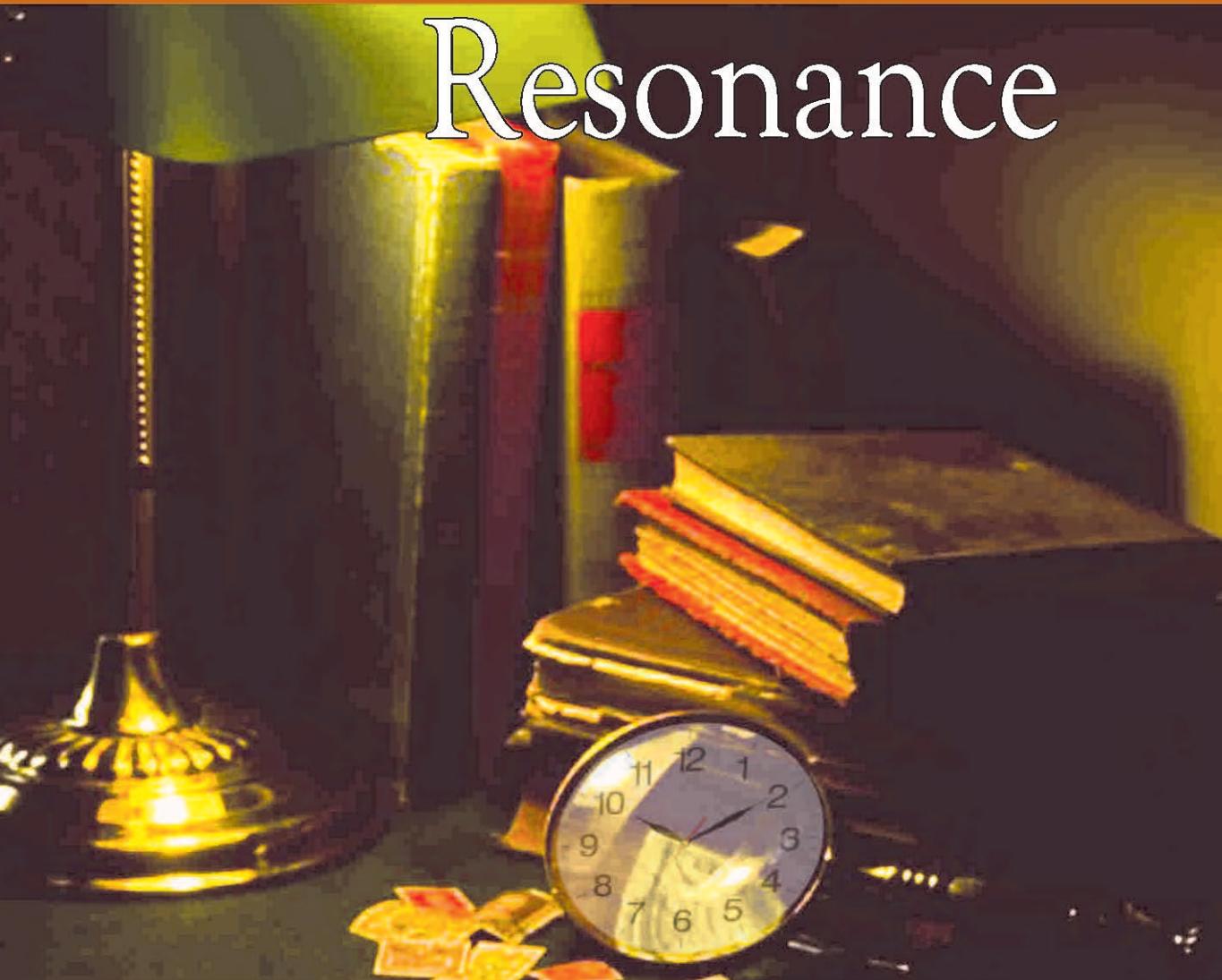


ISSN: 2321-2594

Intellectual Resonance



DCAC Journal of Interdisciplinary Studies

• Vol.-I Issue-I • RNI - A/F(Name approved) • May - 2013

Intellectual Resonance

DCAC Journal of Interdisciplinary Studies

Volume 1 Issue No. 1
ISSN: 2321-2594
RNI : AF (Name Approved)



Published and Printed by:

**DELHI COLLEGE OF ARTS AND COMMERCE
(UNIVERSITY OF DELHI)**

NETAJI NAGAR, NEW DELHI-110023

Phone : 011-24109821,26116333 Fax : 26882923

e-mail : intellectualresonance@gmail.com website-<http://www.dcac.du.in>

© Intellectual Resonance

The views expressed in the articles are those of the authors

Printed at: Xpress Advertising, C-114, Naraina Industrial Area, Phase-I, New Delhi-28

Editorial Advisory Board, *Intellectual Resonance* (IR)

- 1) **Prof. Daing Nasir Ibrahim**
Vice-Chancellor
University of Malaysia
daing@ump.edu.my
- 2) **Prof. Jancy James**
Vice-Chancellor
Central University of Kerala
jamesjancy2008@gmail.com
- 3) **Prof.B.K. Kuthiala**
Vice-Chancellor
Makhanlal Charturvedi Rashtriya
Patrakarita Vishwavidyalaya
Bhopal
kuthialabk@gmail.com
- 4) **Dr. Daya Thussu**
Professor, Department of Journalism and Mass
Communication
University of Westminster
United Kingdom
d.k.thussu@westminster.ac.uk
- 5) **Prof. Dorothy Figueira**
Professor, University of Georgia
Honorary President, International
Comparative Literature Association.
figueira@uga.edu
- 6) **Prof. Anne Feldhaus**
Professor, Department of Religious Studies
Arizona State University
anne.feldhaus@asu.edu
- 7) **Prof. Subrata Mukherjee**
Professor, Department of Political Science
University Of Delhi
polybius7@gmail.com
- 8) **Prof. Partha S. Ghosh**
Senior Fellow
Nehru Memorial Museum and Library (NMML)
parsarg@hotmail.com
- 9) **Prof. B.P. Sahu**
Professor, Department Of History
University Of Delhi
sahu_bp@gmail.com
- 10) **Dr. Anil Rai**
Professor Hindi Chair
Peking University, Beijing, PR of China.
anilrai1963@gmail.com
- 11) **Dr. Roswitha M.King**
Associate Professor
Department of Economics.
Ostfold University college, Norway
roswitha.m.king@hiоф.no
- 12) **Dr. Gautam Rajkhowa**
Senior Assistant Professor
Chester Business School
University Of Chester, Westminster
g.rajkhowa@chester.ac.uk
- 13) **Sandy Das Sharma**
Research Head, Hansdhwani Foundation
saneshika@hansdhwani.org

Academic Executive Committee (AEC, DCAC) And Editorial Board, *Intellectual Resonance* (IR)

- 1) **Dr. M. S. Rawat, Principal**
Chairperson, AEC
Editor, *Intellectual Resonance* (IR)
drmsrawat1948@yahoo.co.in
- 2) **Dr. Surbhi Dahiya**
Convener, AEC
Associate Editor and Coordinator, *Intellectual Resonance* (IR) (+91-9990561016)
surbhi2011@gmail.com
- 3) **Dr. Anita Bhela**
Member, AEC and Associate Editor (IR)
anitabhela@gmail.com (+91-9811230112)
- 4) **Dr. V.K. Tyagi**
Member, AEC and Associate Editor (IR)
tyagi_vk@rediffmail.com (+91-9811732421)
- 5) **Dr. O.P. Singh**
Member, AEC and Associate Editor (IR)
opsingh1968@gmail.com (+91-9999114166)
- 6) **Dr. Bir Singh**
Member, AEC and Associate Editor (IR)
birsingh@gmail.com (+91-9313449318)

Online Promotion - Sh. Vasant Sharma, vasantsharmadcac@gmail.com (+91-9312212527) and **Anuradha Gupta**
dishna2@yahoo.in (+91-9891293515) **Akshay, Anshul and Aditya**
Please mail your articles at intellectualresonance@gmail.com

Editorial

The year 2013 is the Silver Jubilee year of Delhi College of Arts and Commerce (DCAC) and in this eventful year the college has added another feather to its cap by bringing out an interdisciplinary research journal - *Intellectual Resonance*. *Intellectual Resonance* is the bi-annual journal of DCAC, an international research oriented journal, scholarly in nature with an interdisciplinary approach. The journal attempts to advance knowledge in various areas in the global arena through publication of articles by academicians and professionals from different disciplines. The aim is to encourage interdisciplinarity - scholars of different disciplines get to read articles from outside their field of specialization and thus acquire an integrative approach. All articles of this journal are peer-reviewed to ensure quality. The abstracts at the beginning of each article help the reader know about the contents of articles. In a world of increasing globalization and ever accelerating change, continuous learning is not a choice but an imperative: 'The day you stop learning is the day you cease to become valuable in an innovative culture' says Jeffery R. Immelt. This issue contains a number of timely, well-researched articles that offer thought provoking commentaries on present day situations. The articles help open up a new understanding of the world.

The continuous efforts of the Academic Executive Committee of the College have made it possible to bring out this issue. Welcome to the first issue of *Intellectual Resonance* which we believe will in time become a globally acknowledged journal with a focus on various interdisciplinary topics.

Live as if you were to die tomorrow,
Learn as if you were to live forever.
- Mahatama Gandhi

Dr. M.S. Rawat
Editor

Contents

Paper Title	Page
1. Leveraging Operational Excellence of Universities Through Knowledge Management Dr. M. S. Rawat, Principal, DCAC, University of Delhi	1-7
2. The State, Capital and Development in Emerging India Dr. Surajit Mazumdar, Ambedkar university	8-17
3. The Pedagogical Acceptance of Media Anthropology: References from India Dr. Pradeep Nair, Associate Professor, and Head, Department of Mass Communication and Electronic Media, Central University of Himachal Pradesh	18-27
4. The Mining Industry: Undermining the growth potential of mineral-rich states in India Shalini Saksena, Associate Professor, DCAC, University of Delhi	28-34
5. Political ownership of media in India Prof. K. G Suresh ¹ (Adjunct Professor, MCNUJC), Director, GFCH, India and Dr. Surbhi Dahiya ² , Assistant Professor, Journalism, DCAC University of Delhi	35-39
6. Gender Responsive Budget Analysis in Water Sanitation Services in the Resettlement Colonies in India Dr. Gyana Ranjan Panda ¹ , Senior, Research Officer, Center for Budget and Governance accountability and Trisha Agarwala ² , Programme Officer, Focus on the Global South (India Programme).	40-58
7. Land Crisis in Mahashweta Devi's <i>Mother of 1084</i> and Steve Hendricks <i>The Unquiet Grave</i> Quleen Kaur Bijral ¹ , Research Scholar, School Of Languages and Literature SMVD University, Katra and Dr Vandana Sharma ² , Director School of Languages and Literature, Shri Mata Vaishno Devi University, Katra J and K.	59-66
8. From Ajmer to Ahmedabad: The changing tactics of the the Hindu Mahasabha Dr. Bhawan Kumar Jha, Assistant Registrar, University of Delhi	67-75
9. Grievance Handling Practices, Procedure and Redressal In Indian Industry Dr. Supriya Choudhary, Associate Professor, Maharaja Surajmal Institute (GGSIPU)	76-84
10. On Property (GR) Dr. Anuradha Gupta, Associate Professor, Department of Maths, DCAC, University of Delhi	85-90
11. Media Convergence and its impact on Media Environment Dr. Rabindranath Manukonda, Associate Professor and Dean, School of Journalism, Mass Communication and New Media, Central University of Himachal Pradesh	91-95
12. Locating Derridean Supplementary in Don Delillo's <i>The Names</i> Dr Adrene Feeda Dcruz, Visiting Assistant Professor of English, IISER Mohali	96-103
13. Reforms and Growth of Indian Capital Markets-An Empirical Assessment Rajiv Goel, Associate Professor, Department of Commerce, DCAC, University of Delhi.	104-112
14. An Investigation into Parent Adolescent Relations and Child Delinquency Dr. Garima Malik, Assistant Professor, Department of Economics, DCAC, University of Delhi.	113-124
15. Managing Business Innovation with Green Marketing Ruchika Singh Malyan ¹ , Research Scholar, Mewar University and Dr. Lokesh Jindal ² , Associate Professor, Maharaja Agrasen Institute of Technology, GGSIP University	125-134
16. Open Source Software and its Utility In Education O.S.Srivastava ¹ , Senior Programmer, University Computer Center, University of Delhi, Sujata Khatri ² , Assistant Professor, Department of Computer Science, DDU College, University of Delhi and Dr. V.B.Singh ³ , Associate Professor, Department of Computer Science, DCAC, University of Delhi	135-141

Leveraging Operational Excellence of Universities Through Knowledge Management

Dr. M.S. Rawat

Abstract- Universities and institutions for higher learning have significant opportunities to apply knowledge management practices to leverage operational excellence and gain competitive advantage. Organizational designs of higher education institutions differ from business organizations in many respects, but today they are also exposed to market pressures similar to business. Knowledge management has series of activities to offer to universities/educational institutions for developing knowledge based society. Academic faculty and administrative staff need to create, share, transfer/disseminate and value knowledge as a continuous process. Present paper attempts to identify the process of knowledge management which can be applied to universities to gain operational excellence. Access, equity, quality and relevance of higher education are some of the issues, where knowledge management can play role in serving the mission of education at a global level. Today, Universities need to develop a culture using knowledge management activities that would embrace better decision making capabilities, curriculum development, and research for improved academic and administrative services at reduced costs. It is high time when Universities must take global and consistent vision managing its knowledge and logically select tools/technologies to implement their programmes. Inter-active relationships between knowledge creators and receptors must go on to convert globe a learning place for all. Information technology supported by space based communication systems has tried to convert the world into global village. The scheme of the paper has been designed to highlight the use of modern technology. Present paper has attempted to provide separate projected knowledge management model for higher educational institutions. Decision support techniques and groupware solutions have been developed and advocated for successful implementation of knowledge management practices. It being a complex issue, strategic considerations have also been discussed in this present paper.

Key Words - Access and Equity, Curriculum, e-learning, Groupware solutions, Organizational design

I. Introduction

Growing pressures are constantly compelling higher educational institutions to reshape and keep pace with I.T. revolution as students are expecting enhanced education access, equity, quality and support. Faculties are looking for better ways to assess learning outcomes, improved service conditions and career advancements. Administration intends to update the systems by making data driven strategic decisions, enhance enrollments and bring more researches, innovations to enjoy competitive advantages. Some of the universities embrace

these challenges and constantly attempting to create pool of information supported by technology. "In India, the major stumbling block impacting this shift is its higher education system. Higher education in India is faced with great challenges and difficulties relating to creating and including design, funding, enhancement of quality in teaching, research and development leveraging technology for learning, employability of graduates and equitable access to the benefits of international cooperation. Building a road map for addressing these issues need an understanding of the role of higher education in the management of a knowledge

Dr. M.S. Rawat is presently the Principal of Delhi College of Arts and commerce. He received his Bachelors of Commerce with Honours and Master of Commerce degrees from SRCC, University of Delhi. Received his Doctorate degree in International Commercial Arbitration in 1978 from Department of Commerce, Delhi School of Economics, Delhi University. He was on deputation on Foreign Assignment Service (FAS) at Department of Business Studies, Nigeria from 1981-84. His areas of research include- Knowledge Management, Higher Education and International Commercial Arbitration.

economy”^[1]. Institutions of higher educational setups have to plan effectively, collect, organize, use and disseminate information/knowledge at various levels to ensure that it is identified and exploited to the fullest extent.

