivery via collective action
- To ensure the delivery of speedy justice at the doorstep of the poor

All these are worthy objectives and we think more likely to be achieved, as will be elaborated on below, if the lowest tier is the village<sup>229</sup>.

Power is a zero-sum game. Achieving the empowerment of the poor at the grassroots level may mean disempowering other groups. At the district and grassroots level, this would include the following groups:

- Elites who derive their power from land or other sources of legal or illegal wealth
- Local, provincial and national politicians who have a stake at all levels including the grassroots level

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<sup>226</sup> Thanks are due to Omar Asghar Khan, Minister of Local Government and Rural Development and Rashida Dohad of The Asia Foundation for initiating this work and to Rashida Dohad for on-going discussions and valuable comments. Thanks are dues to colleagues in SDPI for comments particularly Saba Gul Khattak, Fozia Sadiq Khan and Sajid Kazmi, to Tariq Banuri for extensive and valuable comments, and to Julio A. Andrews, Representative, The Asia Foundation, for being supportive and for useful exchanges and to The Asia Foundation for funding this work as part of The Asia Foundation / SDPI project on Citizen’s Perspective on Power Devolution. Finally, many thanks are due to Lt. Gen. (Rtd.) Syed Tanvir Hussain Naqvi, Chairman, National Reconstruction Bureau (NRB), for sequentially and crisply posing the problems to address and asking challenging questions and to all members of the NRB who engaged with us in lively discussions.

<sup>227</sup> The rest of the brief refers only to villages although, with some changes, such devolution also applies to urban local government.

<sup>228</sup> Here and elsewhere, we will not question the premises that have already been publicly adopted by policy makers, but use them as parameters to work within. On issues that a public posture has not been assumed, we will nudge them in the direction we think more suited to attaining the stated objectives of power devolution to the grassroots level.

<sup>229</sup> While it is hard to imagine a military government achieving these objectives, the objective here is to indicate the minimum steps and safeguards required for their achievement.

- District administration
- District local government

An ideal solution would be to take a long-term view of achieving the kind of far-reaching reform needed to effectively devolve power to the grassroots level. Thus, it would require diffusion of power via land reform and electoral reforms to prevent capture of power at the grassroots level, far reaching public sector reform to eliminate redundancy and judicial and police reform reform at the district level to ensure effective dispensation of justice. In practice, political compulsions require quick action and also constrain the nature of reforms that can be put into effect. In this regard, we present a model for achieving the desired objective with the least possible demands for fundamental structural reform<sup>230</sup>. However, even so, there are some minimum conditions for power devolution and these will be specified. In addition, the issues of capacity building at the grassroots level will need to be addressed. Given that such reforms result in social and political disruption at the local level, it may be wise to implement such reforms via a pilot process.

The two sections that follow contain a model for power devolution to the grassroots level and explore the mechanism of the interaction of local government with district government.

## 2. Model

The case for devolving power to the village is based on the principle of subsidiarity i.e. that power should be devolved to the lowest possible level at which it can effectively be discharged. This has been proved to be both more efficient and more just<sup>231</sup>. This would also address all the stated objectives of power devolution in section I, particularly that of ensuring cost-effective service delivery via collective action. The services being referred to include, *intra alia*, the following:

- Education
- Health
- Drinking water supply
- Sanitation
- Rural roads
- Environmental conservation
- Local irrigation works
- Justice

The scope of what a village could handle would change with technology and the growing expertise/capacity at the local level.

### A. Elections to village assemblies<sup>232</sup>

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<sup>230</sup> While the reforms suggested are quite fundamental, they fall short of the land, electoral, judicial and public sector reforms that would be ideal.

<sup>231</sup> For details on this see Banuri et. al. (1997, chapter 7) and Khan (1999).

<sup>232</sup> There is an election sequencing issue that has not been addressed. Ideally, it would be good to start from the grassroots level. However, since this may be logistically problematic, it would be possible to start with district elections and mandate the district assemblies to assist with village elections. Elections are being recommended here, even though some communities find them to be divisive and would prefer community selection by consensus, such as has been Pattan's (a grassroots development NGO) experience in southern Punjab.

The formation of an elected village assembly that corresponds to district, provincial and national assemblies proposed here. About ten or so members (depending on population) could be elected based on safeguards to ensure the diffusion of power<sup>233</sup>. For village assemblies, in our view, land reform would be one such critical safeguard.<sup>234</sup> In the absence of that, various electoral safeguards could be used. These could include bifurcating the candidates into agricultural vs. non-agricultural occupations. In agriculture, there would be a need to ensure that there is an adequate representation by size of farm and for those who are landless<sup>235</sup>. Special affirmative action seats should be reserved for women and minorities. However, separate electorates have not worked in Pakistan and are not supported by the minority groups they were supposed to protect because it marginalised them<sup>236</sup>. Thus all individuals should have a right to vote for all candidates in the various categories and all individuals should have a right to fight elections from all seats.

The time period for which candidates are elected need to be long enough for them to give them an opportunity to settle in and serve the community well, but not so long that the threat of having to face the electorate is too distant. While accountability mechanism will need to exist at the village level to deal with errant behavior, the threat of being ousted is an important democratic check, if the process is allowed to continue.

We think elections should be on a party basis for the following reasons:<sup>237</sup>

1. Exclusion of the political parties, particularly those who have already announced their desire to participate in local government elections, will create social discord and rifts that will jeopardize the process. Past experience shows that political parties find a way to indirectly contest the elections anyway.
2. If accompanied by elections within parties, this will deepen democracy, since it will create a cadre of leaders who emerge from the local tiers and move on to higher tiers based on serving the

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<sup>233</sup> There could be a general assembly of everyone in the village/town committee, which is more conducive to participation, but an assembly of elected representatives is likely to perform the executive function more efficiently.

<sup>234</sup> Opponents argue that such appropriation of private property should then extend to industry and even private assets such as houses. However, land can represent a concentration of economic and hence political power. Just as anti-trust action is justified against the concentration of economic power in industry, this argument extends to agriculture also. That evidence shows small farms sizes to be more productive and that landed power is inversely associated with educational attainment are additional benefits. Evidence cited in Khan (1999).

<sup>235</sup> Thus restricting the representational rights of individuals is against fundamental democratic norms, but we recommend it nonetheless for the short-term, since exclusion also results from the monopoly of economic and political power derived from land and other sources.

<sup>236</sup> As pointed out by Moghal (nd.), minorities are only allowed to vote for their own candidates and the whole particular minority community is the constituency in national and provincial elections. The result was that Muslim candidates did not view the minorities as their constituents, hence marginalizing them, and minority candidates inevitably were elected from areas where the population of minorities were the greatest and so they were inaccessible to minorities in the rest of the country. In practice, they were also easily bought off and did not serve minority interests. See Khattak (1996) and Moghal (nd.) for details on how to practically structure the electoral process to make it just and equitable for women and minorities. Special attention also needs to be given to the lower castes called kamis who are completely powerless and disenfranchised at the local level.

<sup>237</sup> Refer to Manor (1999, pp. 74-76) for similar and other points.

community. This is an important feature of all good democracies. As Manor (1999, p. 75) puts it, it will integrate elected bodies across the various tiers, which is an important building block for a healthy democracy.

3. If parties are excluded, it will create political insecurity and tensions and create the impression that the present government merely intends to perpetuate itself as happened with military governments in the past.
4. Finally, implementing sequential party based elections from the lower to the higher tiers is the best “exit strategy” for this government. This is one that will give the government enough time to implement the fundamental reforms it would like to and an announcement of such a strategy will create national and international goodwill.

## **B. Service**

Committees could be constituted for all services that are delivered at the level of the village as indicated above. The chairperson of the committee would be a member of the village assembly and other members could be elected\selected from the community as appropriate. The time spent serving on committees will be paid for at local market levels as determined by the assembly. For example, for schooling, others members of the committee could include representatives of parents, teachers and the broader community since all have a stake in children’s education.

The functions of the committee would need to be effective service delivery depending on the level of skills that exist at the local level. Thus, for the school committee, the appropriate functions would be to ensure that school age children are enrolled in accordance to the law and to provide appropriate incentives for this (school lunches, uniforms/books, crèches for the poor), to monitor teacher and student absenteeism, to ensure, in agricultural areas, that the school schedule is consistent with the agricultural cycle and to ensure that the funds allocated to the school by the village assembly are used appropriately. Naturally, higher tiers may determine the curricula, but as local expertise grows, more autonomy for such functions must also reside at the village level.

All committees would report to the village assembly (i.e. the people’s representatives) that would ensure that the functions of the committees are being carried out according to their mandate. Thus, for example, the school committee could recommend firing a teacher to the village assembly that should have the power to accept such a recommendation. In this regard, government officers like public school teachers will become the employees of village government and not the provincial government.<sup>238</sup>

## **C. Accountability**

Good service would be predicated on three factors. First, repeat elections, if allowed to occur, should ensure that the community chooses those that best serve it. Second, a healthy competition might get promoted across communities in delivering good service<sup>239</sup>. Third, there could be a routine audit of various service functions at the lower tiers by the line ministries and civil service

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<sup>238</sup> Naturally, this will not play well with the teachers’ union, but, as earlier mentioned, devolution does entail the distribution of power for more justice and efficiency. Public education is currently in shambles and research shows that the lack of effective teacher accountability has a lot to do with this. Refer to Khan, Kazmi and Latif (1999).