Higher Educational institutions have a series of knowledge management activities, which could be used for further development rather than going for developing a brand new paradigm. It is important to bear in mind that universities and their staff must recognize and respond to the changing role in knowledge based society. Universities need to consciously and explicitly manage the processes associated with the criterion of their knowledge assets and to recognize the value of their intellectual capital to their continuing role in society and a wider global marketplace for higher education. Higher educational institutions need to understand that knowledge found in various activities, talent and expertise of people is one of the greatest asset of university, which needs to be appropriately managed.

II. Knowledge Development: An Integral Function Of Universities

Universities and institutions of higher learning have been regarded as the centers of knowledge production, dissemination and authorization. These institutions involve themselves in creation of knowledge by individual and group works in the form of books, reports, articles, research findings and observation etc. Transmission of knowledge under such setups is done through teaching, guidance and supervision. Knowledge is power and source of competitive advantage. It is important to bear in mind that special attention be given to securing knowledge and knowledge repositories within higher educational institutions to protect the core assets. “The complexity with Indian higher education system is that while initially it was established with deep colonial roots, for the purpose of producing literate and semi-skilled manpower to largely look after the subordinate services in the past five decades after independence, when the system has moved on to become an egalitarian one, it has been pressed immensely to meet the growing aspirations of a developing and vibrant democracy.”^[2] Thus, Indian H.E system is

intertwined with political, economic, demographic, social and international dimensions.

Fig. 1 Knowledge Development at University/ College level

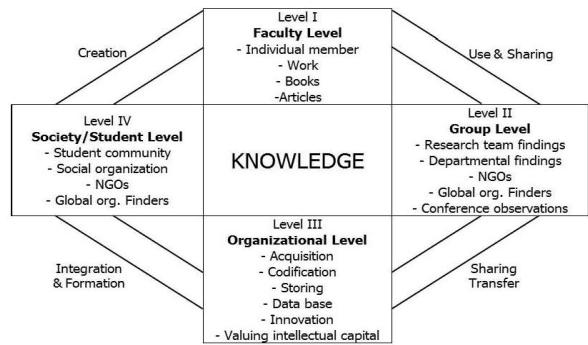


Fig. 1 attempts to depict that knowledge is generated and has different inflows and outflows at various university's departments and college levels. Knowledge development at these levels is processed through creation, use and sharing, transferring and integration as showing below:

Knowledge management, being a complex process which is understood differently in different contexts, is concerned with the exploitation and development of knowledge assets in the institution of higher learning with a view to enhancing its objectives. KM as applied to higher educational institutions may be identified and categorized under the following headings:

- Creating knowledge repositories,
- Improving Knowledge Access and Connectivity,
- Creation of a Strong Knowledge Environment, and
- Managing Knowledge as an Asset (Intellectual Capital)

“It is beyond doubt that all institutions inherently store, access, filter, arrange and deliver knowledge in some manner or another and add to the delivery of effective and improved services to the faculty, students and community at large. Higher education institutions have significant opportunities to apply KM practices to support every part of their mission”.^[3]

It has been envisaged that many problems occurring relating to students could better be handled through use of knowledge management practices. "It is with KM that colleges will be better able to increase student retention and graduation rates, retain a technology workforce in the face of severe employee shortages, expand new web-based offerings, work to analyze the cost effective use of technology to meet more enrolments, transform existing transactions based systems to provide information, not just data, for management and to compete in an environment where institutions cross state and national borders to meet student needs anytime/anywhere."^[4]

"Assessment of knowledge can be made on the basis of knowledge that increases revenues and reduces costs by using a balanced scorecard as devised by Kaplan and Norton. Using the balanced scorecard, an organization is valued on four dimensions and not simply in terms of its financial performance. These four dimensions are: customer, internal process, innovation and learning, and financial."^[5]

Demarest puts forth a similar model "identifying four phases of knowledge management in any institution are:

- Knowledge construction;
- Knowledge dissemination;
- Knowledge use; and,
- Knowledge embodiment."^[6]

Ultimately, universities important and integral function of knowledge management—"is the formalization of and access to experience, knowledge and expertise that creates new capabilities, enables performance, encourages innovation and enhances customer value. It is an umbrella term for a variety of interlocking terms, such as knowledge creation, knowledge valuation and metrics, knowledge mapping and indexing, knowledge transport storage and distribution and knowledge sharing".^[7] "It is a holistic solution incorporation a variety of perspectives, namely people, process, culture and technology, all of which carry equal weights in managing knowledge and in creating an environment conducive for innovation to take

place."^[8]

III. Knowledge Management Capturing Attention Of Universities

Universities need to progress from simple KM activities such as capturing existing knowledge to more sophisticated and complex ones such as the continuous learning and creation of new knowledge is on going process. Compared with "Core business driven knowledge processes of the KM include: capturing knowledge; sharing knowledge, creating new knowledge and innovative new product development or creating new technology."^[9]

There is increasing requirements of greater integration of various information and data sources with other knowledge repositories so as to enhance effectiveness in decision making for student records, financing, funding and faculty development programs. Government of India's working group for Information Technology for masses has recommended use of knowledge management to improve the facets of higher education. "Owing to its dynamicity, it lends a strong potential to improve and manage several facets of HE, viz. office automation, decision support system (DSS), access to and availability of reliable and updated information etc. All these avenues influence the overall productivity and efficiency of the Indian H.E. system"^[10].

Ohio State University, USA created centre for knowledge management (CKM) in 2003 has significantly enhanced by providing solutions to its various stakeholders. "The need to manage and assimilate a constantly growing pool of information, technology, and human expertise creates unique challenges for faculty, staff, administrators and students in the modern university. To meet the needs of these user communities on the Ohio State.

University (OSU) campus, the Centre for Knowledge Management (CKM) was created in 2003 as a unit within the John A. Prior Health Sciences Library. The Centre's goal is to leverage the strengths of people, processes, data, and technology to foster the creation, analysis

and dissemination of new knowledge. As previously chronicled, out teaming of technology professional (programmers, media designers, and so forth) with information stewards (librarians) has significantly enhanced our ability to transform information services, streamline academic computing support, augment research stewardship, and accelerate the creating of knowledge-based solutions and innovations. A hallmark of this partnership is a robust knowledge management solution that is transforming the ways the expertise and knowledge of faculty and staff are documented and shared at OSU".^[11]

"To enhance competitive advantage of universities within UK knowledge management gained popularity and capturing attention of higher educational institutions. "Academic research with area of KM is increasing in popularity and institutions offer it as an academic programme or course, yet few have earmarked on research of the application an implementation of KM within this context. Further research is required to provide an evidence base of the benefits of KM as a management tool to enhance the competitive advantage of universities within U.K., however, this case study research has shown that KM is in the process of establishing itself as a new aspect of management and slowly but surely it is capturing the attention of the H.E's."^[12]

Institution of higher education in Thailand have also decided to develop knowledge management with careful planning. "In addition, the use of KM methodology in higher education must spend the long period of time for meeting the development completion and the implementation of KM methodology is not pre-fabrication pattern so the Thai institution which need to develop and improve their own organizations by using KM method must assess the organizations themselves before KM take place carefully".^[13]

Universities could become smart organization with the help of knowledge management. "Universities are the dominant players of the thriving knowledge business as their core activities. These activities are associated with

knowledge creation, dissemination and learning. Like Former Authors such: Rowley (2000), Drucker and others who have predicted that the brick and mortar institutions of higher education will cease to exist in the future due to their inability to reinvent themselves and to catch up with more intelligent; knowledge-creating organizations such as professional consulting firms, we are confident that by academic entrepreneurship and research commercialization, universities will live up to the challenge and could become smart organizations with the help of KM".^[14]

There are different techniques/technologies that could be made use of for the purpose of achieving knowledge management including:

- Electronic document and record management systems
- Collaboration tools;
- Web content management systems;
- Portals;
- Classified tools; and,
- Search engines, etc.

The total advancement of KM in any organization would depend upon the management philosophy strategy, availability of funds and the procedures adopted. The most common instruments/ techniques used are:

1. *Decision Support techniques*
2. *Groupware solutions-* "The most common feature of group solutions are electronic mail and messaging, on line calendars or diaries or employee's project management, TQM and environmental manuals, documents and best practices (document repositories) mapping of employee knowledge areas and expertise (expert diaries or yellow pages) desktop video conferencing, on-line catalogues of library materials, books, journals articles and workflow tools".^[15]

"Information technology supported by a space-based communication system has attempted to covert the world into a global village. Information super highways have generated e-commerce, e-business and e-education.

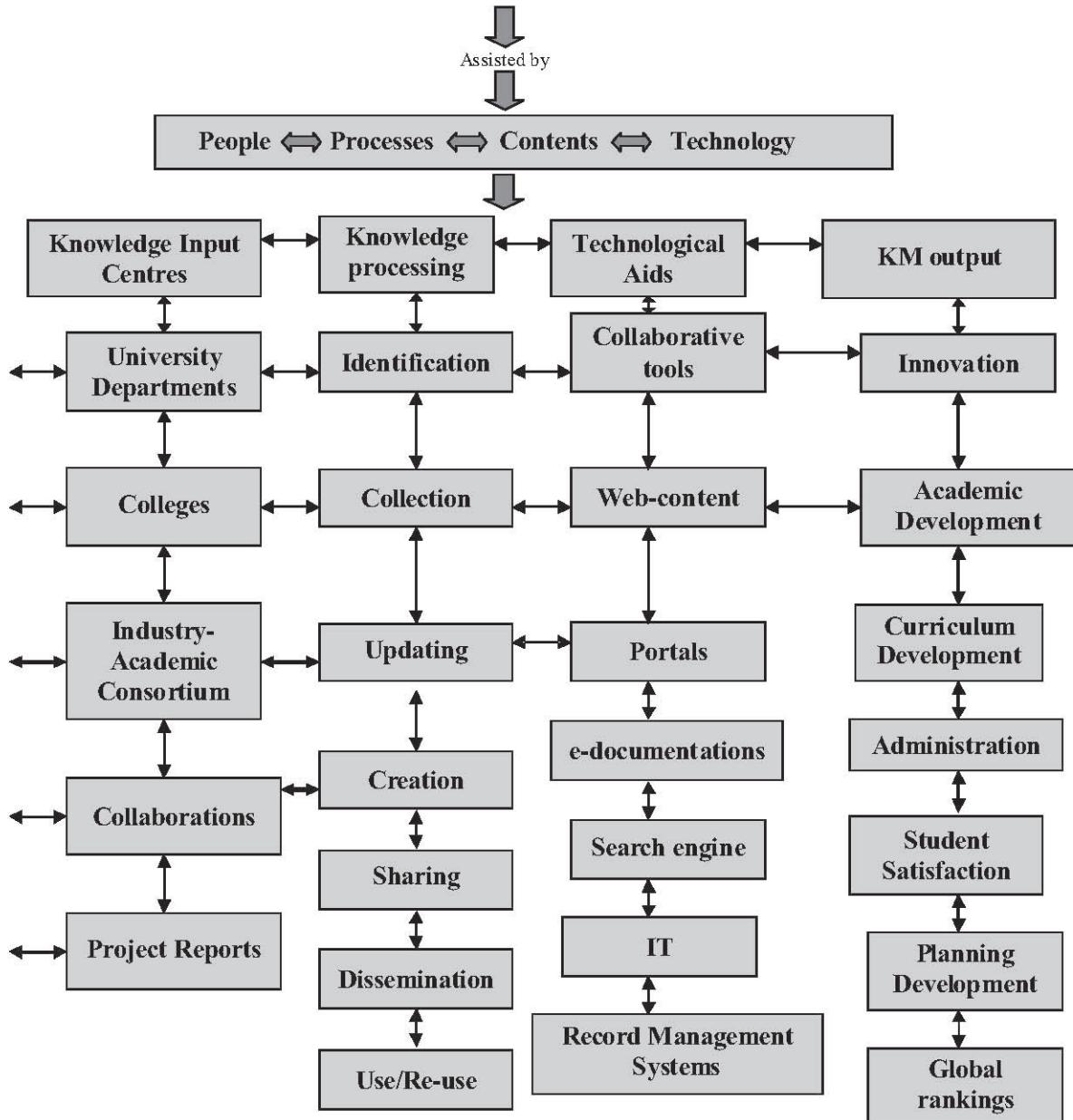
However, there still exists a chasm between the developed and the developing countries in the area of literacy."^[16]

IV. Use Of Km Practices In Indian Universities - Positive Views with Low Uses

A study was conducted to examine different areas of Indian Higher education system has concluded

that IT based knowledge management interventions seem to be promising and would provide quantum leap in quality of education with optimized resource utilization. The analysis of 301 responses, using statistical techniques for six identified areas, has shown high positive opinions of using IT based KM practices particularly in areas of:

Fig. 2 Knowledge Management Model for Universities



1. Institutional Research and Development Processes: I.T. based KM tools can lead to improved utilization of institutional resources & facilities and would facilitate interdisciplinary research. Benefits would also accrue by way of increased competitiveness and responsiveness for research grants and commercial activities, leveraging Research and Proposals efforts apart from bringing down the turnaround time for research. Reduced administrative costs were also anticipated.

2. Curriculum Development Process: It has been observed that such interventions would lead to improved speed of curriculum revisions as well as improved monitoring and feedback from all stakeholders.

3. Institutional Administration will be marked by effectiveness, efficiency and enhanced responsiveness and communication capabilities together with increased consistency in decision making.

4. Student Affairs and dealings would find improvement in the overall quality of services offered to students. Service quality to alumni shall be improved. Further, academics agreed that the IT based KM interventions shall improve the service capabilities of Faculty, Officers and Staff of the Higher Education Institutions.

5. Institutional Planning and Development: It has been observed that KM use would enhance ability to develop more relevant & focused policies besides increased efforts of all stakeholders being directed towards achievement of common institutional goals and lastly,

6. Finance and Accounts and maintenance: Upto date budgeting and accounting will be facilitated.^[17]

The paper has attempted to provide a model of KM practices which universities and colleges in India with the help of technology can conveniently adopt to reap the benefits. The projected model has been evolved to incorporate the Indian Higher education system. Although,

Indian higher education system has exhibited the growth of institutions over the last decade to become one of the world's largest system but with low GER. Presently the system faces the challenges of ensuring access, equity, quality and use of KM practices. The Indian higher education system comprises of over 32000 institutions under various levels such as - Central, State, State-private, Deemed universities providing affiliation to colleges. In addition to these, government has established institutes of national importance. Fig. 2 represents K.M. Model for universities depending upon their set ups and structures.

Knowledge input centres comprise of university departments working in collaborations with colleges its departments, industry-academia consortiums. Knowledge processing would be at various levels working horizontally and vertically involving departments and colleges for all practical purposes such as – identification, collection, updating, creation, sharing, dissemination and use/re-use of knowledge. KM practices to be prompt and successful would need to make use of various updated technological aids. The KM output as shown in the model would benefit the institutions of higher education in the forms of enhancing innovations, academic development including curriculum, administration, students satisfaction and planning and development.

However, India ranks poorly for using KM practices in its higher educational institutions. Inspite of increasingly emphasizing on its potential utility by the Government of India. Recognizing the role of ICT in improving quality and delivery of education, the government has the National Mission on Education through ICT to increase GER in higher education. Government also aims to reduce disparity in technology penetration across various levels of education. Yet the situation remains grim at present due to structural challenges such as shortage of quality faculties, lack of adequate infrastructural facilities. Moreover, the readiness to use KM practices in all institutions is also lacking. Organizational culture at university and college levels supporting KM practices is

lacking. Most of the universities and its affiliated colleges have not given thought to such ongoing practices. Integrated technical infrastructure consisting of networks, repositories, databases and developments of softwares have not been given attention to by authorities as well.