<sup>239</sup> Point made by Banuri and Mahmood (1997).

such as a schooling committee or justice committee audit, with the results provided to the village assembly for action. Finally, laws and rules would need to be put in place to enable the community to take the village assembly to District courts<sup>240</sup>. The basic principle that needs to be conformed to here is that the accountability and authority must reside at the village level. In addition, the principle of judicial review should prevail, such that a judge could call the assembly to account for malfeasance, negligence and criminality.

#### **D. Justice<sup>241</sup>**

Policy makers have stated that one of the objectives, as stated above, is speedy justice delivered at the doorstep of the poor. One of the ideas that emerged during public hearings on this issue was that of a justice or insaf committee. Once again, the committee should have an elected assembly member as the chair and there should be due representation of women, minorities and lower castes. The key would be the force provided by the police and district administration to the decisions of the insaf committee, as endorsed by the elected assembly, on matters that are deemed to be within their jurisdiction<sup>242</sup>. This issue will be discussed further when considering the interface of the district and local government.

#### **E. Finance**

It is now well understood that devolution of powers from the center to lower tiers is meaningless without also devolving financial authority to the local tiers. Thus devolving power to the village level would require that a financial base be tapped at the local level. For villages, this would primarily be a tax on land (rather than an agricultural income tax which has provincial jurisdiction). The mechanism for collecting such a tax already exists at the village level, so it would be a question of the village assembly retaining these funds rather than passing them on to higher levels. In addition, there would be a fee for services such as education, health and water supply. Finally, higher tiers could provide funding based on sales taxes collected at higher tiers of government. The transfers from the higher tiers would need to be based on the population and backwardness of recipient community.

### **3. Relationship of local government with district government, civil service and line departments**

As earlier stated, even the minimalist model of power devolution presented here has far reaching implications for restructuring of functions at various tiers of government. Thus the challenge is to restructure the role of the civil service and line department personal in a way so that the roles are both productive and consistent with the power devolution being advocated. Our suggestion is that the concern of the civil service or the district management group should now be explicitly with law and order, as mandated, and they no longer have any role in development, since that could be handled by elected local assemblies. They could backstop the justice committees and village assemblies, engage in capacity building at the local and district level and deal with law and order

<sup>240</sup> Ibid.

<sup>241</sup> This section is based on feedback received by Rashida Dohad during the course of public hearings as part of The Asia Foundation / SDPI project on Citizen's Perspective on Power Devolution.

<sup>242</sup> Naturally, affected individuals would have the right to appeal to the assembly.

issues under their jurisdiction along with reformed district courts and police service<sup>243</sup>. Freed from the other responsibilities, they could focus on a more rapid and efficient dispensation of justice. As Manor (1999, p. 97) pointed out, prejudices can find more intense expression at the local level; thus a heightened responsibility at the village level will be the protection of the minority rights if they are threatened at the local level.

The main functions of the line departments would include the following:

- capacity building
- technical assistance
- raining
- passing on development grants approved by the district assemblies and maintaining the records.
- setting standards
- data collection
- periodic audits, although this may be left to a specialized agency.

Effective authority would reside with village committees and assemblies. Gross misconduct or misappropriation could be reported to village assemblies who would refer it to the judiciary. In order for them to perform this task efficiently, line department officials would also need to be trained with the training managed at higher tiers by agencies such as the NRSP<sup>244</sup>.

Some rationalization of the functions of the line department would naturally be called for. For example, currently the Ministry of Local Government and Rural Development (LGRDD) and Public Health Engineering Department (PHED) have both been entrusted for delivering rural water supply schemes. Since rural development should be managed at the local level, relying on the line departments and specialized agencies should be adequate for training, technical assistance and capacity building as identified above. Village assemblies should be able to approach the elected district officials for inadequate or slow response from line departments.

#### **4. Summary**

The working model presented above embodies a few fundamental principles. First, we support the concept of devolution to the grassroots level, since much of the service delivery is at that level and entrusting communities with administrative and financial authority for this purpose is both more just and more efficient. The model spells out in practical terms how the key issues of elections, service, justice, accountability and finance can be addressed.

Second, power devolution is a zero-sum game and empowerment at the grassroots level requires disempowerment of other groups and interests at other levels. Again, a pragmatic approach to this issue has been taken and the model proposed suggests how the four stated objectives of the power devolution of “building real democracy”, an “empowering institutional structure,” a “cost-effective service delivery” and “justice at the doorstep” may be achieved with a minimum of social and political disruption. Naturally, we feel that real and sustainable grassroots empowerment is

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<sup>243</sup> For suggestions refer to ed. Yasin (1999).

<sup>244</sup> This would be an ideal use of the Social Action Plan funds.

contingent on more fundamental land, electoral, judicial and public sector reforms. However, in the short time frame for reform that the government has adopted, we have specified minimum conditions required for some meaningful change to achieve stated objectives.

Finally, it is essential that accountability must reside at the grassroots level for the functions that are in their jurisdiction. Repeat elections, the right to take village assemblies to district courts and judicial review are part of the accountability process. In addition, district management and line department officials can do periodic audit of the various service committees such as education and insaf. However, it is vital that the results of these audits are provided to the grassroots assemblies for appropriate action so that accountability and authority resides at the grassroots level.

The real challenge in devolving power lies in trusting ordinary women and men at the grassroots level to manage their own affairs and to protect their own interests. This call for a change in mind-set among policy makers is perhaps even more radical than a call for land reform.

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(PB # 10, 2000)

# Costing The National Reconstruction Bureau's Local Government Plan (2000)<sup>245</sup>

*Shahrukh Rafi Khan and Ashfaq Sadiq*

## 1. Introduction

This policy brief focuses on the incremental cost of implementing the National Reconstruction Bureau's (NRB) devolution Plan 2000<sup>246</sup>. We have seen no costing to date, and the objective of this exercise is to assess if the Plan is financially viable<sup>247</sup>. We have been informed that, as much as possible, the existing government staff will be drawn on rather than new staff hired and hence the cost of the devolution Plan will be modest. Even so, this contention requires more thorough analysis.

## 2. Estimates

We made as few assumptions as possible to arrive at a realistic cost estimate. We assumed an average experience of 15 years (mid-career) to determine where staff would fit into the government sector pay scale. The rank for the different district government officials was based on information provided to us.

The magistracy was stated in the Plan to be a component of district administration, but we have not included it in the cost estimate, since we have been informed that this is now being viewed as a provincial subject. In addition, we have not included any cost estimates for education, agriculture, health, and public works. Since line department officials already exist for these departments at the district level, we assume there will be a reallocation of personnel, buildings and materials.

Thus, the incremental staffing required for each district will include one Zila Nazim, one Naib Zila Nazim, one District Coordinator Officer, one District Auditor, 7 Executive District Officers, 21 District Officers, 3 Deputy District Officers, 35 secretarial staff with varying pay scales, 22 dispatch riders and drivers and 35 support staff. Each Tehsil will have one Tehsil Nazim, one Naib Tehsil Nazim, one Tehsil Municipal Officer, 4 Tehsil Officers, 15 Deputy District Officers, Tehsildars and Tehsil Inspectors, 21 secretaries, 8 dispatch riders, one driver and 25 support staff. Finally, Union Councils will have one Nazim Union Council and one Naib Nazim Union Council, 3 secretaries and one support staff<sup>248</sup>. According to information taken from the records of the Ministry of Environment, Local Government and Rural Development, the total number of districts, tehsils and union councils are 105, 276 and 5984 respectively.

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<sup>245</sup> This brief is part of the SDPI/TAF project on devolution of power to the grassroots level, prepared for SPDC/FES seminar on "Perspectives on Devolution of Power," August 2-3, 2000, Islamabad. Valuable comments from Shaheen Rafi Khan and Hafeez Pasha are gratefully acknowledged.

<sup>246</sup> Government of Pakistan, (2000).

<sup>247</sup> We have written on political and economic aspects of the NRB devolution plan in Khan (2000) and presented what we believe to be a more viable model in Khan (2000).

<sup>248</sup> Government of Pakistan, (2000).

Based on the mid-career experience assumption, stated above, the total annual salary cost for engaging the additional staff will be Rs. 3,307.08 million as indicated in Table 1 below.