Universities, those already in the process of application of use of K.M. have also shown high positive views and gaining benefits. Strategies and solutions at the Ohio State University, U.S.A. by using KM are changing the system. University is realizing manifold benefits. "This knowledge management strategy continues to mature, providing opportunities for deriving meaningful value from data collected in OSU: pro. By documenting the time, effort, and cost savings to organizations across the institutions, we found that this model is realizing numerous benefits:

Benefits to Administrator

- Streamlining data collection and understanding of faculty activities,
- Enhancing reporting accuracy by providing a single view of institutional data,
- Generating reports to easily showcase university strengths and areas of innovation,
- Facilitating departmental and college reporting of faculty achievement, and
- Attracting scholars to OSU

Benefits to Faculty and Staff

- Managing and reporting research, teaching, and service activities using a one-stop access point,
- Identifying potential collaborators across traditional disciplines,
- Generating curriculum vitae and other administrative materials through an easy-to-use web portal, and
- Sharing best practices, lessons, research models, and methodologies

Benefits to students and Greater Community

- Finding faculty advisors and mentors in student areas of interest,
- Advertising faculty scholarship to prospective graduate students,

- Creating opportunities for greater interaction between and undergraduate students, including research experiences and seminars,
- Finding university professionals who specialize in a particular area, and
- Expanding the availability of information to facilitate outreach engagement efforts.^{18]}

Similar opinion have been expressed as KM practice are progressing rapidly – "There is a need for most universities in developing countries to catch up, to leap over barriers and to bypass some of the pitfalls of traditional approaches to the implementation of a KM system. Our future work aims to pursue and develops and implement a knowledge management system at university in Alba Iulia."^{19]}

A study at Walden University, USA has reveled that "the positive and social impact of this study is that it demonstrates that KM can be used by BHCU to better communicate and interact with government, parents and community leaders who are pressing these universities for more accountability and efficiency."^{20]}

Indian higher educational institutions must take a global and consistent vision when managing its knowledge assets and selecting KM tools to be implemented. Over, past years application of KM practices in higher educational set ups have increased globally but unevenly. Advancing KM practices in institutions depend upon fulfilling of various commitments such as: leaders attitude, organizational policies, academic enhancements and development in technologies. Newly established institutions are developing KM strategies to exploit value propositions. Existing institutions have noticed the advantages of KM practices and some of them started using KM strategies to maintain their positions in competitive world. Many Indian institutions of higher educations still do not know what to do in order to manage its knowledge. Institutions must share common KM strategies to be implemented and effective review and analysis should be done to update the KM practices. It is important to maintain balance between exploration and

exploitation, i.e., between creation, discovery or acquiring knowledge and its refinement and reuse. Funding of resources for KM practices and tools, techniques are matched with the financial and administrative benefits for the faculty, students, society and stakeholders. Finally, utmost care be exercised when codifying knowledge, using a “people to document” approach. This is to ensure that strategies are innovative to build and sustain competitive advantage.

References

- [1] Executive Summary, *Innovation for quality and Relevance*, The Higher Education Summit, Federation of Indian Chamber of Commerce and Industry (FICCI), New Delhi, India, 2007 PP. 1-5.
- [2] Mr. Ashish Kumar and Mr. Arun Kumar, *IT based KM in Indian Higher Education System*, Journal of knowledge management practice, 2006, Vol. 7 No. 3 also at <http://www.tlainc.com/artic135.htm>.
- [3] Davenport, Depung, D.W. and Beers, M.C. *Successful Knowledge Management Projects*, *Sloan Management Review*, 1989, Vol.39, No. 2 Winter, pp 43-57.
- [4] Educause Leadership series *Knowledge Management Practices in Higher Education Information Alchemy: The Art and Science of KM* series # 3. San Francisco, Jossey Bass, 2001, pp 1-24.
- [5] Milan, John H., *Knowledge Management for Higher Education*, ERIC, Digest, 2001, p.317.
- [6] Demarest M. *Understanding Knowledge Management*, Journal of Long Range Planning, Vol. 30 No. [3] 1997, pp 374-84.
- [7] Gloet, M and Terziovski, M. *Exploring the relationship between knowledge management practice and innovation performance*, *Journal of Manufacturing Technology Management* vol. 15 no.5" 2004 pp 402-09.
- [8] Du Plessis, M and Boon J.A. *Role of knowledge management in e-business and customer relationship management*: South African case study findings, *International Management*, Vol. 24 No. 1, 2004, p.86.
- [9] Farsi Jahangir Yadollahi and Talebi Kambeiz. *Application' of Knowledge Management for Research Commercialization, Processing of World Academy of Science, Engineering and Technology*. Vol.37, 2009, pp 451-455.
- [10]Government of India, *Working Group on Information Technology for Masses*, Ministry of Information and Technology” Ministry of Information and Technology, Report, 2000.
- [11]Timothy. J. Cain, Joseph. J. Bramin and Michael Sherman, *Knowledge Management and Academy*, *Educase Quarterly*, Vol.312, No. 4, 2008, pp 1-8.
- [12]Desizee, Crawflied & John Taylor, *Knowledge Management and Higher Education: A U.K. Case Study*, Electronic Journal of Knowledge Management. Vol. 6, Issue 2, 2008, PP 85-100.
- [13]Prayong, Thitithanon, Tasapong, Klaewthamong, *Knowledge Management is a perfect Education Development Tool: Is Thailand's Higher Education Really Ready to Embrace it?* *Journal of Management Practice*, Vol. 8, No. 2, June, 2007, pp 1-5 also at <http://www.tlainc.com/artic135.htm>.
- [14]Farsi Jahangir Yadollahi and Talebi Kambeiz, *Application' of Knowledge Management for Research Commercialization, Processing of World Academy of Science, Engineering and Technology*. Vol.37, 2009, pp 451-455.
- [15]Merno, Angel L. Calonia Lopez-Nicolas and Raman Sabater Scandez, *Knowledge Management Strategy diagnosis from KM instrument Users*, *Journal of Knowledge Management*, Vol.11, No.2, 2007, pp 62-64.
- [16]Prof. Patwardhan Bhushan, *University Education, Quality Competitiveness and Grants: Global, Challenges-Indian Responses*, Souvenir, The Higher Education Summit FICCI, New Delhi Nov 2&3, 2007, p.24.
- [17]Mr. Ashish Kumar and Mr. Arun Kumar, *IT based KM in Indian Higher Education System*, Journal of knowledge management practice, 2006, Vol. 7 No. 3 also at <http://www.tlainc.com/artic135.htm>.
- [18]Timothy. Cain J., Joseph. J. Bramin and Michael Sherman, *Knowledge Management and Academy*, *Educase Quarterly*, Vol.312, No. 4, 2008, pp 1-8.
- [19]Ciprian Cucu, Mircea Ristie, *The Leap to*

Knowledge Management for Universities in Developing Economies, Proceedigns of I-Know 08 and I-Media 08, Graz, Austria, September 3-5, 2008, PP 142-148.

[20]Golden, Carolyn. L, *Knowledge Management and Historically Black Colleges*

and Universities, Pro Quest, Dissertations and Theses, Walden University, U.S.A., 2009, p. 159
also at [hppt://gatewayproquest.com/openurl%3furlver=Z3988-2004%26%res](http://gatewayproquest.com/openurl%3furlver=Z3988-2004%26%res)"

The State, Capital and Development in 'Emerging' India

Dr. Surajit Mazumdar

Abstract- India's story of the last two decades since the country made a transition to a liberal economic policy regime has many sides to it that may be considered somewhat remarkable in the light of her historical legacy. India has in this period certainly been an important part of the story of the 'rise of the rest' and appears to be one of the most successful cases of increased integration into the global economy despite her less remarkable history of industrialization. Instead of losing ground in global competition, Indian big business which till then had grown in the sheltered environment provided by protectionism has experienced a growth more rapid than in the past and stepped on to the global stage. Two decades of development under liberalization, however, has also had a very exclusive character, its narrow social base precluding the possibility of any broad social consensus on liberalization? The durability of such a process in the background of India's long and stable history of having a formal political structure of representative democracy based on universal adult suffrage is then another of its remarkable features. This paper tries to explain how these phenomena that may appear surprising at first sight, are mutually interrelated and linked up with the process of liberalization itself.

1. Introduction

Whether it is a process of capitalist industrialization and expansion in a Third World country, or its larger economic and social transformation called 'development', the importance of the role played by the state in shaping the outcomes is always crucial. This includes the degree of success it achieves in reconciling the two processes that are not automatically coincident, more so in an economy with a large non-capitalist segment. At first sight India's economic trajectory over the last two decades would appear to be one where great success has been achieved on the economic expansion front, making India one of the prominent examples of the 'rise of the rest' (Amsden 2001). Whether this has happened because of or despite the Indian state may be less clear given that the background to it has been a

process of economic liberalization and a redefining of the relationship between the state and private capital in the economic realm. There can, however, be little doubt that there are other dimensions of that trajectory which certainly reflect persistence, and maybe even reinforcement, of barriers to India's escape from the underdevelopment trap.

The totality of India's liberalization story – encompassing its origins and sustenance as well as its consequences – has an enigmatic character to it. Some parts of that story can easily be causally related to others but these explanatory factors themselves often elude simple explanations. How did a country which was amongst the poorest in the world and had one of the less remarkable industrialization experiences of the second half of the twentieth century make the transition to greater integration with the

Dr. Surajit Mazumdar is an Associate Professor in Economics, Education and Research. He did his MA, MPhil and PhD in Economics from the Centre for Economic Studies and Planning, Jawaharlal Nehru University, New Delhi. He has been the recipient of the UGC Junior/Senior Research fellowship from 1987 to 1992. His areas of interest are Indian Corporate Sector, Political Economy of Industrialization, Globalization and the Indian Economy, Growth and Structural Change in India.

global economy and make it 'successfully'? Why has this 'emergence' expressed itself mainly in terms of aggregate economic performance and the positive fortunes of Indian business firms but bypassed the vast majority? How has this increasing divergence between economic growth and development been consistent with the maintenance of India's democratic political system? How long can this kind of a trajectory with two rather different sides to it sustain itself both economically as well as politically? This paper does not provide the comprehensive analysis of the Indian experience of the last two decades that must be the basis for answering such questions. It does, however, highlight some of the important economic forces that have been at work within and outside the purely economic sphere in shaping the multi-faceted story of India's 'emergence'. It argues that the developmental 'failure' of the Indian state in the last two decades has been endogenously determined – it is a joint-product of that very same liberalization which created the conditions for the specific kind of rapid expansion witnessed.

The first part of the paper expands on theme of puzzles associated with India's liberalization story. The next part then briefly reviews the impact of the pre-liberalization economic strategy and the setting up the conditions for the transition to liberalization. This is followed by a description of the economic growth story of the last two decades and how its different elements mutually relate to each other. The fourth part then focuses on examining how the redefining of the economic role of the state has affected the state itself and altered the state-society relationship in a definite direction. At the end, a short conclusion sums up the argument.

II. Indian Liberalization and its Puzzles

The immediate trigger to liberalization was the 1991 foreign exchange crisis which forced India to turn to the IMF for assistance. This was not however the first such crisis, and nor was it the first one where external pressure was brought to bear on the Indian State to influence its economic policies (Ghosh 1999). But the response of the

State in 1991 was unlike that in any previous case, initiating a long-term policy shift that continued even after the immediate crisis had passed.

The advent of the liberal economic policy regime in India was also not preceded by any dramatic political change to which the shift could be linked. The very same Indian National Congress which had been at the helm of affairs when India's post-independence dirigiste strategy was put in place also led the initial march towards liberalization some four decades later. In the 1991 general elections that brought it back to power, it was not economic liberalization but the implementation of the recommendations of the Mandal Commission by the previous government and the Ram Janambhoomi-Babri Masjid dispute, and then the assassination of the former Prime Minister mid-way through the elections, which dominated the discourse.

The intriguing fact that further confronts us is that the progress of Indian liberalization has remained largely immune to the successive changes in government and political realignments witnessed over the last two decades. Parties across the Indian political spectrum, with the exception of the Left, have exhibit no tendency to fundamentally challenge the liberalization paradigm. It would be, however, very difficult to argue that this is a reflection of the emergence of a new social consensus. While a range of discontents did exist in Indian society with the results of the earlier strategy there was no coalescing of these into a shared interest in liberalization. The changeover instead was as sudden as it was far reaching. It was a top-down process with actors within the Indian policy making elite and in international financial institutions initially crafting the policy shift (Sengupta 2008).

If there were any segments of Indian society which came to actively endorse liberalization once it had been initiated, it was Indian business and some part of the middle class. This is important in explaining the durability of the liberalization process given that the social influence of these two groups far exceeds their

numerical proportion in Indian society. Of these, the change in the attitude of Indian business is a little harder to explain. Whatever initial misgivings some of them may have had at the beginning, Indian big business came to eventually actively push the 'reform' agenda (Pedersen 2007, Kohli 2009). Its new and the old constituents had, however, grown in a sheltered environment provided by protectionism and built businesses that were mainly 'national'. They had great experience in manoeuvring within and through the system of controls associated with Indian dirigisme but had developed little capacity for self-development of technology (Alam 1985, Tyabji 2000). Why they should have welcomed a greater exposure to global competition is therefore not self-evident. Nor is it quite so simple to explain the great success that corporate India has experienced over the last two decades, which of course has contributed to reinforcing their endorsement of liberalization.

With liberalization the Indian economy did not experience a severe contraction of the kind Latin America and Africa had in the 'lost decade' of the 1980s. Instead it initially sustained the levels of aggregate growth attained in the 1980s, when India started growing faster than in the previous three decades and also faster than the world economy. This was followed by a shift to a phase from 2003-04 onwards when growth rates climbed to heights unprecedented in India's history, accompanied by a sharp rise in the investment and savings ratios. Even the slowdown after the global crisis has been associated with growth rates higher than had been the norm in the 1980s and 1990s. Thus there has been a significant increase in India's share in global production. It has consequently overtaken many developed as well developing countries that three decades ago were considerably larger in economic size than India. This and the appearance of Indian firms on the international stage are the two clear signs of India's 'emergence'. Yet why India, without a history of having built an internationally competitive industrial structure and similarly competitive firms should have become one of the fastest growing countries under globalization, has never been clearly explained?

It bears keeping in mind that in per capita income terms, India is still way behind even many developing countries. This acquires added significance in view of the very exclusive nature of the rising trend in income, which has virtually completely bypassed the overwhelming majority of India's populace (Sengupta, Kannan and Raveendran, 2008, Vakulabharanam 2010). Sharply rising inequality, and that too one accompanied by stagnation of their incomes, has meant that this majority has had no basis for actively supporting liberalization. Widespread discontent amongst them has instead existed and found expression in increased political instability. This has, however, failed to shift the centre of gravity of economic policy making and to that extent the democratic political system has not proved to be a check on a highly inequalitarian growth process. Measures like the National Rural Employment Guarantee Scheme (NREGA) were of course introduced at some point but within the framework of the existing policy paradigm such that they have run into difficulties as the fiscal situation has deteriorated after the global crisis.

III The Pre-history of Liberalization: The State, Industrialization and Transformation after Independence

After the strategy of 'planned economic development' was put into practice in the 1950s, state economic policy was marked by periodic changes in response to contingent circumstances. Till 1991, however, the two core elements of the strategy were maintained. The state remained interventionist in nature and the relative autonomy of the Indian economy was maintained through controls on flows of capital, goods and technologies.