**Table 1:** Incremental per unit and total salary costs of district, tehsil and union council administrative structure.

| Personnel  | BPS# | Number\$ | Per unit cost@ | Total cost   |
|--|------|----------|----------------|--------------|
| Zila Nazim   |      | 1        |                |              |
| Naib Zila Nazim  |      | 1        |                |              |
| District Coordination Officer (DCO)                              | 20   | 1        | 20,862.65      | 20,862.65    |
| District Auditor (Internal) (DA)                                 | 19   | 1        | 17,815.50      | 17,815.50    |
| District Officers (DOs)  | 19   | 7        | 17,815.50      | 124,708.50   |
| Deputy District Officers   | 18   | 21       | 13,550.95      | 284,569.95   |
| Assistant District Officers (ADOs)                               | 17   | 3        | 10,532.50      | 31,597.50    |
| Secrt. supt. staff for CM, DyCM, DCO, DA                         | 14   | 4        | 5,738.55       | 22,954.20    |
| Secrt. Supt. Staff for Dos                                       | 14   | 7        | 5,738.55       | 40,169.85    |
| Secrt. Supt. Staff for Deputy Dos                                | 9    | 21       | 3,922.35       | 82,369.35    |
| Secrt. Supt. Staff for ADOs                                      | 6    | 3        | 3,287.80       | 9,863.40     |
| Drivers and despatch riders                                      | 5    | 22       | 3,104.00       | 68,288.00    |
| Support Staff  | 1    | 35       | 2,356.15       | 82,465.25    |
| Total incremental monthly salary cost for one district           |      |          |                | 785,664.15   |
| Total incremental annual salary cost for one district            |      |          |                | 9,427,969.80 |
| Total incremental annual salary cost for 105 districts (million) |      |          |                | 989.94       |
| Tehsil   |      |          |                |              |
| Nazim Tehsil   |      | 1        |                |              |
| Naib Nazim Tehsil  |      |          |                |              |
| Tehsil Municipal Officer   | 17   | 1        | 10,532.50      | 10,532.50    |
| Tehsil Officers  | 14   | 4        | 5,738.55       | 22,954.20    |
| ADOs, Tehsil Inspectors, Tehsildars                              | 17   | 15       | 10,532.50      | 157,987.50   |
| Addl. District and Sessions Judges                               | 17   | 4        | 10,532.50      | 42,130.00    |
| Secrt. Support Staff   | 6    | 21       | 3,287.80       | 69,043.80    |
| Despach Riders   | 5    | 8        | 3,104.00       | 24,832.00    |
| Driver   | 5    | 1        | 3,104.00       | 3,104.00     |
| Support Staff  | 1    | 25       | 2,356.15       | 58,903.75    |
| Total incremental monthly salary cost for one tehsil             |      |          |                | 389,487.75   |

|  |   |   |          |              |
|--|---|---|----------|--------------|
| Total incremental annual salary cost for one tehsil  |   |   |          | 4,673,853.00 |
| Total incremental annual salary cost for 276 tehsils (million)                             |   |   |          | 1,289.98     |
| Union Council  |   |   |          |              |
| Chairman Union Council   |   | 1 |          |              |
| Secretaries Union Council  | 6 | 2 | 3,287.80 | 6,575.60     |
| Support Staff for Chairman   | 1 | 1 | 2,356.15 | 2,356.15     |
| Total incremental monthly salary cost for one union council                                |   |   |          | 8,931.75     |
| Total incremental annual salary cost for one union council                                 |   |   |          | 107,181.00   |
| Total incremental annual salary cost for 9584 union councils (million)                     |   |   |          | 1,027.22     |
| Grand total incremental annual cost of all districts, tehsils and union councils (million) |   |   |          | 3,307.14     |

Sources: \* Government of Pakistan, (2000, pp. 72-80).

- n.a. Not available. So far NRB has not determined what will be paid to these elected political representatives.
- # As per information provided by the NRB.
- \$ Government of Pakistan, (2000, pp. 72-80).
- @ Government of Pakistan (1994). Total salary cost includes basic pay, 15 annual increments, general provident fund, house rent, medical, and cost and living allowances @ 7 percent.

**Note:** a) For details, see Annexure Table I.

b) Districts vary widely in size and so there could be wide variation in the unit administration cost.

However, the NRB has recently announced that there will be a re-demarcation to make districts of similar size.

The total annual non-salary recurring cost is Rs. 3,090.73 million as shown below in Table 2.

**Table 2:** Monthly non-salary recurring cost per district, tehsil and union council

|  | District  | Tehsil    | Union Council |
|--|-----------|-----------|---------------|
| Phone and fax*   | 304,350   | 156,450   | 7,350         |
| Fuel@  | 70,200    | 5,400     | -             |
| Maintenance&   | 22,913    | 2,083     | -             |
| Stationery#  | 150,000   | 100,000   | 2,000         |
| Utilities\$  | 118,336   | 43,977    | 750           |
| Newspapers^  | 20,020    | 6,292     | 212           |
| Total monthly cost                                       | 685,819   | 314,202   | 10,312        |
| Total annual cost  | 8,229,828 | 3,770,424 | 123,744       |
| Total annual non-salary cost for 105 districts (million) |           |           | 864.13        |

|  |          |
|--|----------|
| Total annual non-salary cost for 207 tehsils (million)         | 1,040.64 |
| Total annual non-salary cost for 9584 union councils (million) | 1,185.96 |
| Grand total (million)  | 3,090.73 |

Sources: \* Government of Pakistan, (1998a).

@ Government of Pakistan, (1980) and Rahman, (1998, p. 5).

& Government of Pakistan, (1980).

# Government of Pakistan, (1998)

\$ Projected from average per month from utility bills of District Council and Deputy Commissioner Office, Rawalpindi.

^ The English Daily The News costs Rs. 372 per month and the Urdu Daily Jang costs Rs. 212 per month.

Not applicable

Note: For details, see Annexure Table II.

The total one time capital cost is estimated to be Rs. 2,752.29 million as indicated in Table 3 below.

**Table 3:** Incremental per unit developmental cost per district, tehsil, and union council

|  | Districts  | Tehsils   | Union Councils |
|--|------------|-----------|----------------|
| Vehicles   | 6,440,000  | 1,100,000 |                |
| Computers  | 3,480,000  | 1,950,000 |                |
| Furniture  | 670,000    | 390,000   | 40,000         |
| Photocopy Machines   | 300,000    | 300,000   |                |
| Telephone Sets   | 80,400     | 24,000    | 2,400          |
| Fax Machines   | 385,000    | 315,000   |                |
| Legislative Dev. Cost  | 73,000     | 73,000    |                |
| Total unit cost  | 11,428,400 | 4,152,000 | 42,400         |
| Total annual one time developmental cost for 105 districts (million)       |            |           | 1,199.98       |
| Total annual one time developmental cost for 207 tehsils (million)         |            |           | 1,145.95       |
| Total annual one time developmental cost for 9584 union councils (million) |            |           | 406.36         |
| Grand total (million)  |            |           | 2,752.29       |

Source: The number of equipment/items was determined by conducting a needs assessment survey of different government offices. An average cost was determined by soliciting quotations from dealers dealing in different items.

-- Not applicable

Note: For details see annexure on Table III.

The legislative cost of the devolution plan is estimated to be Rs. 5,248.32 million as indicated in the Table 4 below.

**Table 4:** Legislative costs of district, tehsil and union councils

| Personnel  | Cost/head | Number | Total monthly Cost | Total annual Cost |
|--|-----------|--------|--------------------|-------------------|
| Districts  |           |        |                    |                   |
| Zila Nazims^   | 23,767    | 105    | 2,495,535          | 29,946,420        |
| Naib Zila Nazims#  | 22,150    | 105    | 2,325,750          | 27,909,000        |
| Members district assemblies\$  | 15,283    | 9584   | 146,472,272        | 1,757,667,264     |
| Women members (33% of total) \$                                      | 15,283    | 3163   | 48,340,129         | 580,081,548       |
| Workers/peasents (5% of total) \$                                    | 15,283    | 479    | 7,320,557          | 87,846,684        |
| Minority members (5% of total) \$                                    | 15,283    | 479    | 7,320,557          | 87,846,684        |
| Total  |           |        | 214,274,800        | 2,571,297,600     |
| Total annual legislative cost for 105 districts assemblies (million) |           |        |                    | 2,571.30          |
| Tehsils  |           |        |                    |                   |
| Tehsil Nazims^   | 23,767    | 276    | 6,559,692          | 78,716,304        |
| Naib Tehsil Nazims#  | 22,150    | 276    | 6,113,400          | 73,360,800        |
| Members tehsil assemblies\$  | 15,283    | 9584   | 146,472,272        | 1,757,667,264     |
| Women members (33% of total) \$                                      | 15,283    | 3163   | 48,340,129         | 580,081,548       |
| Workers/peasents (5% of total) \$                                    | 15,283    | 479    | 7,320,557          | 87,846,684        |
| Minority members (5% of total) \$                                    | 15,283    | 479    | 7,320,557          | 87,846,684        |
| Total  |           |        | 222,126,607        | 2,665,519,284     |
| Total annual legislative cost for 276 tehsil assemblies (million)    |           |        |                    | 2,665.52          |
| Union Councils   |           |        |                    |                   |
| Nazim Union Councils&  | 50        | 9584   | 479,200            | 5,750,400         |
| Niab Nazim Union Councils&   | 50        | 9584   | 479,200            | 5,750,400         |
| Total  |           |        | 958,400            | 11,500,800        |
| Total annual legislative cost for 9584 union councils (million)      |           |        |                    | 11.50             |
| Grand total legislative cost   |           |        |                    | 5,248.32          |

Sources: ^ Govt. of Pakistan (1974)

# Govt. of Pakistan (1975)

\$ Govt. of Pakistan (1974a)

& As per information provided by Local Government officials

Note: We assumed that a district assembly member would be entitled to salaries, allowances, and privileges equivalent to a Member Provincial Assembly.

For details see annexure Table IV

The summary of the total cost of 14,398.48 million for recurring, legislative and one time capital expenditure is presented in Table 5 below.

**Table 5:** Summary incremental recurring, legislative and one time capital cost of the devolution Plan (million).

| Head                      | Per Unit Cost/Month | Per Unit Cost/Year |
|---------------------------|---------------------|--------------------|
| Salaries                  | 275.59              | 3,307.14           |
| Non salary recurring cost | 265.26              | 3,090.73           |
| Legislative cost          | 437.36              | 5,248.32           |
| Total recurring cost      | 978.21              | 11,646.19          |
| Capital cost              | 2,752.29            | 2,752.29           |
| Grand Total               | 3,730.50            | 14,398.48          |

Source: Tables 1-4.

This cost estimate represents an understatement, since it does not include the cost of support staff such as technical personnel including MIS (management information systems) staff, trainers or a district revenue department. Also, conservative estimates have been made for equipment maintenance and stationary. We have also not budgeted for maintenance cost of the new buildings. We have not included the proposed provincial allocations based on district fiscal effort and equalization (to compensate for the backwardness of districts) or incentives to promote administrative efficiency and ownership of local government functioning and infrastructure by communities. More departments may be added to meet the special needs of different provinces, such as mining, tourism or livestock. District demarcation to make the size more uniform may lead to a larger number of districts and hence greater costs. Including all this could substantially raise the one time capital and recurring costs. Other costs ignored include possible expenditures associated with Village Councils and Citizen's Community Boards (assumed to be a voluntary effort); the cost of the Union Guards to work under the Union councils; and election costs. Accounting for all these expenses could raise costs considerably.

We scanned budget 2000-2001 carefully, but were unable to identify any allocation of funds, in either the current or the public sector development program, earmarked for the devolution plan. Thus the assumption is that the sum of Rs. 14,398.48 million plus will be raised by provinces and by the districts themselves.

The distribution of this financial burden disaggregated to the provincial level is shown below in Table 6.

**Table 6:** Recurring cost burden of the devolution plan by province (million)

| Province    | Estimated Recurring Cost | Provincial recurring budget | Recurring cost as % of Recurring provincial budget |
|-------------|--------------------------|-----------------------------|--|
| Punjab      | 3,771.04                 | 107,153.71                  | 3.52   |
| Sindh       | 2,329.24                 | 68,287.67                   | 3.41   |
| NWFP        | 2,662.32                 | 39,132.16                   | 6.80   |
| Baluchistan | 2,883.60                 | 17,754.98                   | 16.24  |

Sources: Government of Punjab, (2000, p.3), Government of Sindh, (2000, p.13), Government of NWFP, (2000: p.8) and Government of Baluchistan, (2000, p.9).

The provincial burden for Baluchistan and the NWFP is 16.2 and 6.8 percent respectively which is a matter of concern.

### 3. Conclusion

We estimated the incremental total recurring cost of implementing the NRB devolution Plan to be Rs. 11.6 billion and the one time capital cost to be Rs. 2.8 billion. The high financial burden of meeting the recurring cost of the devolution Plan for Baluchistan and NWFP is a matter of particular concern. This is more so the case since our estimate does not by any means account for all the expected costs of the devolution Plan 2000.

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## Annex I

Incremental salaries cost district administrative structure

| <b>Personnel</b>                            | <b>BPS</b> | <b>Number</b> | <b>Cost/head</b> | <b>Total cost/month</b> |
|---|------------|---------------|------------------|-------------------------|
| Zila Nazim                                  |            | 1             |                  |                         |
| Naib Zila Nazim                             |            | 1             |                  |                         |
| District Coordination Officer (DCO)         | 20         | 1             | 20862.65         | 20862.65                |
| District Auditor (Internal) (DA)            | 19         | 1             | 17815.5          | 17815.5                 |
| Secrt. Supt. Staff for CM, DyCM, DCO, DA    | 14         | 4             | 5738.55          | 22954.2                 |
| Driver and Despatch Rider                   | 5          | 8             | 3104             | 24832                   |
| Support Staff                               | 1          | 4             | 2356.15          | 9424.6                  |
| <b>Finance, planning &amp; budget dept.</b> |            |               |                  |                         |
| Deputy District Officers                    | 17         | 3             | 10532.5          | 31597.5                 |
| Secrt. Support Staff                        | 6          | 3             | 3287.8           | 9863.4                  |
| Support Staff                               | 1          | 3             | 2356.15          | 7068.45                 |
| <b>Literacy department</b>                  |            |               |                  |                         |
| Executive Distt.Officer                     | 19         | 1             | 17815.5          | 17815.5                 |
| Distt.Officers                              | 18         | 3             | 13550.95         | 40652.85                |
| Secrt. Supt. Staff for EDO                  | 14         | 1             | 5738.55          | 5738.55                 |
| Secrt. Supt. Staff for DO                   | 9          | 3             | 3922.35          | 11767.05                |
| Driver and Despatch Rider                   | 5          | 2             | 3104             | 6208                    |
| Support Staff                               | 1          | 4             | 2356.15          | 9424.6                  |
| <b>Social development dept.</b>             |            |               |                  |                         |
| Executive Distt.Officer                     | 19         | 1             | 17815.5          | 17815.5                 |
| Distt.Officers                              | 18         | 7             | 13550.95         | 94856.65                |
| Secrt. Supt. Staff for EDO                  | 14         | 1             | 5738.55          | 5738.55                 |
| Secrt. Supt. Staff for DO                   | 9          | 7             | 3922.35          | 27456.45                |
| Driver and Despatch Rider                   | 5          | 2             | 3104             | 6208                    |
| Support Staff                               | 1          | 8             | 2356.15          | 18849.2                 |
| <b>Information technology dept.</b>         |            |               |                  |                         |
| Executive Distt.Officer                     | 19         | 1             | 17815.5          | 17815.5                 |
| Distt.Officers                              | 18         | 2             | 13550.95         | 27101.9                 |
| Secrt. Supt. Staff for EDO                  | 14         | 1             | 5738.55          | 5738.55                 |

|                                    |    |   |          |          |
|------------------------------------|----|---|----------|----------|
| Secrt. Supt. Staff for DO          | 9  | 2 | 3922.35  | 7844.7   |
| Driver and Despatch Rider          | 5  | 2 | 3104     | 6208     |
| Support Staff                      | 1  | 3 | 2356.15  | 7068.45  |
| <b>Revenue</b>                     |    |   |          |          |
| Executive Distt.Officer            | 19 | 1 | 17815.5  | 17815.5  |
| Distt.Officers                     | 18 | 3 | 13550.95 | 40652.85 |
| Secrt. Supt. Staff for EDO         | 14 | 1 | 5738.55  | 5738.55  |
| Secrt. Supt. Staff for DO          | 9  | 3 | 3922.35  | 11767.05 |
| Driver and Despatch Rider          | 5  | 2 | 3104     | 6208     |
| Support Staff                      | 1  | 4 | 2356.15  | 9424.6   |
| <b>Commerce and industry dept.</b> |    |   |          |          |
| Executive Distt.Officer            | 19 | 1 | 17815.5  | 17815.5  |
| Distt.Officers                     | 18 | 3 | 13550.95 | 40652.85 |
| Secrt. Supt. Staff for EDO         | 14 | 1 | 5738.55  | 5738.55  |
| Secrt. Supt. Staff for DO          | 9  | 3 | 3922.35  | 11767.05 |
| Driver and Despatch Rider          | 5  | 2 | 3104     | 6208     |
| Support Staff                      | 1  | 4 | 2356.15  | 9424.6   |

*Continued.....*

| Personnel                     | BPS | Number | Cost/head | Total cost/month |
|-------------------------------|-----|--------|-----------|------------------|
| <b>Law department</b>         |     |        |           |                  |
| Executive Distt.Officer       | 19  | 1      | 17815.5   | 17815.5          |
| Distt.Officers                | 18  | 3      | 13550.95  | 40652.85         |
| Secrt. Supt. Staff for EDO    | 14  | 1      | 5738.55   | 5738.55          |
| Secrt. Supt. Staff for DO     | 9   | 3      | 3922.35   | 11767.05         |
| Driver and Despatch Rider     | 5   | 2      | 3104      | 6208             |
| Support Staff                 | 1   | 4      | 2356.15   | 9424.6           |
| <b>Environment department</b> |     |        |           |                  |
| Executive Distt.Officer       | 19  | 1      | 17815.5   | 17815.5          |
| Secrt. Supt. Staff for EDO    | 14  | 1      | 5738.55   | 5738.55          |
| Driver and Despatch Rider     | 5   | 2      | 3104      | 6208             |
| Support Staff                 | 1   | 1      | 2356.15   | 2356.15          |