The record of the pre-liberalization strategy in promoting Indian industrialization and development was certainly not spectacular. The pace of industrial growth was greater than in the colonial era (Sivasubramonian 2000) and created a fairly large and diversified industrial sector. However, the larger transformative impact of India's industrialization was of a much lower order than those that occurred in some other Asian developing countries over the same time.

Industrialization remained limited and the major part of the workforce remained in agriculture. Formal employment expanded to cover barely ten per cent of the workforce, most of it in the public sector. This formed the core basis for an expansion of the middle class. State intervention in agriculture also benefitted a stratum within the agricultural population including the upper segments of the peasantry. Yet widespread poverty remained prevalent.

What however tends to get somewhat obscured in the larger story of Indian development, is the development of Indian big business that import-substituting industrialization enabled (Mazumdar 2008a). As the manufacturing sector became more diversified Indian business groups moved from a situation of being confined to a few traditional industries like the textiles into others such as steel and steel products, chemicals, cement, automobiles and automobile products, industrial and other machinery and consumer electronics. This expansion in newer and more 'modern' industries increased the level of technological sophistication that Indian big business firms dealt with. They learnt to find, absorb, adapt, and profitably use technologies and technological advances across the industrial spectrum even if they themselves did not develop them. In other words Indian private capital did experience a process of 'learning-by-doing', and one that had a somewhat unique character given the constraints within which it happened.

Compared to the position existing at independence, this learning did not eliminate but closed the gap between Indian business firms and the top rung of firms internationally. It made Indian business firms capable of facing global competition even as the continuing weakness on the technological front pushed them in the direction of confronting this competition (Mazumdar 2008a). As the scope for industrial growth through diversification and a successive diffusion of industries exhausted its own scope, the technological requirements of capitalist expansion changed. Opening up was necessary for Indian capital to get the kind of access to technology its new stage of development required, and the facing the competition this

would expose them to in turn required an unshackling of the controls they had been subjected too. Thus the conditions for the eventual switchover of Indian capital to the endorsement of liberalization were created through the process of import-substituting industrialization.

In explaining the relatively limited overall success of Indian dirigisme, two major failures of the Indian state stand out. The first of these was the limited success achieved in carrying out the agrarian reform programme after independence (Joshi 1975) to eliminate what was called the 'built-in-depressor' (Thorner 1956). Secondly, Indian big business managed to also escape disciplining by the state (Chibber 2004). What has been pejoratively called the "license-permit raj" was in reality the routine abuse, manipulation, and circumvention of the system of controls to their advantage by big business firms with the assistance of the discretionary decision-makers in the state apparatus. Private capital also successfully beat the revenue mobilization effort thereby limiting the state's ability to expand public expenditures. As a result of these, the extent and the effectiveness of the state support to industrialization and social development were undermined and were later to be used to make the case for the withdrawal of the state. The State's role, however, was still critical in making possible whatever development happened.

It would, however, be a bit of a caricature to represent the Indian state before liberalization as being entirely captive to powerful private interests. The overarching setting of an interventionist economic policy regime also provided a context for significant autonomous state action, with the political pressures emanating from the aspirations of diverse segments of Indian society influencing some of these measures. In addition, while resource constraints may have limited their actual magnitude – the idea that the state had to deliver a range of benefits to all citizens, pejoratively described by some as 'economic populism', was part of the dominant political discourse. At the same time, the milieu made for institutions like

the judiciary and some public agencies to develop a particular instinctive attitude that at least partly ameliorated inherent inequities.

Iniquitous development was therefore written into the script of Indian dirigisme and did give rise to significant social and political conflict. Authoritarianism tendencies also emerged but the political system survived by also checking them. The political structure nevertheless served more as a pressure valve rather than as an effective antidote to the inequities inherent in the economic and social structure. In doing so, however, it did moderate the effects of these inequities.

IV Growth and Divergence after Liberalization

The private corporate sector has grown considerably faster than the rest of the economy in the last two decades, and enlarged its share in India's national product from under 15 per cent to nearly a quarter over this period. The gap between its pace of expansion and that of the rest of the economy has also tended to be greater in periods of higher growth. This is an important difference between the pre- and post-liberalization periods. An important significance of this lies in the fact that even after two decades of such growth, formal employment in the private sector in India is under 11 million, up from about 7.68 million in 1991, when the estimated size of the labour force is about 450 million and over 750 million are in the working age group. Even this growth of private sector employment has happened alongside a parallel shrinking of public sector employment from over 19 million to less than 18 million. In other words formal employment has stagnated in absolute terms and its relative share in total employment has shrunk. There has of course been additional expansion of employment in the private formal sector of an 'informal' kind (Government of India, NCEUS 2007). Even taking this into account, it is quite clear that the rapid growth of the corporate sector has made no significant dent in the Indian employment situation.

The other side of the story of Indian growth relates to the principal sector of employment',

namely agriculture. Here, the withdrawal of the state and other measures associated with liberal economic policies gave rise to a deep-rooted agrarian crisis since the 1990s (Patnaik 2003, 2007, Reddy and Mishra 2008). Over 200,000 suicides by farmers since then was only one symptom. Some pockets of dynamism apart, the agrarian crisis has had a generally adverse effect on livelihoods. Distress driven exit from the sector on the other hand could not be absorbed by the rapidly growing private corporate sector with the result that non-agricultural informal employment has swelled. Moreover, this has happened in a situation where the agrarian situation has held down the reservation wage in non-agricultural activities.

The wage-depressing tendencies in India have been so strong that real wages have been flat or creeping downwards even in the private formal sector despite the sector's rapid growth. Increasing informalization and the attitudinal changes liberalization has brought to the working of public agencies and the judiciary (Bhattacharya 2007, Papola and Sharma 2004, Roy Chowdhury 2005) have created conditions for increasingly flexible labour markets, erosion of collective bargaining and the greater role of capital in setting the terms of work. Wages in the formal sector have thus come to reflect more clearly the general labour-market situation making their trend an indicator of what has happened to income-levels in general in the last two decades. Given that India is still an extremely poor country, the trend of income stagnation and depression over large segments of its population is a particularly striking phenomenon. That food consumption trends also reflect these is testimony to the grim situation. With public expenditure also being constrained by the logic of liberalization, these conditions cannot be easily changed either.

The low levels of wages have also served to provide enabling conditions for a very different trend in the salaries of white collar employees in the private corporate sector with higher levels of education. They have ensured that these high salaries do not overinflate the total wage and salary bills of corporate firms. Indeed, the

distribution of income within the private formal sector during this period has shifted decisively in favour of surplus incomes at the expense of compensation of employees. Low wages have also effectively raised the real incomes of those with higher salaries because they result in the cheap availability of a range of labour-intensive services. Insofar as many of these are non-tradable services they have also contributed to keeping the exchange rate lower than what purchasing power parity would dictate. All of these in turn have meant that the cost of production of labour-intensive tradable services also tends to be low in India, even when they involve large high salary employment as in India's software sector.

Rapid growth of the corporate sector and corporate profits has thus remained consistent with a rising trend in salaries of sections of the employees of the sector. In response, public sector salaries have also eventually gone up and more so at the higher end of the salary range. Between the two, and also because of their becoming part of a geographically mobile global work-force, there has been a considerable enrichment of an upper crust in India's middle class. The expansion and widening of that segment, which had happened to an extent earlier, has, however, almost completely ceased.

Such sharp differences in the income trends of different segments of employees are of course symptomatic of a larger story of increasing inequality. These income distribution trends have also reinforced the narrowness of the Indian domestic market with greatly different effects on the demand for industrial products and for services. The holding down of incomes of a large majority of the population has continued to keep them out of the market for manufactured goods. At the other, rising incomes of those already in the market has resulted in further diversification of their demand, increasingly in favour of services. This has meant that the aggregate consumption demand pattern has been shifting in favour of services.

Even with low wages, Indian manufacturing has not found too many niches in the

internationalized system of production characteristic of the globalization era where it is competitive. Lack of public investment in health, education and infrastructure has been the problem here, contributing to keeping productivity low relative to other competing nations. On the other hand, wages are already very low and account for a very small proportion of industrial costs. The scope for gaining competitiveness by wage depression therefore practically does not exist. Thus, even while manufactured exports have grown and there has been some change in their composition, manufactured imports have tended to grow even faster. India's trade deficit has consequently become very large, with oil and gold imports adding their bit too. Indian industry therefore continues to be mainly domestic market oriented and India has not been a major recipient of the world market oriented 'efficiency-seeking' FDI. India's greatest export success after liberalization has been in services and that too in a very specific category of information technology (IT) and IT-enabled services. A significant surplus in services trade has been complemented by large inflows of remittances to partly compensate for the expanding trade deficit.

Not surprisingly, Indian growth since liberalization has been driven more than ever before by expansion of tradable and non-tradable services and construction activities rather than by that of tradable manufactured products. In the absence of significant domestic and external market growth, industrial growth in India has become excessively dependent on demand generated by investment. This, under liberalization conditions has meant private corporate investment, which has a strong tendency to be concentrated in manufacturing. This, however, has made for great instability in that investment and also industrial growth (Mazumdar 2008b). It is only the steady growth of services and their rising weight in total output that has prevented aggregate growth trends from fully reflecting the instability that has afflicted both agricultural as well as industrial growth.

The corporate sector's unprecedented expansion under liberalization has happened despite the

constraints on industrialization because business firms have found profitable opportunities in the fast-growing services and of late also in construction. Rising incomes at the top as well as the transmission of speculative sentiments from the global economy via inflows of capital contributed to a sharp upturn in the growth of the construction sector. Services and construction have thus displaced manufacturing as the principal spheres of private corporate activity. In a sense, therefore, the corporate sector in India has grown by *de-industrializing* itself.

Indian business groups have clearly been the principal beneficiaries of rapid corporate growth. Indian big business thus has been able to find ample space for its own growth and development in the process of India's integration into the global economy. Partly this reflects the strengths it had acquired in the earlier stage of industrialization. There is, however, little evidence to suggest that barring the pharmaceutical industry there has been any increase in the innovative capacity of the Indian private sector and even in this exceptional case the advance has severe limits (Mani 2009, Chaudhuri 2008, Jha 2007). In software too, innovative activity in India has been mainly by foreign R & D units (Mani 2009). In other words, Indian firms still rely primarily on their experience in sourcing and using technology rather than making it. The pattern of Indian growth has therefore been to their advantage. In a number of services and construction activities, the role of self-development of technology in any case tends to be limited, but other assets like familiarity with local conditions and networks are critical because of their non-tradability. There is, however, an additional element in the success of Indian big business – the support of the state.

V 'Retreat' and 'Capture': The Indian State Under Liberalization

The transition to liberalization at one end was marked by a 'retreat of the state' insofar as both actual economic policy and its rationalizing ideology were oriented towards withdrawing the state from many of the direct roles it had been expected to perform in the past. This, however,

itself required the state to assume a new role – that of overseeing that process of retreat and opening up of the economy, shaping their extent and speed, facilitating private sector entry and operation in the spheres from which it was withdrawing, etc. Thus the 'retreat' of the state was a necessarily qualified one. The very nature of the process – involving as it did privatization of public enterprises, setting the rules of private entry into a slew of sectors lacking competitive markets which were earlier dominated by the public sector (telecommunications, power, mining, petroleum and gas, banking, insurance, airlines, etc) and then creating the mechanisms for regulating them – made it amenable to manipulation by private interests just as the old control regime was. The difference was that liberalization, by opening up vast spheres of profit-making to private capital strengthened the incentive for such manipulation. The recourse to public-private partnerships in the development of infrastructure and a partly speculation driven expansion of the real estate sector have further reinforced this. It is not surprising therefore that instead of the development of arms-length relationships between the state and private capital, liberalization has given rise to corruption, cronyism and clientelism on an even larger scale.

In a deeper structural manner, the retreat of the state has also increased the leverage of private corporate capital alongside that of financial markets. Along with opening up of the economy have come inherent fiscal restrictions on the state. Constrained in its ability to drive the economy's growth process through public investment, the state has to induce the private sector to play that role. Policy has therefore had to be oriented towards encouraging private investment and that too in a context of global competition. This has had a feedback loop reinforcing itself – tax concessions rather than public expenditure have become the mechanism of inducing private investment while revenues have become dependent on the *levels* of corporate profits since rates cannot be raised. The placing of the private sector in such a privileged position has in turn made the adoption of a friendly attitude towards it a part of the general

culture of state functioning in India. In a federal set-up like India's, the degree of this has been enhanced by the competition for investment between states that liberalization has forced them into. At the same time large business firms which have established themselves in key sectors have increased their clout and thus influence on regulatory policy in them. Moreover, in a globalized context, private business enterprises have also become the standard-bearers of "nationalism", "national-interest", and "national achievement" so that national success tends to be seen as something that coincides with their success.

The status enjoyed by corporate capital in India and its voice and influence over policy making process, have perhaps never been greater than has been the case under liberalization. Granting 'concessions' and providing 'incentives' to private capital, and using the state's power to facilitate private capitalist expansion (as in the case of land acquisition for private industrial, infrastructural, and real estate projects), have become second nature to the Indian state. The state's ability to discipline private capital has been further eroded and a permissive attitude towards capitalist lawlessness has also been a perceptible feature of this period. The retreat of the state has thus meant effectively a greater degree of state capture by sectional interests, in a structural sense as well as in the sense of a few well connected business groups commanding tremendous individual influence.

One side of the state-capital relationship under liberalization has been its role in facilitating the success of *Indian* capital in the face of global competition. The gradual and calibrated nature of Indian liberalization has contributed to this and facilitated the adaptation and adjustment of Indian big business to the new competitive context. It has also helped them set themselves up in many of the new sectors opened up for private capital in which they had no previous experience. The state also took countervailing measures when there was any significant threat to Indian business from foreign capital. More explicit state support has helped sectors like the export-oriented IT sector break into and maintain their

position in global markets (D'Costa 2009). Individually as well as collectively, Indian private capitalist firms have therefore not scripted their success in the last two decades without the generous helping hand of the state. The stranglehold of capital over the state has, however, meant tilting it against the interests of other segments of Indian society who have found it far more difficult to claim the state's attention. Under the mutually reinforcing pressures of globalization, fiscal constraints and the growing clout of Indian big business, the capacity of the state to respond to the conditions of these sections except through the further promotion of private capital. Every phase of upturn in the aggregative economic performance generates a reluctance to do anything that might adversely affect the 'animal spirits' and the 'state of confidence' of the private investor. Every downturn generates a tendency for measures to revive these. This state of effective blindness of the state, reflected by political parties to an even greater extent when in government, has also been reinforced by the middle class endorsement of liberalization. The middle class is of course automatically a social group with a naturally strong presence in the administration, the media as well as in academia. The Indian middle class under current conditions is also becoming more exclusive since it is largely reproducing itself rather than being expanded by increased penetration by upwardly mobile sections of other social groups.

Thus, the trajectory that the Indian economy has traversed over the last two decades has carried within it an underlying basis for not only the increasing divergence witnessed but also its persistence working through the erosion of the state's capacity to respond to it.