|  |    |   |         |                  |
|--|----|---|---------|------------------|
| <b>Total cost (PKR)</b>                |    |   |         | <b>785664.15</b> |
| <b>Tehsil administrative structure</b> |    |   |         |                  |
| Nazim                                  |    | 1 |         |                  |
| Naib Nazim                             |    | 1 |         |                  |
| Tehsil Municipal Officer               | 17 | 1 | 10532.5 | 10532.5          |
| Tehsil Officers                        | 14 | 4 | 5738.55 | 22954.2          |
| Secrt. Support Staff                   | 6  | 2 | 3287.8  | 6575.6           |
| Driver and Despatch Rider              | 5  | 2 | 3104    | 6208             |
| Support Staff                          | 1  | 6 | 2356.15 | 14136.9          |
| <b>Literacy dept.</b>                  |    |   |         |                  |
| Deputy Distt. Officers                 | 17 | 3 | 10532.5 | 31597.5          |
| Secrt. Supt. Staff                     | 6  | 3 | 3287.8  | 9863.4           |
| Despatch Rider                         | 5  | 1 | 3104    | 3104             |
| Support Staff                          | 1  | 3 | 2356.15 | 7068.45          |
| <b>Social dev. dept.</b>               |    |   |         |                  |
| Deputy Distt. Officers                 | 17 | 6 | 10532.5 | 63195            |
| Secrt. Supt. Staff                     | 6  | 6 | 3287.8  | 19726.8          |
| Despatch Rider                         | 5  | 1 | 3104    | 3104             |
| Support Staff                          | 1  | 6 | 2356.15 | 14136.9          |
| <b>Information tech. dept.</b>         |    |   |         |                  |
| Deputy Distt. Officers                 | 17 | 1 | 10532.5 | 10532.5          |
| Secrt. Supt. Staff                     | 6  | 1 | 3287.8  | 3287.8           |
| Despatch Rider                         | 5  | 1 | 3104    | 3104             |
| Support Staff                          | 1  | 1 | 2356.15 | 2356.15          |
| <b>Revenue dept.</b>                   |    |   |         |                  |
| Tehsildars                             | 17 | 2 | 10532.5 | 21065            |
| Deputy Distt. Officers                 | 17 | 1 | 10532.5 | 10532.5          |
| Secrt. Supt. Staff                     | 6  | 3 | 3287.8  | 9863.4           |
| Despatch Rider                         | 5  | 1 | 3104    | 3104             |
| Support Staff                          | 1  | 3 | 2356.15 | 7068.45          |
| <b>Law dept.</b>                       |    |   |         |                  |
| Deputy Distt. Officers                 | 17 | 1 | 10532.5 | 10532.5          |

|                          |    |   |         |         |
|--------------------------|----|---|---------|---------|
| Secrt. Supt. Staff       | 6  | 1 | 3287.8  | 3287.8  |
| Despatch Rider           | 5  | 1 | 3104    | 3104    |
| Support Staff            | 1  | 1 | 2356.15 | 2356.15 |
| <b>Environment dept.</b> |    |   |         |         |
| Tehsil Inspector         | 17 | 1 | 10532.5 | 10532.5 |
| Secrt. Supt. Staff       | 6  | 1 | 3287.8  | 3287.8  |
| Despatch Rider           | 5  | 1 | 3104    | 3104    |
| Support Staff            | 1  | 1 | 2356.15 | 2356.15 |

*Continued.....*

| Personnel                                     | BPS | Number | Cost/head | Total cost/month |
|---|-----|--------|-----------|------------------|
| <b>Judicial structure</b>                     |     |        |           |                  |
| Addl. Dist.& Sessions Judge                   | 17  | 4      | 10532.5   | 42130            |
| Secrt. Support Staff                          | 6   | 4      | 3287.8    | 13151.2          |
| Despatch Rider                                | 5   | 1      | 3104      | 3104             |
| Support Staff                                 | 1   | 4      | 2356.15   | 9424.6           |
| <b>Total cost (PKR)</b>                       |     |        |           | <b>389487.75</b> |
| <b>Union council administrative structure</b> |     |        |           |                  |
| Nazim   |     | 1      |           |                  |
| Naib Nazim                                    |     | 1      |           |                  |
| Secretaries Union Council                     | 6   | 2      | 3287.8    | 6575.6           |
| Support Staff for Chairman                    | 1   | 1      | 2356.15   | 2356.15          |
| <b>Total cost (PKR)</b>                       |     |        |           | <b>8931.75</b>   |

Source: Text Table 1.

## Annex II

### Recurring cost district administrative structure

| Personnel                                   | NOs. | Ph&fax cost/<br>person | Ph&fax total cost | Fuel cost | Mainte-<br>nance cost | Statio-<br>nery cost | Utili-<br>ties | News<br>paper |
|---|------|------------------------|-------------------|-----------|-----------------------|----------------------|----------------|---------------|
| Zila Nazim                                  | 1    | 15000                  | 15000             | 10800     | 2083                  | 12500                | 13596          | 572           |
| Naib Zila Nazim                             | 1    | 15000                  | 15000             | 5400      | 2083                  |                      |                | 572           |
| District Coordination Officer (DCO)         | 1    | 15000                  | 15000             | 10800     | 2083                  | 25000                | 104740         | 572           |
| District Auditor (Internal) (DA)            | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |
| Secrt. Supt. Staff for CM, DyCM, DCO, DA    | 4    |                        |                   |           |                       |                      |                |               |
| <b>Finance, planning &amp; budget dept.</b> |      |                        |                   |           |                       |                      |                |               |
| Asst. District Officers                     | 3    | 7350                   | 22050             |           |                       | 12500                |                | 572           |
| Secrt. Support Staff                        | 3    |                        |                   |           |                       |                      |                |               |
| <b>Literacy department</b>                  |      |                        |                   |           |                       |                      |                |               |
| Distt.Officer                               | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |
| Deputy Distt.Officers                       | 3    | 7350                   | 22050             |           |                       |                      |                | 1716          |
| Secrt. Supt. Staff for DO                   | 1    |                        |                   |           |                       |                      |                |               |
| Secrt. Supt. Staff for Dy.DO                | 3    |                        |                   |           |                       |                      |                |               |
| <b>Social development dept.</b>             |      |                        |                   |           |                       |                      |                |               |
| Distt.Officer                               | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |
| Deputy Distt.Officers                       | 7    | 7350                   | 51450             |           |                       |                      |                | 4004          |
| Secrt. Supt. Staff for DO                   | 1    |                        |                   |           |                       |                      |                |               |
| Secrt. Supt. Staff for Dy.DO                | 7    |                        |                   |           |                       |                      |                |               |
| <b>Information technology dept.</b>         |      |                        |                   |           |                       |                      |                |               |
| Distt.Officer                               | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |
| Deputy Distt.Officers                       | 2    | 7350                   | 14700             |           |                       |                      |                | 1144          |
| Secrt. Supt. Staff for DO                   | 1    |                        |                   |           |                       |                      |                |               |
| Secrt. Supt. Staff for Dy.DO                | 2    |                        |                   |           |                       |                      |                | 1144          |
| <b>Revenue</b>                              |      |                        |                   |           |                       |                      |                |               |
| Distt.Officer                               | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |
| Deputy Distt.Officers                       | 3    | 7350                   | 22050             |           |                       |                      |                | 1716          |
| Secrt. Supt. Staff for DO                   | 1    |                        |                   |           |                       |                      |                |               |
| Secrt. Supt. Staff for Dy.DO                | 3    |                        |                   |           |                       |                      |                |               |
| <b>Commerce and industry dept.</b>          |      |                        |                   |           |                       |                      |                |               |
| Distt.Officer                               | 1    | 9450                   | 9450              | 5400      | 2083                  | 12500                |                | 572           |

|  |   |      |               |              |              |               |               |              |
|--|---|------|---------------|--------------|--------------|---------------|---------------|--------------|
| Deputy Distt.Officers                  | 3 | 7350 | 22050         |              |              |               |               | 1716         |
| Secrt. Supt. Staff for DO              | 1 |      |               |              |              |               |               |              |
| Secrt. Supt. Staff for Dy.DO           | 3 |      |               |              |              |               |               |              |
| <b>Law department</b>                  |   |      |               |              |              |               |               |              |
| Distt.Officer                          | 1 | 9450 | 9450          | 5400         | 2083         | 12500         |               | 572          |
| Deputy Distt.Officers                  | 3 | 7350 | 22050         |              |              |               |               | 1716         |
| Secrt. Supt. Staff for DO              | 1 |      |               |              |              |               |               |              |
| Secrt. Supt. Staff for Dy.DO           | 3 |      |               |              |              |               |               |              |
| Support Staff                          |   |      |               |              |              |               |               |              |
| <b>Environment department</b>          |   |      |               |              |              |               |               |              |
| Distt.Officer                          | 1 | 9450 | 9450          | 5400         | 2083         | 12500         |               | 572          |
| Secrt. Supt. Staff for DO              | 1 | 7350 | 7350          |              |              |               |               |              |
| <b>Total</b>                           |   |      | <b>304350</b> | <b>70200</b> | <b>22913</b> | <b>150000</b> | <b>118336</b> | <b>20020</b> |
| <b>Tehsil administrative structure</b> |   |      |               |              |              |               |               |              |
| Tehsil Nazim                           | 1 | 9450 | 9450          | 5400         | 2083         | 12500         | 9064          | 572          |
| Naib Tehsil Nazim                      | 1 | 7350 | 7350          | 5400         | 2087         | 12500         |               | 572          |
| Tehsil Municipal Officer               | 1 | 7350 | 7350          |              |              |               | 34913         | 572          |
| Tehsil Officers                        | 4 |      |               |              |              |               |               |              |
| Secrt. Support Staff                   | 2 |      |               |              |              |               |               |              |
| <b>Literacy dept.</b>                  |   |      |               |              |              |               |               |              |
| Asst. Distt. Officers                  | 3 | 7350 | 22050         |              |              | 12500         |               | 572          |
| Secrt. Supt. Staff                     | 3 |      |               |              |              |               |               |              |

*Continued.....*

| Personnel                      | NOs. | Ph&fax cost/<br>person | Ph&fax total cost | Fuel cost | Mainte-<br>nance<br>cost | Statio-<br>nery<br>cost | Utili-<br>ties | N/ews<br>paper |
|--------------------------------|------|------------------------|-------------------|-----------|--------------------------|-------------------------|----------------|----------------|
| <b>Social dev. dept.</b>       |      |                        |                   |           |                          |                         |                |                |
| Asst. Distt. Officers          | 6    | 7350                   | 44100             |           |                          | 12500                   |                | 572            |
| Secrt. Supt. Staff             | 6    |                        |                   |           |                          |                         |                |                |
| <b>Information tech. dept.</b> |      |                        |                   |           |                          |                         |                |                |
| Asst. Distt. Officers          | 1    | 7350                   | 7350              |           |                          | 12500                   |                | 572            |
| Secrt. Supt. Staff             | 1    |                        |                   |           |                          |                         |                |                |
| <b>Revenue dept.</b>           |      |                        |                   |           |                          |                         |                |                |

|   |   |      |               |              |             |               |              |             |
|---|---|------|---------------|--------------|-------------|---------------|--------------|-------------|
| Tehsildars                                    | 2 | 7350 | 14700         |              |             | 12500         |              | 1144        |
| Asst. Distt. Officer                          | 1 | 7350 | 7350          |              |             |               |              | 572         |
| Secrt. Supt. Staff                            | 3 |      |               |              |             |               |              |             |
| <b>Law dept.</b>                              |   |      |               |              |             |               |              |             |
| Asst. Distt. Officers                         | 1 | 7350 | 7350          |              |             | 12500         |              | 572         |
| Secrt. Supt. Staff                            | 1 |      |               |              |             |               |              |             |
| <b>Environment dept.</b>                      |   |      |               |              |             |               |              |             |
| Tehsil Inspector                              | 1 | 7350 | 7350          |              |             | 12500         |              | 572         |
| Secrt. Supt. Staff                            | 1 |      |               |              |             |               |              |             |
| <b>Judicial structure</b>                     |   |      |               |              |             |               |              |             |
| Addl. Dist.& Sessions Judge                   | 4 | 7350 | 29400         |              |             | 12500         |              | 572         |
| Secrt. Support Staff                          | 4 |      |               |              |             |               |              |             |
| <b>Total</b>                                  |   |      | <b>163800</b> | <b>10800</b> | <b>4170</b> | <b>112500</b> | <b>43977</b> | <b>6864</b> |
| <b>Union council administrative structure</b> |   |      |               |              |             |               |              |             |
| Nazim Union Council                           | 1 |      | 7350          |              |             | 2000          | 750          | 212         |
| Naib Nazim Union Council                      |   |      |               |              |             |               |              |             |
| Secretaries Union Council                     | 3 |      |               |              |             |               |              |             |
| <b>Total</b>                                  |   |      | <b>7350</b>   |              |             | <b>2000</b>   | <b>750</b>   | <b>212</b>  |

Source: Text Table 2.

### Annex III

Incremental institutional developmental cost for district administrative structure

| Personnel                                   | NOs. | Vehicle | C/ters | F/ture | P/copy | Tel  | Fax   | Total Cost |
|---|------|---------|--------|--------|--------|------|-------|------------|
| Zila Nazim                                  | 1    | 745000  | 50000  | 10000  | 150000 | 1200 | 35000 | 991200     |
| Naib Zila Nazim                             | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| District Coordination Officer (DCO)         | 1    | 745000  | 50000  | 10000  | 150000 | 1200 | 35000 | 991200     |
| District Auditor (Internal) (DA)            | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Secrt. Supt. Staff for CM, DyCM, DCO, DA    | 4    | 0       | 200000 | 40000  |        | 4800 | 0     | 244800     |
| <b>Finance, planning &amp; budget dept.</b> |      |         |        |        |        |      |       |            |
| Asst. District Officers                     | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |
| Secrt. Support Staff                        | 3    | 0       | 150000 | 30000  |        | 0    | 0     | 180000     |
| <b>Literacy department</b>                  |      |         |        |        |        |      |       |            |
| Distt.Officer                               | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Deputy Distt.Officers                       | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |
| Secrt. Supt. Staff for DO                   | 1    | 0       | 50000  | 10000  |        | 1200 | 0     | 61200      |
| Secrt. Supt. Staff for Dy.DO                | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |
| <b>Social development dept.</b>             |      |         |        |        |        |      |       |            |
| Distt.Officer                               | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Deputy Distt.Officers                       | 7    | 0       | 350000 | 70000  |        | 8400 | 0     | 428400     |
| Secrt. Supt. Staff for DO                   | 1    | 0       | 30000  | 10000  |        | 1200 | 0     | 41200      |
| Secrt. Supt. Staff for Dy.DO                | 7    | 0       | 350000 | 70000  |        | 8400 | 0     | 428400     |
| <b>Information technology dept.</b>         |      |         |        |        |        |      |       |            |
| Distt.Officer                               | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Deputy Distt.Officers                       | 2    | 0       | 100000 | 20000  |        | 2400 | 0     | 122400     |
| Secrt. Supt. Staff for DO                   | 1    | 0       | 50000  | 10000  |        | 1200 | 0     | 61200      |
| Secrt. Supt. Staff for Dy.DO                | 2    | 0       | 100000 | 20000  |        | 2400 | 0     | 122400     |
| <b>Revenue</b>                              |      |         |        |        |        |      |       |            |
| Distt.Officer                               | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Deputy Distt.Officers                       | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |
| Secrt. Supt. Staff for DO                   | 1    | 0       | 50000  | 10000  |        | 1200 | 0     | 61200      |
| Secrt. Supt. Staff for Dy.DO                | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |
| <b>Commerce and industry dept.</b>          |      |         |        |        |        |      |       |            |
| Distt.Officer                               | 1    | 550000  | 50000  | 10000  |        | 1200 | 35000 | 646200     |
| Deputy Distt.Officers                       | 3    | 0       | 150000 | 30000  |        | 3600 | 0     | 183600     |

|                               |   |         |         |        |        |       |        |                 |
|-------------------------------|---|---------|---------|--------|--------|-------|--------|-----------------|
| Secrt. Supt. Staff for DO     | 1 | 0       | 50000   | 10000  |        | 1200  | 0      | 61200           |
| Secrt. Supt. Staff for Dy.DO  | 3 | 0       | 150000  |        |        | 3600  | 0      | 153600          |
| <b>Law department</b>         |   |         |         |        |        |       |        |                 |
| Distt.Officer                 | 1 | 550000  | 50000   | 10000  |        | 1200  | 35000  | 646200          |
| Deputy Distt.Officers         | 3 | 0       | 150000  | 30000  |        | 3600  | 0      | 183600          |
| Secrt. Supt. Staff for DO     | 1 | 0       | 50000   | 10000  |        | 1200  | 0      | 61200           |
| Secrt. Supt. Staff for Dy.DO  | 3 | 0       | 150000  | 30000  |        | 3600  | 0      | 183600          |
| <b>Environment department</b> |   |         |         |        |        |       |        |                 |
| Distt.Officer                 | 1 | 550000  | 50000   | 10000  |        | 1200  | 35000  | 646200          |
| Secrt. Supt. Staff for DO     | 1 | 0       | 50000   | 10000  |        | 1200  | 0      | 61200           |
|                               |   | 6440000 | 3480000 | 670000 | 300000 | 80400 | 385000 |                 |
| <b>District cost (PKR)</b>    |   |         |         |        |        |       |        | <b>11355400</b> |

*Continued.....*

| Personnel                              | NOs. | Vehicle | C/ters | F/ture | P/copy | Tel  | Fax   | Total Cost |
|--|------|---------|--------|--------|--------|------|-------|------------|
| <b>Tehsil administrative structure</b> |      |         |        |        |        |      |       |            |
| Tehsil Nazim                           | 1    | 550000  | 50000  | 10000  | 150000 | 1200 | 35000 | 796200     |
| Naib Tehsil Nazim                      | 1    | 550000  | 50000  | 10000  | 150000 | 1200 | 35000 | 796200     |
| Tehsil Municipal Officer               | 1    | 0       | 50000  | 10000  |        | 1200 | 35000 | 96200      |
| Tehsil Officers                        | 4    | 0       | 200000 | 40000  |        | 4800 | 0     | 244800     |
| Secrt. Support Staff                   | 2    | 0       | 100000 | 20000  |        | 0    | 0     | 120000     |
| <b>Literacy dept.</b>                  |      |         |        |        |        |      |       |            |
| Asst. Distt. Officers                  | 3    | 0       | 150000 | 30000  |        | 3600 | 35000 | 218600     |
| Secrt. Supt. Staff                     | 3    | 0       | 150000 | 30000  |        | 0    | 0     | 180000     |
| <b>Social dev. dept.</b>               |      |         |        |        |        |      |       |            |
| Asst. Distt. Officers                  | 6    | 0       | 300000 | 60000  |        | 7200 | 35000 | 402200     |
| Secrt. Supt. Staff                     | 6    | 0       | 300000 | 60000  |        | 0    | 0     | 360000     |
| <b>Information tech. dept.</b>         |      |         |        |        |        |      |       |            |
| Asst. Distt. Officers                  | 1    | 0       | 50000  | 10000  |        | 1200 | 35000 | 96200      |
| Secrt. Supt. Staff                     | 1    | 0       | 50000  | 10000  |        | 0    | 0     | 60000      |
| <b>Revenue dept.</b>                   |      |         |        |        |        |      |       |            |
| Tehsildars                             | 2    | 0       | 100000 | 20000  |        |      | 35000 | 155000     |
| Asst. Distt. Officer                   | 1    | 0       | 50000  | 10000  |        | 1200 | 0     | 61200      |
| Secrt. Supt. Staff                     | 3    | 0       | 150000 | 30000  |        | 0    | 0     | 180000     |
| <b>Law dept.</b>                       |      |         |        |        |        |      |       |            |