VI Conclusion

The import-substituting industrialization centred economic growth process after India's independence was characterized by an uneven development. The degrees of structural change and social progress it brought about were limited by some crucial weaknesses which the state was unable to overcome. Yet it produced a not so visible transformation of Indian big business and

its context as to make it ready to accept and even desire a greater degree of integration with the global economy and removal of other kinds of state control it had originally accepted as necessary. This set the stage for a durable transition to liberalization with the consequences of the shift being an intensification of the process of uneven development. One side of that uneven development created a powerful constituency aggressively favouring liberalization. This included Indian big business, which has experienced exceptional growth and driven the process of India's 'emergence', and a segment of the middle class. At the same time, the very logic of the liberalization process increased the leverage of private capital with the state. Capitalist priorities have thus pressed down even harder on an already constrained state which had always exhibited a weakness in its capacity to discipline private capital. State support, now in new ways, was important for the success of an Indian capital under globalization. The result, however, has been that the Indian state has become more exclusive in its outlook and unresponsive to any pressures emanating from the other side of uneven development whereby the large majority of the populace is caught in a low-income trap. The growth process characterized by highly concentrated increases in income, constraints on public investment and economic openness has been unable to create the conditions for sustained industrial expansion. Instead this growth has maintained itself, aided by the low-wage context, by assuming a pattern dominated by the expansion of services and construction activities. This trajectory is showing signs of being under strain but not any indicating any impending change of course.

End Notes

¹ In 2009-10, 53 per cent of the labour-force was in agriculture while the rural labour-force share in the total was over 71 per cent.

References

1. Alam, Ghayur, 'India's Technology Policy and Its Influence on Technology Imports and Technology Development', *Economic and Political Weekly* (1985), 20 (45-47), : 2073-80.

2. Amsden, Alice H., *The Rise of "The Rest": Challenges to the West from Late-Industrializing Economies*, New York: Oxford University Press,(2001).
3. Bhattacharya, Saumyajit 'Vicissitudes of the Changing Relationship between State, Labour and Capital – An Appraisal of the Neo-Liberal Reforms in India and Beyond', *Labour, Capital and Society*, (2007), 40 (1 & 2): 106-133.
4. Chaudhuri, Sudip, 'Ranbaxy Sell-out: Reversal of Fortunes', *Economic and Political Weekly* (2008), 43(29): 11-13.
5. Chhibber, Vivek, *Locked in Place: State Building and Late Industrialization in India*, New Delhi: Tulika Books, (2004)
6. D'Costa, Anthony P., 'Economic Nationalism in Motion: Steel, Auto, and Software Industries in India', *Review of International Political Economy* (2009), 16 (4): 620-48.
7. Ghosh, Jayati, "Liberalization Debates", in Terence J. Byres (ed.) *The Indian Economy: Major Debates Since Independence*, New Delhi: Oxford University Press, (1999), 295-334.
8. Government of India, National Commission for Enterprises in the Unorganized Sector (NCEUS): Report on Conditions of Work and Promotion of Livelihoods in the Unorganized Sector, New Delhi, (2007)
9. Jha, Ravinder, 'Options for Indian Pharmaceutical Industry in the Changing Environment', *Economic and Political Weekly* (2007), 42(39): 3958-67
10. Joshi,P.C, Land Reforms in India: Trends and Perspectives, Bombay, Allied Publication (1975)
11. Kohli, Atul, 'Politics of Economic Growth in India, 1980-2005, Part II: The 1990s and Beyond' in Atul Kohli, *Democracy and Development in India, From Socialism to Pro-Business*. New Delhi: Oxford University Press,(2009), 164-185.

12. Mani, Sunil, 'Is India Becoming More Innovative since 1991? Some Disquieting Features', *Economic and Political Weekly*, (2009), 44(46): 41-51.
13. Mazumdar, Surajit, 'The Corporate Sector and Indian Industrialization: A Historical Perspective', in S. R. Hashim, K. S. Chalapati Rao, K. V. K. Ranganathan and M.R. Murthy (eds.), *Industrial Development and Globalisation* New Delhi: Academic Foundation, (2008a), 193-236.
14. Mazumdar, Surajit, 'Investment and Growth in India under Liberalization: Asymmetries and Instabilities', *Economic and Political Weekly*, (2008b), 43 (49): 68-77.
15. Papola, T.S. and Alakh N. Sharma, 'Labour: Down and Out?', *Seminar* 537, Special Issue on India Shining, May, (2004)
16. Patnaik, Utsa, "Food Stocks and Hunger: The Causes of Agrarian Distress", *Social Scientist*, (2003), 31 (7/8), 15-41
17. Patnaik, Utsa, "Neoliberalism and Rural Poverty in India", *Economic and Political Weekly*, (2007), 42 (30), 3132-50
18. Pedersen, Jorgen Dige, 'The transformation of Indian business: from passive resisters to active promoters of globalization', Paper prepared for Sixth Pan-European Conference on International Relations, University of Turin, Italy, (2007), 12 -15. September 2007.
19. Reddy, D. Narasimha and Srijit Mishra, 'Crisis in Agriculture and Rural Distress in Post-Reform India', in R. Radhakrishna (ed) *India Development Report 2008*, New Delhi, Oxford University Press, (2008), 40-53.
20. Roy Chowdhury, Supriya, 'Labour and Economic Reforms: Disjoined Critiques', in Jos Mooij (ed.) *Politics of Economic Reforms in India*, New Delhi, Sage, (2005), 264-290.
21. Sengupta, Arjun, K P Kannan , and G Raveendran, 'India's Common People: Who Are They, How Many Are They and How Do They Live?', *Economic and Political Weekly*, (2008), 43 (11): 49-63.
22. Sengupta, Mitu, 'How the State Changed Its Mind: Power, Politics and the Origins of India's Market Reforms', *Economic and Political Weekly*, (2008), 43 (21):35-42
23. Sivasubramonian, S., *The National Income of India in the Twentieth Century*, New Delhi: Oxford University Press, (2000)
24. Thorner, Daniel, *The Agrarian Prospect in India: Five Lectures on Land Reform delivered in 1955 at the Delhi School of Economics*, Delhi: University Press, (1956)
25. Tyabji, Nasir, *Industrialisation and Innovation: The Indian Experience*, New Delhi: Sage Publications, (2000)
26. Vakulabharanam, Vamsi, 'Does Class Matter? Class Structure and Worsening Inequality in India', *Economic and Political Weekly*, (2010), 45 (29), 67-76.

The Pedagogical Acceptance of Media Anthropology: References from India

Dr. Pradeep Nair

Abstract- *Media Anthropology is known as an area of study within social or cultural Anthropology and now a day as a part of media and cultural studies that deal with the Social and cultural aspects of mass media. As an inter-disciplinary stream of study, Media anthropology is influenced by the approaches and practices taking place in Visual Anthropology, Film, Television and Performance Studies and Development Communication. This manuscript looks media anthropology as an application of theories, concepts, methods, Approaches and instruments to understand media studies from a socio-anthropological Perspective. The study makes an in-depth analysis of the interaction taking place between various Academic and applied aspects of anthropology and multitude of media with some relevant References from India. The study deals with the new directions to re-conceptualize mass media relations to culture and society and their particular role in providing common arenas for constructing social relations, concepts of individual role as a media content consumer, and moral evaluations. A significant aspect of these new media anthropological studies discussed in this Manuscript is to understand the intricate connection of media production and consumption With the wider processes of commoditization and transnational culture. An interesting area of study under this domain is also to analyze how media professionals are situating themselves and their work in relation to more global media trends*

Key Words: Media Anthropology, Media Effects, Cultural Values, Conceptual Framework, Media Audiences and Media Uses

1. Introduction

Today media anthropology is understood as a new study object for both anthropology and media studies, not as a new discipline within the social sciences. Majority of the anthropologists, social scientists and communication scholars are ready to accept it as a new area of study within social sciences, anthropology and media studies but are reluctant to accept it as an independent domain.

The debate started before three decades in 1980's when a lot of studies have been conducted all over the world on media effects especially on television viewing. These studies were based on the popular belief that television has immense power to influence individual behavior. Most of the studies concluded that television can change

the mind of any member of the society and therefore can change the individual action. These studies studied television programmes as televisual representation of various cultures and how these cultural symbols are broadcast and penetrated into someone's mind (the viewer of the programme).

Most of these studies followed a casual explanation of media effects and how media can influence people by creating a common theme or problem to discuss and debate. The agenda setting approach one of the most critically debated approaches is more concerned about how media constitutes a forum or bulletin board in which society's central issues are aired for consideration. The scholars like McLuhan and Katz were very optimistic about the relationship between anthropology and mass communication

Dr. Pradeep Nair is an Associate Professor and Head, Department of Mass Communication and Electronic Media at Central University of Himachal Pradesh. His was awarded PhD in Development Communication from University of Lucknow. Dr. Pradeep Nair's research interest lie at studying the application of cost-effective information and communication technologies to work towards inclusive democracy using different communication formats of participatory nature specially with the marginalized groups and neglected individuals.

(McLuhan, 1964; Katz, 1989). It was the time when media anthropology started coming up with new theoretical concepts and methods.

Dickey first time defines mass media as communication media that can be widely distributed in virtually identical form, including not only film, video, television, radio and printed texts but also as advertising, publicity and World Wide Web (Dickey, 1997: 414-427). Whereas Spitulnik argued mass media as cultural artifacts, experiences, practices and processes (Spitulnik, 1993). Communication scholars started realizing that media are economically-and-politically driven concepts and are well linked to the developments taking place in science and technology and was bound up with the use of language. Because of these broad characteristics of mass media, anthropologists and social scientists started approaching media as institutions, workplaces, communicative practices, cultural products, social activities, aesthetic forms, and as historical developments.

A large number of studies took place in 1980's and 90's on studying mass communication as a subject matter of anthropology. Most of the anthropologist acclaimed that they were well aware of the trends in communication research. But later on in mid 90's, mass media went for further expansion from conventional to new media, television and radio broadcasting to internet and mobile communication, the subject suddenly started expanding. The change in the practices of communication, the diversity of mass media and media audiences, media uses and multivocality and indeterminacy of media texts has insisted the scholars to take more serious concentration on media studies from anthropological point of view.

With the advent of digital media communication, new theories, trends, subject matters and problems started inviting attention of social scientists and media scholars to conduct serious studies on how the new media can provide social and cultural integration on a massive scale. Scholars like Spitulnik and Dickey argued for conducting new studies on the process of constructing social and cultural identities in

interaction with media and encouraged communication scholars and anthropologists to conduct studies to understand how media are used in mundane and extraordinary practices to create and contest representations of self and other (Dickey, 1997; Spitulnik, 1993).

The concept of media anthropology conceptualizes from these arguments and started recognizing as an area of study to integrate media studies into the total social and cultural fact of modern life. The area provides ample scope to theorize media processes, products and its uses as complex parts of social and cultural reality. Many cross-cultural research studies were conducted in last two decades and some studies are still in process in India and in other countries in order to test the findings of communication studies conducted in these above mentioned areas carried by individuals and institutions and to see how they can be applicable to some other social and cultural setups.

2. Conceptual Framework of The Study

Media anthropology is understood as anthropology of modern societies. Even though the debate was that the discipline does not invent new theories and methods rather than it borrows them from cultural anthropology and communication studies, media anthropology is not a mere exercise of mechanically applying anthropologists' concepts and techniques to media phenomena. The identity of media anthropology is based on a conceptual framework with its debate on the use of ideas and methods to study the various aspects of media.

The conceptual framework of media anthropology depends on the methods and techniques which are practiced today to study the structural changes taking place in the society and which the media is trying to bring out in front of the people to understand their own identity as a social unit.

Unfortunately at conceptual front, media anthropology has been treated as a field of contact between the two disciplines of anthropology and mass communication rather

than generating its own disciplinary frame. Anthropologists and communication scholars approached media anthropology from their own directions with different histories and for different purposes.

But now the landscape of media studies has changed and expanded to a wide extent. From print to electronic and now to the digital age, mass media has changed and is changing the ways people work, think about themselves and interact with each other. The new media especially internet, mobile communication and high definition broadcasting are infiltrating every aspect of social and cultural life in many cultures and societies. The flow of images, sound and textual information over multiple delivery platforms are complex process and have a strong influence on the contemporary societies. So, the domain itself needs its own concepts, methods and interpretations to establish its own new disciplinary standards to mark its own boundaries and police the scholarly activities within it.

2.1 Objectives

The study deals with the following objectives in order to understand the relationship between mass communication and anthropological studies developed in 80's and 90's and the new emerging dimensions of media anthropology

1. How media anthropology deals with the issues related to media representation and shaping of social and cultural values within a society?
2. What are the premises of media anthropology as a new area of study and how it has been defined and recognized in India?
3. To discuss the application of instruments (theories, concepts, methods, approaches, tools and techniques) to understand media studies from a socio-anthropological perspective.
4. To make an in-depth analysis of media anthropology as an approach to understand the interaction between various academic and applied aspects of anthropology and the multitude of media while taking some relevant

references from India.

5. To discuss how Indian universities/institutions are incorporating media anthropology as a subject area within a research framework to enable the students to develop a critical perspective on media, culture and society.

6. How media industries, social and development sectors are providing scope for research based social and cultural campaigns which are intended to bring a complete process of cultural modernization in the country. What kind of job opportunities are available for communication strategists to design and deliver media messages to the intended audiences?

2.2 Structure

The structure of the study focused on two main dimensions -

1. How consumption of media messages can create social and cultural integration by providing the individual with a kind of social and cultural commons within the mass of society, an illusion of participation in social and political events, a common perception of the world and a reinforcement of public opinion and how these issues can be studied under the domain of media anthropology.
2. In what ways media anthropologists are accepting media anthropology as a new area of study within the domain of applied anthropology and applied communication and how the theoretical basis for the study of media has been established in anthropology.

2.3 Theme

From the perspective of both communication and cultural anthropology, the study of media anthropology can provide some valuable insights on the function of media within a society. The theme is relevant because it can help us to understand the day to day interaction between media and society from cultural point of view.

The theme is also important to connect both anthropology and mass communication research

and to understand how mass media arrives and adjust itself in a dominant system of social and cultural communications. The expansion of mass media with the advent of internet and mobile as two most interactive communication platforms has restructured the whole gamut of mass communication making it more diverse in its nature, functions, and effects along with the cultural context in which they exists.

3. Literature Review

The 1996 Routledge Encyclopedia of Social and Cultural Anthropology has shown a new indicator of the growing interest in media anthropology as a new subject area. Philip C. Salzman distinguished the traditional forms of mass media, the print media and the electronic media. He discussed in his study titled 'The Elephant Trojan Horse: Television in the Globalization of Paramodern Cultures' in 1996 that the electronic media has changed the whole nature of mass communication across the globe. While discussing on the power of influence what television has as a communication medium, he argued that the electronic forms of communication is coded through the same human skills of speech and body movements that are characteristics of face-to-face communication.

In his study, he tried to convince that television broadcasting is highly diverse in nature and it can transmit and broadcast messages across social and cultural boundaries and has the potential to bring immense social and cultural changes in societies not possible by any other communication medium. He invited social and cultural anthropologists to study television and its social and cultural impact and thus his study provides a scope for conducting studies in the domain of media anthropology.

Scholars like Ruth Benedict, Clifford Geertz, Ernest Gellner, and Anthony Smith worked to produce knowledge in mass communication and thus brought a shift from mass society to anthropology and provided space for mass communication to appear on the scene. The studies conducted by these scholars addressed

the issue of television's effect on national identity. These studies focused on the role of television in the mobilization of nationalism as a resource and also on how television has helped to instrument nationalism to get employed in a particular political and economic situation (Benedict, 1946; Geertz, 1963; Gellner, 1983; Smith, 1994).

A study conducted by Mankekar titled 'National Texts and Gendered Lives: An Ethnography of Television Viewers in a North India City' in 1993 discuss about the way in which men and women, located in specific sociocultural context, interpret entertainment serials shown on Indian television. The study proceeds to explore the place of the viewers' active engagement with television in terms of their constitutions as national and gendered subjects (Mankekar, 1993).

The study initiated a debate at various intellectual platforms in India on how and in what ways television programmes produce culture and how this culture is defining people's behavior. The study argued that the human process of understanding consists of depositing those modes of being which define us into cultural elements. In other words, we learn how to behave, so to speak, by going to the cultural elements which we have already created. The role to television here is to allow this movement, because people go to television to watch a prime time soap-opera but at the same time, the soap opera is a cultural element that tells them (viewers) how to be a member of society, what are the symbols of cultural identity and how to carry the process of cultural interpretation. Thus, television reflects the social and cultural face of the society (Mankekar, 1993: 543-563).

Another study conducted by Sushil Arora titled 'Problem and Controversies attached to framing of 'Quality Film': Audience Views' in 1990 also argued that film and video including television is an integrative element of society. If we want to understand people or culture, we have to look for film and television and its role in society. This study also encouraged media anthropologist to discuss and debate more on media effects

tradition in mass communication studies (Arora, 1990: 185-191).

Studies like 'Communication and Cultural Development: a Multidimensional Analysis' by George A. Bennett in 1981, 'The Effects of Television Viewing: a Cross-Cultural Perspective' conducted by Susan Kent in 1985 and 'Culture/Media: a (mild) Polemic' by Faye Ginsburg in 1994 talks about how culture is transmitted through mass media especially television and how this transmission of culture has shaped the human society. All these studies brought mass media in the centre of anthropology and communication studies.

Anthropologists like Landers 1974, Turner 1985, Auge 1986, Handelman 1990, McLeod 1999 and communication scholars like Carey 1975, Dayan and Katz 1992, Rothenbuhler 1998, Marvin 1999 studied the relationship between television and culture and how social and cultural messages are carried by television and other visual media and how it integrates the human society.

These studies laid a foundation for media anthropology to argue that how in the process of the evolution of societies; mass media became the vehicle of the transmission of culture. So the domain of media anthropology explores with the understanding that what is happening with culture is because of media. Studies conducted by Krishna on 'Feature Film as a Political Medium' in 1993, 'Feature Films and Visual Anthropology: India- a Case Study' by K N Sahay in 1988 helps the Indian scholars to understand how Indian culture has adopted Film and Television and how mass media especially visual media is integrating the Indian society by building national identity both socially and culturally, spreading consumerism and how it is changing the role of individuals in the process of modernization.

4. Methodology

In this study, the classical anthropological approach is used. Most of the findings are relied on observation (participant or direct), textual analysis, case studies and interviews. Survey and qualitative analysis is also used to conduct some

part of the study to find out the trends of media studies carried in anthropology.

Some specific studies from India are used as references to understand the conceptual framework developed by anthropologists to study mass media and what kind of research are conducted in traditional and non-traditional anthropological settings . Data about the references/cases is obtained from interviews (primary data), published papers, published reports and media reports. These references are basically considered and analyzed to study the overall picture of the media anthropological framework developed in India and abroad. The focus of these case studies is to analyze:

- Media anthropology as an independent domain
- What does anthropology understand by mass media
- How does anthropology approach to mass media as a social and cultural institution
- What is the objective of an anthropology of mass communication
- How media anthropology has been accepted as an area of study in the curriculum of anthropology and communication studies
- How industry is responding to this new area of interest

While going through these references, it has been observed that a lot of points of contacts are there between both anthropology and mass communication/media studies. In the study, a number of issues are reviewed that have been addressed in the review of literature and the section which deals with the issues of conflict to understand how media anthropology is growing as a subject of interest among media scholars and social scientists although still it is not an institutionalized area.

5. Issues Considered For Study

Most of the issues addressed in this part of the study have tried to explain how mass media creates social and cultural integration in a world where many other social and cultural networks are already doing the same. The issues also have a

focus on the scope of media anthropology as a new domain of knowledge and how Indian universities and social science institutions are incorporating media anthropology in their curricula.

5.1 Scope and Areas

As far as the growth and scope of the subject is concerned, media anthropology grows out of the anthropology of modern societies and their culture finding a place under the broad arena of mass media. It is different from cultural anthropology as it turns its attention from 'exotic' to 'mundane' and from 'indigenous' to 'manufactured culture' while preserving the methodological and conceptual assets of anthropological tradition.

The study of media anthropology in communication studies is gaining a lot of attention these days because it prepares media practitioners for more complete engagement with the symbolic construction of reality and the fundamental importance of symbolic structures, myth and rituals in everyday life.

Media Anthropology is a multidisciplinary field of study having a wide scope for the graduates from the fields of Communication, Anthropology, Psychology, Sociology, and Philosophy.

Media anthropology as a practice provides the scholars two main branches/areas to build a career -

i. Research Branch:

This branch especially deals with studies related to media structures, function, process, impact etc of media information, technologies, mediums, professionals, audience and control.

ii. Applied Branch:

This branch deals with the communication of anthropological information and insights through media channels in widely acceptable styles and formats. The branch also provides an

opportunity to the scholars to promote anthropology in various media by influencing journalism practices to add a sixth 'W' - whole to the conventional list of '5 Ws' - who, what, when, where and how, in order to create an alternative method of gathering and presenting information that can help to fill the educational vacuum, not with more detail, but more perspective.

Communication is a key tool that anthropologists use to understand social and cultural environment by focusing on each and every aspect of the social and cultural life of a nation. In social and cultural anthropology, communication is used to educate and train people to study and analyze the nature and state of specific social and cultural structures and institutions which widely affect all the process of social and cultural developments in the society. The approach is to understand the media and cultural process as institutions, as workplaces, as communicative practices, as cultural products, as social activities, as aesthetic forms, as historical developments and alike. The studies are mostly concerned with the understanding of the relationship between media institutions/channels and the patterns of socio-cultural changes basic to the problems of contemporary nation building.

The scope of media anthropology is tremendous. It offers an excellent opportunity to communication scholars having a background in social sciences and humanities (with a good understanding of social-cultural anthropology) along with communication to study how media institutions in transitional societies can best manage the communication activities and tools to facilitate cultural modernization.

There is a peculiarly intimate relationship between the social, cultural and communication process. Media anthropology provides a new ethnographically informed, historically grounded and context-sensitive approach to communication scholars and cultural scientists to study the ways in which people use and make sense of media technologies. The subject has great potential to explore the dynamics of social and cultural processes of media consumption, production and circulation.

So, we can see media anthropology as an independent field within the broad discipline of social sciences and humanities dealing with the relationship between the mass media and culture. The main focus of the study is more about how culture is transmitted through the mass media, and the media process or system by means of which society is shaped. Anthropology is the social science, studying culture, whereas media anthropology is the specific field which deals with the whole process through which culture shapes human beings through the mass media.

5.2 Institutions and Curricula

Presently many departments of Communication of Indian Universities are offering Media and Cultural studies as one of their optional subjects at Post Graduate level. People trained in Journalism and Mass Communication with a degree in Anthropology, Sociology or Psychology can find a job assignment in the field of Media Anthropology. The Centre for Media and Cultural Studies of Tata Institute of Social Sciences (TISS), Mumbai offers a Masters program in Media and Cultural Studies, whereas the School of Arts and Aesthetics of Jawahar Lal University (JNU), Anwar Jamal Kidwai Mass Communication Research Centre (AJK-MCRC) of Jamia Millia Islamia, New Delhi, School of Media and Communication of Pondicherry University and Sarojini Naidu School of Arts & Communication, Hyderabad University have specific modules on media and cultural studies as a part of their regular master program in mass communication. Many old schools of sociology and anthropology in India like Lucknow, Delhi, Calcutta, Madras, have specific modules on media anthropology as a part of their regular sociology and anthropology programs.

These specific modules on media anthropology, media and cultural studies offered by these institutions aims at honing skills of media students within a research framework which enables them to develop a critical perspective on media, culture and society.

Research programs offered in the field of media anthropology by Indian universities encourage

scholars to study the determinations of media technologies, micro-group cultural traditions, reception situations, and immediate social, cultural and economic configurations. Universities and research organizations offering research programmes in the field of media & cultural studies generally promote a local vision of acts of communication with mass media placed within a domestic communication having inter-discourse connections thus linking new communication and media technologies, television, internet and other media to the family dynamics and other conventional social and cultural networks.

5.3 Industrial Acceptance and Job Market

Media anthropologists learn to communicate effectively with people from a variety of media backgrounds, cultures and places, studying an incredible range of audience populations from displaced immigrants to employees of multinational corporations. A formal education in media anthropology cultivates an understanding of the multicultural perspectives of mass media. Media anthropologists use cross-cultural perspectives to study how media contents are received by various audiences.

Media organizations hire media anthropologists before implementing key policies in areas from producing cultural contents to news production all over the world. Media anthropologists working with Intel's People and Practices Research Division immerse themselves in potential markets in order to understand local information and technology wants and needs. A number of Intel's innovative and successful technological models have been developed for the emerging global markets based on ethnographic research carried by the information anthropologists of Intel.

Media anthropologists have also scope in development agencies working in environment sector. By using the skills of effective communication and understanding of media issues, one can work with state development agencies, businesses and community leaders to develop and spread quality awareness and policy

about environmental issues. With a knack for understanding diverse social and cultural perspectives from media point of view and an objective eye, media anthropologists are often excellent at conflict management, negotiation and dispute resolution.

A rapid fluctuation in the current economy demands a clear understanding of global social and cultural changes and its impact on local communities and how people are adopting these changes. Media anthropologists are trained to look at new media technology and how people are using them differently according to their social and cultural needs. Media anthropologists are preferred to communicate these technology driven social and cultural changes to masses through mass media. They are skilled in a number of techniques to gather, understand and integrate data that helps them to assess and adapt new communication practices, public message design, to analyze media usage, consumer mindset, programme appeal, research data and programme producer's motivation.

Trained media anthropologists always have immense scope in the media industries for the evaluation and risk assessment of media programmes. Government social organizations, cultural agencies and departments, academic and research institutions, communication consultancies working in the field of social and cultural development, media organizations, and non-government organizations working in social sectors generally advertise their vacancies in newspapers. Websites of these organizations also publish the details of the jobs, eligibility and application procedure. One can work with these agencies as a media anthropologist, cultural communication specialist, journalist, researcher, and as a media consultant.

5.4 Commercial Viability of the Discipline

The remuneration in media anthropology and cultural sectors depends on one's qualification and experience, his/her expertise in social and cultural issues and on his/her communication skills. Having a degree or diploma in communication studies along with a good

understanding of social and cultural development issues can help young scholars to earn a decent monthly salary at entry level positions.

A Master's or Doctoral degree in communication studies with a formal education/specialization in social sciences/humanities is recommended for more opportunities. Reputed Non Government Organizations and Communication Consultancies can offer good remuneration to media anthropology professionals for their different projects/programmes. International donors and government partners also offers good positions for people having a good understanding of cross-cutting support in ethnographic media research. A strong leadership, team development and networking skills may promise one a high position in media and cultural sectors.

5.5 Skills Requirement

As a media anthropologist one should have a good understanding of the effective communication to plan and create initiatives at all levels, from designing simple social and cultural messages for print or electronic media or for a website to strategize a complete socio-cultural communication campaign. Social and cultural campaigns require research based communication strategies to design and deliver media messages to the intended audiences. As a media anthropologist one should have to learn how a complete process of cultural modernization takes place in a country. Carrying research based anthropological and cultural studies for educational institutions, research organizations and media production houses requires a scientific approach capable of allowing the immersion in volatile social and cultural contexts, a capability to eliminate social and cultural distances and psychological barriers and a minute observation of microscopic behaviours. As a media anthropologist if you have the skills to identify social values on which cultural consumption practices are based, you may have a chance to do it really significant in the field of applied communication.

6. Discussion, Implications and Conclusion

Communication scholars and cultural

anthropologists across the globe have a common agreement that mass media in some form or another have touched almost all societies and had pervaded the entire social and cultural fabric. The relations between mass media, society and culture have been a major subject of inquiry for several decades within social sciences, humanities and communication studies. The developments concerning the nature of media power and influence, the communication process, media language and the ethnography of media audiences have been a subject of interest for both anthropologists and communication experts in India in last five decades.

But the question is that where they want to place these studies? Whether in the domain of cultural anthropology or in the domain of media studies? Cultural anthropology in India is more concerned about the power of mass media and in particular their roles as vehicles of culture. In most of the studies, carried by Indian scholars, the approach is to analyze mass media as forces that provide audiences with ways of seeing and interpreting the social and cultural world, the ways that ultimately shape their own existence and participation in the society.

The arena of Indian media studies are a fragmented terrain, highly sensitive to the developments taking place at social front and to the particularities of changing media technologies and media uses. So, both the domains of media and anthropological studies miss to understand the process of media production and consumption of media messages as a separate area of study and also how this production process is changing from a conventional process to an independent, alternative and decentralized process.

Here media anthropology offers a more wide scope to study the new media applications like interactive television (Internet Protocol Television), virtual reality, digital compression, direct satellite broadcasting, social networking platforms (Facebook, Twitter, LinkedIn, My Space, Orkut), mobile communication, digital films; how they are functioning in the changing social and cultural contexts; how media contents

are produced and delivered on these new interactive platforms, how these contents are used and interpreted within the larger context of new media ecology.

In addition to the growing body of research on new media technologies, a number of new studies have begun in India to explore the socio-cultural dynamics of these new alternative media platforms. The concerns of these studies are mainly to establish exactly how mass media with emerging technologies assist in constructing a virtual and digital society and how people are participating in this virtual world with their diverse social and cultural backgrounds.

Media anthropology is offering the anthropology and communication scholars a new direction to reconceptualize mass media relations to culture and society and their particular role in providing common arenas for constructing social relations, concepts of individual role as a media content consumer, and moral evaluations. A significant aspect of these new media anthropological studies is to understand the intricate connection of media production and consumption with the wider processes of commoditization and transnational culture. An interesting area of study under this domain is also to analyze how media professionals are situating themselves and their work in relation to more global media trends.

Media anthropologist have now begun to look the changing political, social, cultural and linguistic dimensions of mass media in the digital era and how these changes are affecting our ways of relating to one another and our ways of understanding ourselves in a more personalized media environment. The Indian universities and institutions of higher learning in media and social sciences are more interested to encourage the young social scientists and scholars to discuss and debate the broader social and cultural conditions that is enabling the emergence of new media technologies, processes and contents and the changing political and economical conditions that impel the circulations of these media contents and messages in diverse societies across the globe with special reference to India and South Asia.

So, finally going through a long debate and discussion on media anthropology and its recognition among Indian scholars it seems good to conclude that media anthropology is establishing itself as a self-standing independent domain of knowledge and its identity is assured by a well-defined object, by a specific conceptual framework and by a hard to deny role in configuring the socio-cultural role of media in a information based society. This new domain of study in India needs more discussion and debate at various intellectual platforms, acceptance among universities higher learning institutions and media industry, incorporation in the curricula of media and anthropological studies, and here we have to go for more efforts.