|   |   |   |         |         |        |        |       |                |
|---|---|---|---------|---------|--------|--------|-------|----------------|
| Asst. Distt. Officers                         | 1 | 0 | 50000   | 10000   |        | 1200   | 35000 | 96200          |
| Secrt. Supt. Staff                            | 1 | 0 | 50000   | 10000   |        | 0      | 0     | 60000          |
| <b>Environment dept.</b>                      |   |   |         |         |        |        |       |                |
|   |   |   |         |         |        |        |       |                |
| Tehsil Inspector                              | 1 | 0 | 50000   | 10000   |        | 1200   | 35000 | 96200          |
| Secrt. Supt. Staff                            | 1 | 0 | 50000   | 10000   |        | 0      | 0     | 60000          |
| <b>Judicial structure</b>                     |   |   |         |         |        |        |       |                |
| Addl. Dist.& Sessions Judge                   | 4 | 0 |         |         |        |        |       |                |
| Secrt. Support Staff                          | 4 | 0 |         |         |        |        |       |                |
|   |   |   | 1100000 | 1950000 | 390000 | 300000 | 24000 | 315000         |
| <b>Tehsil cost (PKR)</b>                      |   |   |         |         |        |        |       | <b>4079000</b> |
| <b>Union council administrative structure</b> |   |   |         |         |        |        |       |                |
| Nazim Union Council                           | 1 | 0 | 0       |         |        | 1200   | 0     | 1200           |
| Naib Nazim Union Council                      | 1 | 0 | 0       | 10000   |        | 1200   | 0     | 11200          |
| Secretaries Union Council                     | 3 | 0 | 0       | 30000   |        | 0      | 0     | 30000          |
|   |   |   |         | 40000   |        | 2400   |       |                |
| <b>Union council cost (PKR)</b>               |   |   |         |         |        |        |       | <b>42400</b>   |

Source: Text Table 3.

(PB # 11, 2000)

## List of Abbreviations

|        |   |
|--------|---|
| ADB    | Asian Development Bank                              |
| AEPAM  | Academy for Education Planning and Management       |
| APTPMA | All Pakistan Textile Processing Mills Association   |
| ASEAN  | Association of Southeast Asian Nations              |
| ASTDR  | Agency for Toxic Substances and Disease Registry    |
| ATC    | Agreement on Textiles and Clothing                  |
| BAP    | Biodiversity Action Plan                            |
| BDS    | Bachelor of Dental Surgery                          |
| BEMIS  | Baluchistan Education Management Information System |
| BEPs   | Best Environmental Practices                        |
| BISP   | Benazir Income Support Program                      |
| BMDC   | Bangladesh Medical and Dental Council               |
| BOD    | Biological Oxygen Demand                            |
| BoR    | Board of Revenue                                    |
| BU     | Bahria University                                   |
| BVS    | Biometric Verification System                       |
| CBD    | Convention of Biological Diversity                  |
| CBO    | Community Based Organization                        |
| CCI    | Chamber of Commerce and Industry                    |
| CENTO  | Central Treaty Organization                         |
| CIA    | Central Investigation Agency                        |
| CF     | Community Financing                                 |
| CMIP5  | Coupled Model's Inter-comparison Project Phase 5    |
| CMS    | Cooperative Management System                       |
| CPI    | Consumer Price Index                                |
| CSD    | Commission on Sustainable Development               |
| CSR    | Corporate Social Responsibility                     |
| COD    | Chemical Oxygen Demand                              |
| CORDEX | Coordinated Regional Climate Downscaling Experiment |
| CNG    | Compressed Natural Gas                              |

|       |  |
|-------|--|
| DCI   | Dental Council of India                                  |
| DG    | Director General   |
| DID   | Department for International Development                 |
| E&TD  | Excise and Taxation Department                           |
| EAC   | Expert Advisory Committee                                |
| EEB   | European Environmental Bureau                            |
| EIA   | Environmental Impact Assessment                          |
| EMIS  | Education Management Information Systems                 |
| ENSO  | El Nino Southern Oscillation                             |
| EPA   | Environmental Protection Agency                          |
| ESC   | <b>Environmental Standards Committee</b>                 |
| EU    | European Union   |
| FAO   | Food and Agriculture Organization                        |
| FBR   | Federal Board of Revenue                                 |
| FDI   | Foreign Direct Investment                                |
| FED   | Federal Excise Duty                                      |
| FFC   | Federal Flood Commission                                 |
| FFD   | Flood Forecasting Division                               |
| FIMS  | Flow Injection Mercury Systems                           |
| FPCCI | Federation of Pakistan Chambers of Commerce and Industry |
| FES   | Friedrich-Ebert-Stiftung                                 |
| FJDC  | Fatima Jinnah Dental College                             |
| FOREX | Foreign Exchange Reserves                                |
| FTA   | Free Trade Agreement                                     |
| FY    | Fiscal Year  |
| GoP   | Government of Pakistan                                   |
| GATT  | General Agreement on Tariffs and Trade                   |
| GCMs  | Global Climate Models                                    |
| GDP   | Gross Domestic Product                                   |
| GHGs  | Greenhouse Gases   |

|        |  |
|--------|--|
| GHI    | Global Hunger Index  |
| GIS    | Geographical Information System                                |
| GST    | General Sales Tax  |
| GSTS   | General Sales Tax on Services                                  |
| HDI    | Human Development Index  |
| HEC    | Higher Education Commission                                    |
| IBRD   | International Bank of Reconstruction and Development           |
| IC     | Implementation Committee                                       |
| ICS    | Institute of Chemical Sciences                                 |
| ICT    | Information Communication Technology                           |
| ICSit  | International Centre for the Settlement of Investment Disputes |
| IDA    | International Development Association                          |
| IFI    | International Financial Institution                            |
| IFC    | International Finance Cooperation                              |
| IFPRI  | International Food Policy Research Institute                   |
| IHK    | Indian Held Kashmir  |
| IMEI   | International Mobile Equipment Identity                        |
| IMF    | International Monetary Fund                                    |
| IMR    | Infant Mortality Rate  |
| INC    | Intergovernmental Negotiation Committee                        |
| INDOEX | Indian Ocean Experiment  |
| IPCC   | Intergovernmental Panel on Climate Change                      |
| IRSA   | Indus River System Authority                                   |
| ISO    | International Standards Organization                           |
| IT     | Information Technology   |
| IUCN   | International Union for Conservation of Nature                 |
| KPK    | Khyber Pakhtunkhwa   |
| KPESE  | Khyber Pakhtunkhwa Elementary and Secondary Education          |
| KU     | Kerala University  |
| LARMIS | Land Administration and Revenue Management Information System  |

|         |   |
|---------|---|
| LB      | Live Births   |
| LBA     | Legally Binding Agreement                                       |
| LDC     | Less Developed Country  |
| LRTAP   | Long Range Trans-Boundary Air Pollution                         |
| MBBS    | Bachelor of Medicine and Bachelor of Surgery                    |
| MELG&RD | Ministry of Environment, Local Government and Rural Development |
| MERC    | Mercury Education and Reduction Campaign                        |
| MDG     | Millennium Development Goal                                     |
| MFA     | Multi-fibre Arrangement   |
| MFN     | Most Favorite Nation  |
| MFPCC   | Monetary and Fiscal Policy Coordination Committee               |
| MIGA    | Multilateral Guarantee Agency                                   |
| MoE     | Ministry of Environment   |
| NADRA   | National Database and Registration Authority                    |
| NCS     | National Conservation Strategy                                  |
| NDMA    | National Disaster Management Authority                          |
| NEQS    | National Environmental Quality Standards                        |
| NGMS    | Next Generation Mobile Services                                 |
| NGO     | Non-Governmental Organization                                   |
| NIP     | National Implementation Plan                                    |
| Nox     | Nitrogen Oxides   |
| NTB     | Non-Tariff Barrier to Trade                                     |
| NWFC    | National Weather Forecasting Commission                         |
| OICCI   | Overseas Investors Chamber of Commerce and Industry             |
| OPD     | Operative Dentistry   |
| OPH     | Office of Public Health   |
| PB      | Policy Brief  |
| PC      | Pollution Charge  |
| PDMA    | Provisional Disaster Management Authority                       |
| PEP     | Pakistan Environment Programme                                  |