References

- attached to framing of 'Quality Film': Audience Views, *Man in India*, 70 (2), 1990, 185-191.
11. Bennett, George A. 'Communication and Cultural Development: A Multidimensional Analysis', *Human Organization*, 40 (4), 1981, 330-337.
 12. Kent, Susan, 'The Effects of Television Viewing: A Cross-Cultural Perspective', *Current Anthropology*, 26(1), 1985, 121-126.
 13. Ginsburg, Faye, 'Culture/Media: A (Mild) Polemic', *Anthropology Today*, 10 1994. (2), 5-15.
 14. Landers, Pamela, 'Prime Time Television: Mythology of a Complex Society', *Studies in Visual Communication*, 5(3), 1974, 1-5.
 15. Turner, Victor, 'Liminality, Kabbalah, and the Media', *Religion*, (15), 1985, 205-217.
 16. Auge, Marc, 'Teleculture Heroes', *Current Anthropology*, 27(2), 1986, 184-188.
 17. Handelman, Don, *Models and Mirrors: Towards an Anthropology of Public Events*. Cambridge: Cambridge University Press, 1990.
 18. McLeod, J.R., "The Sociodrama of Presidential Politics: Rhetoric, Ritual, and Power in the Era of Teledemocracy", *American Anthropologist*, 101(2), 1999, 359-373.
 19. Carey, James W., 'A Cultural Approach to Communication', *Communication as Culture: Essays on Media and Society*. Boston: Unwin Hyman, 1989.
 20. Dayan, Daniel and Elihu Katz, *Media Events: The Live Broadcasting of History*, Harvard University Press, 1992.
 21. Rothenbuhler, Eric W., *Ritual Communication: From Everyday Conversation to Mediated Ceremony*. London: Sage Publications, 1998.
 22. Marvin, Carolyn and D.W. Ingle, *Blood Sacrifices and the Nation: Myth, Ritual, and the American Flag*. Cambridge: Cambridge University Press, 1999.
 23. Krishna and Catir Naccu, 'Feature Film as a Political Medium', *Visual Anthropology*, 5(3-4), 1993, 271-284.
 24. Sahay, K.N., 'Feature Films and Visual Anthropology: India- A Case Study', *Visual Anthropology*, 1 (2), 1988, 171-184.

The Mining Industry: Undermining the Growth Potential of Mineral-Rich States in India¹

Dr. Shalini Saksena

Abstract-The Indian development process has been skewed with some states making rapid strides towards development, while others have remained chronic under-performers. Economic performance is closely linked to the existence of good institutions and quality of governance by the state. Several factors that determine the political and economic incentives of policy makers to endorse certain kind of growth-generating or potentially growth-retarding policies have been investigated in both theoretical literature and Empirical research to study such inter-state differences in growth. Natural resource abundance in general and resource-dependence in particular, is a factor which is not one of the conventionally studied determinants of quality of governance and thus economic growth, which however, may be an important one in a country like India where the distribution of natural resources is highly skewed. This paper focuses on the link between abundance of natural resources and the rate of economic growth in the mineral-rich states of India which is conditioned by the policy choices of the state governments. It aims at investigating the anecdotal evidence of resource curse in some states and determines why some states have managed to break out of it.

Keywords: Economic Growth, Sustainable Development, Resource Curse, India.

I. Introduction

India is blessed with one of the richest mineral reserves in the World. Some of these still remain entirely untapped and can provide a significant boost to the sector with the entry of several new players in the field of exploration and extraction as the National Mineral Policy promises to provide a level playing field to private and foreign investors in this sector. Rapidly growing private sector and massive investments in building infrastructure across the huge country like India are expected to trigger considerable demand for minerals in the near future. Recently, there has also been a significant growth in world demand for minerals, fuelled largely by the growing demand from China and India.

Recent years have seen a mining frenzy in India on the back of burgeoning World demand from countries like China and domestic demand to sustain high growth rates. The increase in global and domestic demand offers a unique opportunity for India. Interestingly, most of

India's mineral deposits are highly concentrated across states with bulk lying in the eastern states of Chhattisgarh, Jharkhand, Orissa and West Bengal (these account for 75% of country's coal, 55% of its iron ore and 60% of its bauxite reserves-CII-McKinsey report).

Concentrated reserves are not a problem per se. The problem arises because of the fatal overlap of such reserves with the country's forests and watersheds. Almost all of India's minerals are in the same regions that hold its greenest forests and most abundant river systems. Further, these lands are largely inhabited by India's poorest and most marginalized people, who depend on the same forests and watersheds for their survival. 40% of the mineral-rich districts in top six mineral producing states are in the grip of the naxalite movement which opposes the lopsided development brought about by mining.

Why does mining result in lop-sided development? Why doesn't resource abundance provide the states/districts an advantage and help

Dr. Shalini Saksena is Associate Professor in Economics, Delhi College of Arts and commerce, University of Delhi. She obtained her Ph.D in Environmental Economics from Jawaharlal Nehru University and a double Masters from Delhi School of Economics, Delhi University. Her main areas of research interest include Sustainability Accounting, Economics of Natural Resource Depletion, Valuation of Environmental goods and services and Energy Pricing.

boost overall growth? Why have most of the mineral-rich states in India lagged behind in unleashing the true growth potential of their mineral wealth while others have managed to leverage their mineral wealth enough to raise their growth trajectories? This paper tries to answer some of these questions.

II Resource Rent: Appropriation and Reinvestment

In perfectly competitive markets, the market price of a commodity depicts its scarcity value. As the commodity or the resource becomes more and more scarce, its market price increases (even when demand remains constant). The difference between the market price of a commodity and its cost of production, in perfectly competitive markets, is a surplus that represents the inherent value of the commodity or the resource it embodies. This surplus is referred to as Economic-Rent, which when applied to the case of natural resources, is called Resource Rent. Resource rent thus represents the extra economic value accruing to the mining companies/owners over and above the costs of extracting the mineral (including labour cost, depreciation of man-made capital and normal profit. See Appendix I for details on how Resource Rent is estimated for extraction of exhaustible resources). In India, the minerals belong to the State Government of the land where they lie. Thus the surplus from extraction of these resources accrues to the State Governments. The income from such rent can be significant for some states. The mining land is usually leased out to companies, who then pay the state governments for extraction in the form of royalties and other such specific taxes which are imposed with the idea of capturing the resource rent.

Hartwick's (1977) rule for a sustainable income generation states that the resource rent from extraction of non-renewable resources must be reinvested in other forms of capital (including man-made physical capital such as machinery, physical infrastructure etc., human capital and natural capital) which will enhance the capacity of the economy to produce in future. Government's ability to transform non-

renewable mineral wealth into other forms of productive wealth is the key to sustainable economic development of a country. Thus, sustainable management of natural resources requires an appropriate system of government policies regarding the levying of mining royalties and other related taxes in order to capture these rents, as well as specific policies to guide reinvestment of the revenue from resource rent into building up of productive capacity. The government thus has an important role to play in the management of the resource rent in order to ensure sustainable income generation.

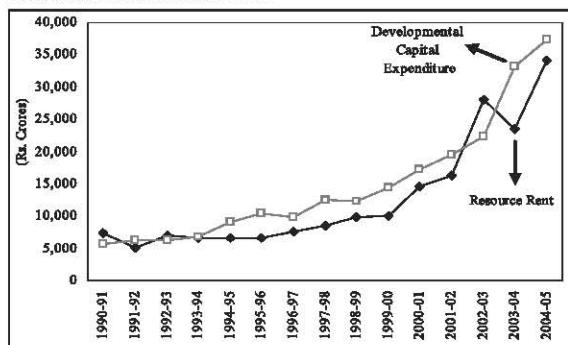
In the case of oil and gas extraction in India, it is found that the rates of royalty and other taxes applicable to extractive industries (which are revised from time to time keeping in mind the current prices, cost of production etc.) have more or less managed to capture all the resource rent generated by the sector during the 1990s (Saksena, 2012). However, in the recent years since 2000/01, the appropriation by the government in the form of royalty payments have fallen short of oil & gas-resource rents, which have soared because of rapid increase in oil prices.

The situation is different in the case of coal extraction industry where the royalty rates and other taxes have been such that the government has never been able to capture all the resource rent generated by the coal industry.² This is a worrying trend in the light of an increase in the number of private and foreign players in the fossil fuel sector over the last couple of years. Rent accruing to private companies and not captured by the government through royalties, may not be reinvested optimally from a social point of view as the private companies may fail to invest in activities with positive social benefits such as public works, infrastructure and basic services such as education and health. Also, there is no guarantee that foreign mining companies will undertake such re-investment of resource rents (not captured by the government) in our country. Government's appropriations falling short of total resource rents generated by the sectors restrict its ability to fund research and developmental activities to enhance the sector's productive capacity.

In India, there are no specific fiscal rules to guide government's management of revenues from minerals or those regarding the reinvestment of royalty proceeds into specific sectors or a dedicated fund for research and development. Government of Botswana (a country heavily dependent on revenues from production and exports of diamonds) follows a formal investment rule (Lange and Wright, 2004) whereby it ensures that all non-investment expenditure by the government is funded out of recurrent revenues (non-mineral revenue). This ensures that mineral revenue is not spent on government consumption. Without a formal rule to this effect, sustainable use of resource rents in India can be roughly inferred from the level of expenditure by the government in different forms of productive capital in the country.

One can look at centre's and states' capital expenditure (developmental: plan and non-plan) as a crude measure of governments' investment in all forms of economic and social capital. One can argue here that not all of the capital expenditure may be as productive, but a comparison of this expenditure with the resource rent generated can provide a crude measure of sustainable / unsustainable level of income generation. Consider only the states that extract oil, natural gas and coal (and earn royalty income).³ Data on developmental capital expenditure is collected for these states, over the period 1990/01 to 2004/05 and plotted versus the resource rent generated by the fossil fuel sector (where the figures for the latter are taken from Saksena, 2012). See figure 1 below.

Fig-1 Rent & Capital Expenditure in States Engaged in Extraction of Fossil Fuels.



Source: Based on data from CMIE, Public Finance (2007) and Saksena (2012)

The total capital expenditure in states extracting fossil fuels has kept pace with the generation of resource rent from extraction. On a countrywide basis, it seems that the government is spending enough in maintaining and building further the income generating capacity of the economy by compensating for the loss of natural capital in the fossil fuel sector. Growth based on depletion of fossil fuel reserves seems sustainable as overall countrywide investment in other forms of capital is compensating in value terms for the depletion of fossil fuel reserves. However, one needs to also look at income from the extraction of other minerals as well and compare it with the extent of government's developmental capital expenditure.

III. Resource Curse in Mineral-Rich States in India

The analysis of resource rents remains incomplete without the mention of the possibility of the resource-curse phenomenon operating in some of the mineral rich states in India. The resource-curse or the paradox of plenty refers to the observation that countries / states that are richly endowed with and heavily dependent on natural resources, do not see the abundance translate in to prosperity and higher economic growth (true of many African countries richly endowed with fossil fuels and the rarest of minerals). The abundance of these free gifts of nature means easy money, which in many cases, corrupts and encourages wasteful spending. Larger the resource rents, stronger are the incentives to the governments, extraction companies and other interest groups to gain control over them. This often results in weakening of the Institutional framework that regulates the management and use of public funds. The 'Curse' works by undermining the quality of governing Institutions. It manifests in slower economic growth, higher risk of violent conflicts and more severe poverty. Anecdotal evidence suggests the prevalence of this paradox across Indian states as well (see figure 2). States like Jharkhand, Orissa and Chhattisgarh, which are the richest states in terms of mineral deposits and have more than 9% of their SDP from the mining sector, have not been able to tap this

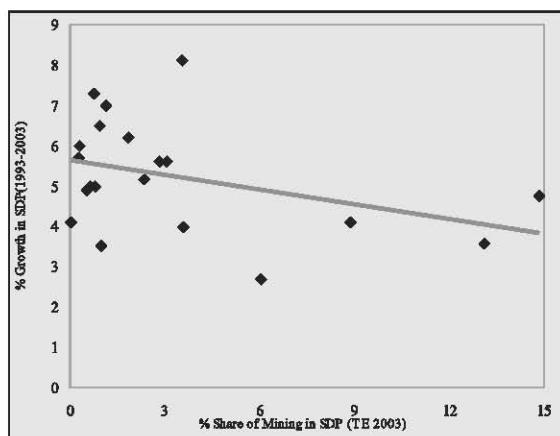
potential and their average growth rate remains below the national average.

However, there are also the mineral rich states like Andhra Pradesh, Maharashtra, Karnataka and Goa, which have witnessed impressive growth over the years, representing exceptions to the resource-curse phenomena. In order to understand why the curse remains limited to certain states, it is important to see how the curse casts its spell.

Mineral wealth is highly concentrated in a few states in India with bulk lying in the eastern states of Chhattisgarh, Jharkhand and Orissa (which account for 70% of country's coal, 55% of its iron ore and 60% of its bauxite reserves (CII-McKinsey, 2005).⁴ See table 3 below.

Resource rents represent windfall gains and such easy money encourages wasteful spending. State governments own mineral reserves⁵ and they earn resource rents from their exploitation. Resource rents captured via royalties and other specific levies⁶ ease their budget constraint. In some states, revenues from mineral royalties are significant (see table 4).

Figure 2: Evidence of Resource Curse in India



Note: 1. States with mining sector's GDP share of more than 2% in SDP have been labeled in the graph above. These include in ascending order of the share of mining in SDP: Uttarakhand, Rajasthan, Andhra Pradesh, Madhya Pradesh, Assam, Orissa, Chhattisgarh and Jharkhand. Y-axis depicts the trend growth in SDP over 1993 to 2003. X-axis measures the average share of mining SDP in overall SDP over the

period 2001 to 2003 (triennium ending 2003).

2. The downward sloping line in bold depicts the trend-line.
Source: CMIE, National Income Statistics, 2007.

Table 3: Concentration of Mineral Reserves in India

Mineral	3 Eastern States*	WB	UP	AP	KAR	MP	MAH	GUJ	RAJ
Coal	70	11		7		8	4		
Iron Ore	55			7	41				
Bauxite	60		6	21					6
Manganese	35				29	10			
Chromite	98					1			
Lead & Zinc				1			2		90

Note * Includes Jharkhand, Orissa and Chhattisgarh. The other states include West Bengal, Uttar Pradesh, Andhra Pradesh, Karnataka, Madhya Pradesh, Maharashtra, Gujarat and Rajasthan.

Source: CII-McKinsey (2005)

Table 4: Revenue from Royalty as a percentage of Total Revenue Receipts of the State Government (TE 2004)

State	(%)
Jharkhand	12 to 14
Chhattisgarh	10 to 12
Orissa	5 to 6

Source: Planning Commission (2006), GOI; CMIE, Public Finance, 2007

The state governments find themselves under considerable pressure to spend mineral revenues on current consumption rather than to reinvest them. This is particularly true of low-income states where many basic needs remain unmet, and rent-seeking behaviour by individuals and interest groups may be especially difficult to resist. This often results in weakening of the institutional framework that regulates the management and use of public funds. The quality

of governing institutions which facilitate rent appropriation is undermined. Larger the resource rents, stronger are the incentives to gain control over them by the government, extraction companies and other interest groups.⁷

Thus, the inter-state difference in economic performance of resource-rich states in India can be explained via the interplay between resource rents and the quality of governance and institutions. Natural resources are 'governance intensive' assets. Good governance and strong institutional framework are crucial to transform this resource abundance into good economic performance. Responsible governments undertake reinvestment of resource rents such that depletion of mineral assets is offset by increase in other forms of capital. Corrupt governments undertake spending in wasteful but politically important projects (often by dismantling institutional safeguards). There is enough evidence to depict that the resource curse afflicts only those countries / states that have weak institutions and poor governance (Mehlum et al. 2006, Harford and Klein 2005, Sala-i-Martin and Subramanian 2004, Isham et al. 2005 and Hodler 2006). Damania and Gupta's empirical analysis (mimeo, no date) across 15 Indian states over the period 1985-2000 predicts that political accountability plays a key role in determining the structure and efficiency of institutions and policy choices in Indian states. The results confirm that states with high resource rents and low levels of political accountability are predicted to have weaker institutions and experience lower levels of development.