|         |   |
|---------|---|
| PEPA    | Pakistan Environmental Protection Act                   |
| Pak-EPA | Pakistan Environmental Protection Agency                |
| PEPC    | Pakistan Environmental Protection Council               |
| PEPO    | Pakistan Environmental Protection Ordinance             |
| PERSP   | Punjab Education Support Program                        |
| PETF    | Provincial Environmental Trust Fund                     |
| PHI     | Private Health Insurance                                |
| PMD     | Pakistan Meteorological Department                      |
| PMDC    | Pakistan Medical and Dental Council                     |
| PNAC    | Pakistan National Accreditation Council                 |
| POPs    | Persistent Organic Pollutants                           |
| PPM     | Process and Production Method                           |
| PRA     | Punjab Revenue Authority                                |
| PRAL    | Pakistan Revenue Automation Limited                     |
| PRISE   | Pathway to Resilience in Semiarid Economies             |
| PRSP    | Poverty Reduction Strategy Paper                        |
| PSDF    | Provincial Environmental Protection Council             |
| PSDP    | Pakistan's Social Development Plan                      |
| PTA     | Pakistan Tanners Association                            |
| PTA     | Pakistan Telecommunication Authority                    |
| PTC     | Pakistan Telecom Cooperation                            |
| R&D     | Research and Development                                |
| RCMs    | Regional Climate Models                                 |
| REER    | Real Effective Exchange Rate                            |
| RoOs    | Rules of Origin   |
| SA      | South Asia  |
| SAARC   | South Asian Association for Regional Cooperation        |
| SAFTA   | South Asia Free Trade Area                              |
| SAICM   | Strategic Approach to International Chemical Management |
| SASM    | South Asian Summer Monsoon                              |

|        |  |
|--------|--|
| SBP    | State Bank of Pakistan                                     |
| SDPI   | Sustainable Development Policy Institute                   |
| SEATO  | Southeast Asia Treaty Organization                         |
| SEMIS  | Sindh Education Management Information System              |
| SFD    | Sindh Finance Department                                   |
| SHI    | Social Health Insurance                                    |
| SIM    | Subscribers Identity Module                                |
| SMAR   | Self-monitoring and Reporting                              |
| SMART  | Self-monitoring and Reporting Tool                         |
| SMEDA  | Small & Medium Enterprise Development Authority            |
| SMS    | Short Message Service                                      |
| SOX    | Sulfur Oxides  |
| SPM    | Suspended Particulates Matter                              |
| SRB    | Sindh Revenue Board  |
| SSA    | Sub-Saharan African Countries                              |
| SPCS   | Sarhad Provincial Conservation Strategy                    |
| SWC    | Skin Whitening Creams                                      |
| TDS    | Total Dissolved Solids                                     |
| TOE    | Tons of Oil Equivalent                                     |
| TTSID  | Technology Transfer for Sustainable Industrial Development |
| T&C    | Textiles and Clothing                                      |
| TCP    | Trading Corporation of Pakistan                            |
| TRU    | Tax Reform Unit  |
| UHS    | University of Health Sciences                              |
| UIPT   | Urban Immovable Property Tax                               |
| UK     | United Kingdom   |
| UN     | United Nations   |
| UNDP   | United Nations Development Programme                       |
| UNEP   | United Nations Environment Program                         |
| UNFCCC | United Nations Framework Convention on Climate Change      |

|         |  |
|---------|--|
| USEPA   | United States Environmental Protection Agency                        |
| USNIH   | United States National Institute of Health                           |
| UNICEF  | United Nations Children Fund   |
| UN-TIHP | United Nations Trade Initiatives from Human Development Perspectives |
| USA     | United States of America   |
| USAID   | United States Aid for International Development                      |
| WB      | World Bank   |
| WBUHS   | West Bengal University of Health Sciences                            |
| WDI     | World Development Indicators   |
| WEBCOP  | Workers Employers Bilateral Council of Pakistan                      |
| WHO     | World Health Organization  |
| WHT     | With Holding Text  |
| WTO     | World Trade Organisation   |
| WWF     | World Wide Fund  |
| ZMWG    | Zero Mercury Working Group   |

## Authors' Index

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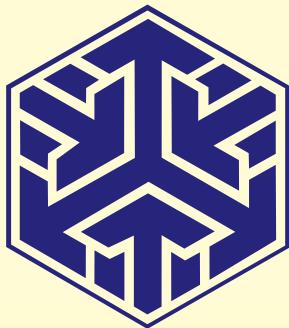
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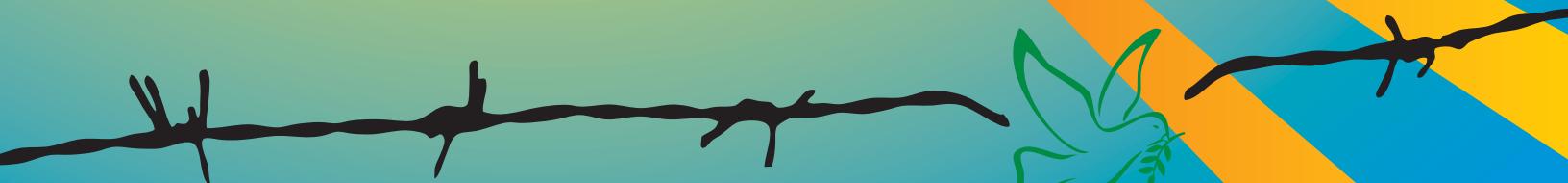
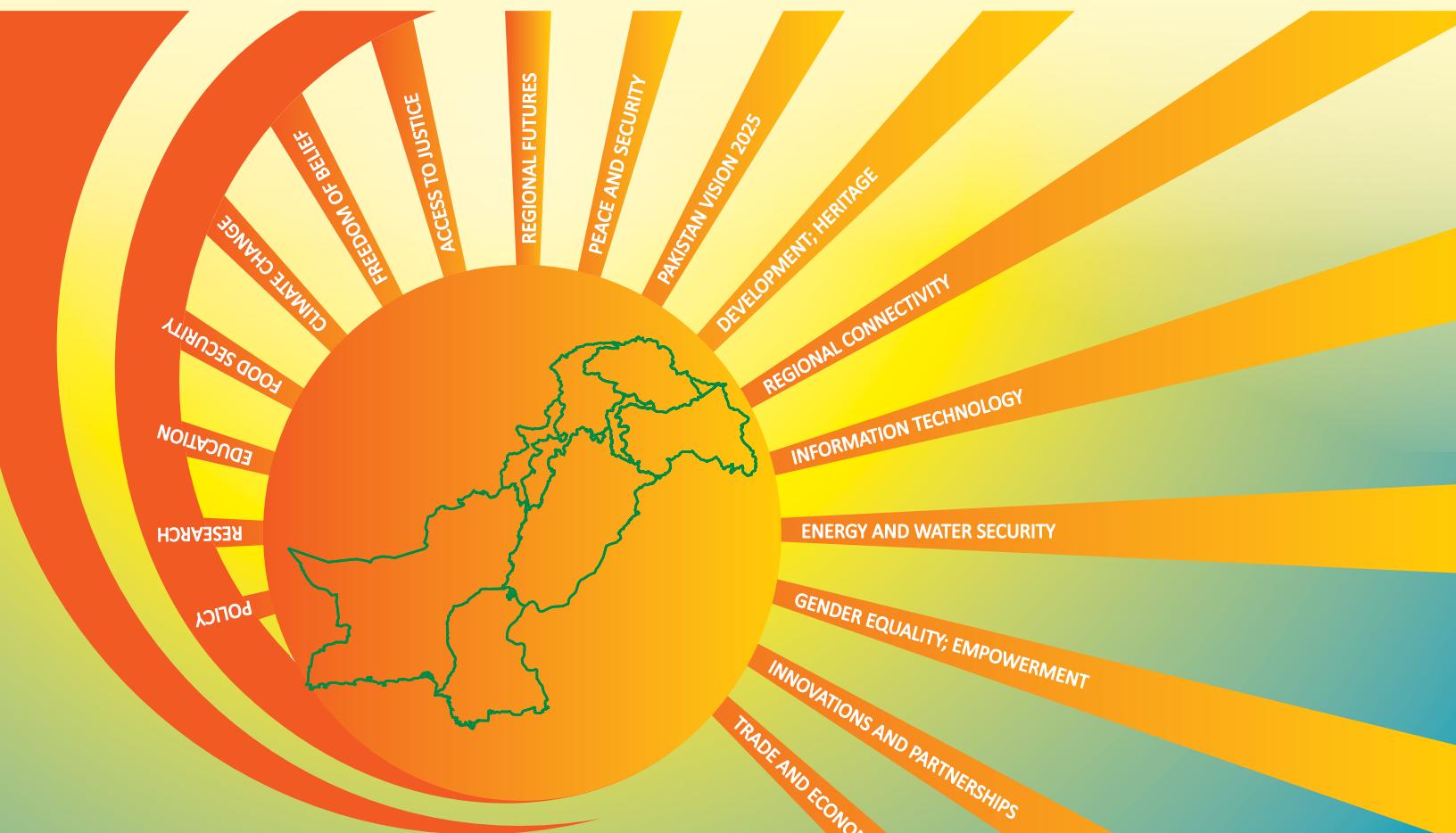
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# پاکستان میں پائیدار ترقی کے لئے پالیسی اختصار یہے



پالیسی ادارہ برائے پائیدار ترقی

اسلام آباد، پاکستان

اگست 2017ء