Without undertaking the empirical exercise of studying the relationship between economic performance of resource-rich states in India and the quality of governance in these states, this study contends that economic performance of resource-rich states will be directly linked to the pursuit of the sustainable resource accounting rule of reinvestment of resource rents in order to achieve sustainable growth. As per this rule, the states that have managed to do so have achieved significant growth while others have drained their natural resource base without compensating for the decline in their asset base. A careful study

of state-wise total developmental capital expenditure by the government among the resource-rich states makes it clear that such expenditure has not compensated for the depletion of natural resources in some states.

Planning Commission (2006: National Mineral Policy) gives royalty accruals on minerals in states with significant mining activities for the years 2002 to 2004. See table 5. The report notes that these accruals have been increasing over the years even in constant prices.

Table 5: Royalty Accruals on Minerals in States with Significant Mining Activities (Rs. Crores)

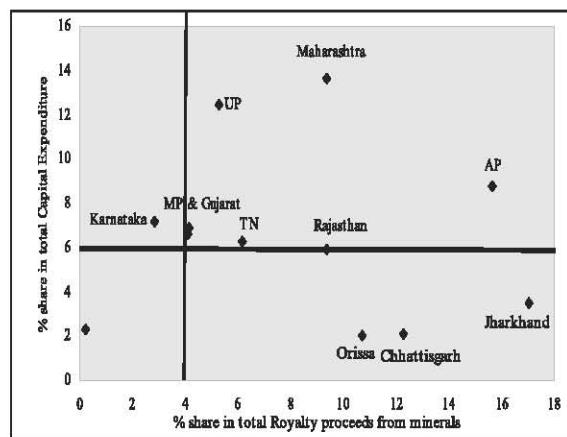
States	2002-03	2003-04	2004-05
Jharkhand	798	900	916
Andhra Pradesh	770	767	865
Chhattisgarh	552	637	695
Orissa	441	547	664
Rajasthan	400	458	590
Maharashtra	401	476	568
Tamil Nadu	297	325	325
Uttar Pradesh	262	254	292
Gujarat	173	218	239
Karnataka	84	144	211
Haryana	118	77	93
Uttarakhand	23	31	36
Goa	15	18	17
Assam	9	13	13
Kerala	2	10	13
Madhya Pradesh	591	10	13

Source: Planning Commission (2006)

In order to investigate the extent of reinvestment of royalty revenues across the mining states, the developmental capital expenditure in these mineral rich states for the years 2002 to 2004 are taken. Each state's average share in total mineral

royalty (aggregated over the number of states given in table 5) is then plotted against the state's average share in total developmental capital expenditure undertaken by the central and state governments together at all India level (all averaged over the years 2002, 2003 and 2004). See figure 3 below for the trend that explains the prevalence of resource curse in some of the mineral rich states. These are the states that have not been investing enough in other forms of social and economic capital. In particular, the result is very clear for the three eastern states that contribute the largest share in total mineral royalty income of the government but have a relatively small share in the total developmental capital expenditure of the government.

Figure 3: State-wise Resource Rent and its Reinvestment



Source: Based on data from Planning Commission (2006), National Mineral Policy, GOI and CMIE, Public Finance, 2007

Conclusion

The above analysis highlights at least one more crucial determinant of growth in the mineral rich states, i.e. reinvestment by the government to compensate for the loss in productive capacity of the mining sector in the state. Since extraction of natural resources is not explicitly accounted for and in our national accounts, the rapid drain of natural wealth goes unnoticed. Proper accounting for resource wealth in states and across the country will turn resources into a blessing for both institutional and economic development.

Endnotes

1. An earlier version of this paper was presented at the International Journal of Arts & Sciences (IJAS) conference for academic disciplines, held in Vienna, Austria, 1st to 5th of April 2012, organized by Central Connecticut State University, United States.
2. Coal royalty rates are based on fixed amount per tonne of dispatch and not on an ad-valorem basis though there is pressure on the government to shift to the latter. Although coal royalty rates have increased in terms of amount, they have decreased by 13 to 25% between 1991 and 2001 when converted to ad-valorem basis (CSE, 2008).
3. Includes Arunachal Pradesh, Assam, Andhra Pradesh, Jharkhand, Gujarat, Chhattisgarh, Orissa, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal. Offshore reserves belong to the central government.
4. "Turning the minerals and metals potential of eastern India into a goldmine", 2005, A CII McKinsey Report, India.
5. Among fossil fuel minerals, off-shore oil and gas reserves are directly owned by the Central Government.
6. Mineral extraction is undertaken and controlled by the central government, even though the state governments are the legal owners of mineral resources. The state governments receive royalties from the central government.
7. For example, the famous coal mafia in India headed by the industry's trade union leadership that first emerged in Dhanbad Jharkhand and it engages in pilferages and sale of coal on the black market, inflated or fictitious supply expenses, falsified worker contracts and the expropriation and leasing-out of government land regularly.

References

1. CII McKinsey, "Turning the minerals and metals potential of eastern India into a

- goldmine". CII_McKinsey 2005, A Report, India.
2. CMIE, 'National Income Statistics', Centre for Monitoring Indian Economy, Economic Intelligence Service, 2007.
 3. CMIE, 'Public Finance', Centre for Monitoring Indian Economy, Economic Intelligence Service, 2007.
 4. CMIE, 'Public Finance', Centre for Monitoring Indian Economy, Economic Intelligence Service, 2008.
 5. CSE, "Rich Lands Poor People: Is 'Sustainable' Mining Possible?", Centre for Science and Environment, State of India's Environment 6, A Citizen's Report, New Delhi, 2008
 6. Damania, R. and A. Gupta (no date), "The Political Economy of Resources and Development in India", Mimeo, University of Adelaide, Australia.
 7. Harford, T. and M. Klein, Aid and the Resource Curse. The World Bank Group, 2005
 8. Hartwick, J., "Intergenerational Equity and Investing of Rents from Exhaustible Resources", American Economic Review, 1977, 66: 291-304.
 9. Hodler, R., "The Curse of Natural Resources in Fractionalized Countries", European Economic Review, Elsevier, vol. 50(6), (2006) pp1367-1386
 10. Isham, J. L. Pritchett, M. Woolcock and G. Busby, The Varieties of Resource Experience: Natural Resource Export Structures and the Political Economy of Economic Growth. World Bank Economic Review, (2005) 19: 141-174.
 11. Lange, G-M and M.Wright, "Sustainable Development in Mineral Economies: The Example of Botswana", Environment and Development Economics, Volume 9, Issue 04, August 2004, pages 485-505.
 12. Mehlum, H., K. Moene and R. Torvik, "Institutions and the Resource Curse", The Economic Journal, (2006) 116 (January), 1-20.
 13. Planning Commission, "National Mineral Policy: Report of the High Level Committee" Planning Commission, Government of India, (2006).
 14. Saksena, S., "Accounting for the Sustainable Use of Fossil Fuel Reserves in India", International Journal for Sustainable Innovations, Vol.2, No.1., 2012 (<http://www.igidr.ac.in/IJSI/8-Shalini-sakshena-.pdf>)
 15. Sala-i-Martin, X. and A. Subramanian, "Addressing the natural resource curse: an illustration from Nigeria". NBER Working Paper No. 9804 India, (2003).

Appendix I-Estimation of Net Resource Rent

In order to estimate the contribution of mineral resources in actual value-added, one has to first separate the contribution of the concerned mineral resource per se to the total 'price' of the marketed mineral product, from the contribution of other factors of production. The price of a unit of resource in a perfectly competitive set-up includes the cost of all goods and services used in its production (exploration, extraction and development activities), which includes labour cost, cost of all invested capital in mining and also a return to the resource in ground (called resource rent). In order to determine the return to the resource in ground, one can deduct from the market value of the resource all variable costs to obtain a figure for gross rent, which represents returns to the resource in ground as well as the capitalized value of investments in mining. Thus, gross rent accruing to the mineral sector includes (i) resource rent accruing exclusively to the resource in ground, and (ii) return on the invested capital in the mining sector. Rent accruing to invested capital includes both, the depreciation allowance and a normal return to invested capital (valued at a rate of return, which depicts its opportunity cost). The best way to determine the return on invested capital in mining would be to observe market prices for these transactions. Net resource rent (known more popularly as the "Hotelling Rent") is then estimated as a residual when the return on invested capital in mining is deducted from gross rent. Hotelling Rent represents the true (scarcity) price/value of the resource in place, which is used in constructing the asset accounts in monetary terms.

Net resource rent (R)= Net operating surplus (NOS)

plus Royalty and other specific taxes (T)

less the return to fixed capital (K)

where K = net stock of fixed capital = rate of return to fixed capital

NOS = Net Operating Surplus = Value of Production less Operating Costs

Operating Costs = Total raw material cost + energy cost + compensation of employees + consumption of fixed capital + other operating costs

Political ownership of media in India: A Study

K G Suresh¹ and Dr Surbhi Dahiya²

Abstract-Media and politics will always have close ties. Politicians need media to get the exposure they need to win elections. A number of political leaders have their own media houses to propagate their views. The Entertainment and Media (E&M) industry broadly consists of four segments i.e. Television, Print, Radio and other media (such as Internet Access, Film, Out of Home Advertising (OOH), Music, Gaming and Internet Advertising). In today's technologically fast moving environment, media plays a significant role in the democratic process of a nation. It's inherent ability to reach the masses implies that it has a crucial role in building public opinion and creating awareness among the masses. It also plays a very important role in delineating the economic, political, social and cultural characteristics of a country. Thus, media pluralism is a cornerstone of democracy and this fact should be reflected in the plurality of independent and autonomous media and in diversity of media content. Print, television, radio and new media such as Internet are the most popular media. The Indian media landscape is witnessing several changes that may have far reaching consequences. Major players are looking for expansion of their business interests in various segments of the print and broadcasting sectors. Most of the Indian media houses are either owned or controlled by the so called political leaders. So, in this context this paper is an attempt to highlight and understand the political ownership of media in India.

Key words: Media, types of media ownership

I. Introduction

Eastern and Western societies are relying more on communication through various media and relatively less on face-to-face contact to organize and co-ordinate activities, to disseminate knowledge and information, to educate and entertain. Conditions of access to the media - the implicit and explicit rules governing who may and who may not distribute messages, the nature of the messages distributed, the terms under which messages may be received and by whom - are of vital political, social and cultural importance. Individuals and groups possessing and exercising relatively unencumbered rights to distribute messages through the media can influence large audiences and thereby help shape societal development; conversely, people prevented from so participating are muted and may be politically ineffectual.

Communication channels through which news, entertainment, education, data, or promotional messages are disseminated is known as Media. It includes every broadcasting and narrowcasting medium such as newspapers, magazines, TV, radio, billboards, direct mail, telephone, fax, and internet. Media is the plural of medium and can take a plural or singular verb, depending on the sense intended.

The important identity of a responsible media is to play an impartial role in reporting a matter without giving unnecessary hype to attract the attention of the public with the object of making money. After reporting properly the media can educate the public to form their own opinion in the matters of public interest. The media can highlight the short-comings of the official machinery in its functioning and bringing out the sufferings of the public in general. The idea that

K G Suresh¹ is Director, CFGH, India and a senior journalist based in Delhi and Adjunct Professor at the Makhanlal Chaturvedi National University of Journalism and Communication.

Dr Surbhi Dahiya² started her career as a reporter with The Tribune and later shifted to academics. She is presently teaching as an Assistant Professor in the Department of Journalism, Delhi College of Arts and Commerce. She is Ph.D in Mass Communication and has presented a number of papers in National and International seminars.

media should serve the society, particularly in the third world, in solving the problems people are facing has already gained momentum. Journalists, politicians and even the general public are talking about the necessity of harnessing the media. Media and politics will always have close ties. Politicians need media to get the exposure they need to win elections. Reporters have no choice but to cover the people chosen to lead government. But in election years, people who work in media should prepare themselves for the manipulation they'll likely face when a politician's quest for office runs head-on into the media's desire to seek the truth.

II. Media ownership: A look

Two important and interrelated factors help determine conditions of access to the media: the pattern of ownership, which shapes incentives for media use; and the bundle of rights accompanying ownership, which can modify, or even eliminate, restrictions that could otherwise inhere in ownership. The bundle of rights and duties is primarily an outcome of law, but also may be influenced by traditions and ethical precepts adhered to by the owners. The pattern of media ownership has 4 major constituents R.E. Babe (1996):

III. Owner characteristics:

Owners may be distinguished by the sector in which they reside: government, private or co-operative. Within each sector additional distinctions can be made. Moreover, managers of government-owned media can have varying degrees of independence from their proprietors, depending on the goals set for the media.

Likewise, in the private sector, many variations are possible: ownership can reside with family-run businesses; with large, professionally managed, publicly traded corporations; with religious, political or social organizations for reasons extending well beyond profit incentives; and so on.

IV. Concentration of control:

Concentration refers to the number and size of

competing outlets within a market or audience grouping, eg, newspapers in a community. Concentration indicates the degree of monopoly power enjoyed by the media owner(s) and hence the owners' power in determining conditions of access within the relevant market. The "marketplace of ideas" is premised on notions of equitable access to the media by all segments of society.

V. Cross-ownership:

Cross-ownership refers to common control over different media genres (eg, print, film, electronic). It indicates the extent to which intermedia competition thrives or is restricted.

a. Vertical integration:

Vertical integration is the extent to which media owners create, select or otherwise determine messages. It exemplifies the interrelationship between media ownership and the variable bundle of rights and duties accompanying ownership.

b. Influence of Media on politics and government

The media plays a significant role in the development of government. The media gives people access to be able to choose a political party, devise attitudes on government parties and government decisions, and manage their own interests. From newspapers to television to radio to the internet, the media is the most important factor in political communication and fund-raising.

The mass media performs six main functions, almost all with political insinuations: 1) entertainment, 2) reporting the news, 3) identifying public problems, 4) socializing new generations, 5) providing a political forum, and 6) making profits. Its influence is more prominent during political campaigns because news coverage of a single event could turn out to be the most significant factor in putting a candidate ahead. In fact, countless national political figures, including the president, plan

public appearances and statements to expand their influence through the media.

Candidates and their consultants consume much of their time devising strategies to get the most impact on television viewers. Types of coverage used by candidates for any office include advertising, management of news coverage, and campaign debates. The appearance of candidates in presidential debates is as important as the news coverage itself. In general people already have their own ideas when they view television, read newspapers, or log on to websites. This leads to "selective attentiveness" and acts as a type of filter that allows the viewer to pay attention to the details that agree with his or her own opinion. The media are more effective with those who have not formed a stable political opinion, whether it is on issues or candidates. Studies show that commercials and debates aired right before election day have the most effect on undecided viewers. Voters who have already formed their opinions are hardly influenced by the media to the point of changing their minds.

Not only does the mass media have extensive authority in political campaigns, but they can even exercise power over government officials and affairs. The media and the president both need each other; "The media need news to report, and the president may need coverage." Therefore, both the president and the media work hard to utilize one another. Public problems that receive the most media coverage are considered to be the most important ones by the public, giving the media an important role in the public agenda. The media provides the government with a better understanding of the need and desires of the society. Overall, the media are always present with new stories on political activities. Political discussions cannot be avoided in the print media, political stories are aired on television everyday, commercial radio airs political news every hour, and paid political announcements are encountered in all media during campaigns. The media remains important since they are the means by which people obtain current affairs both inside and outside India however bias it may be.

V. Political Ownership:

Media houses that are either controlled or owned by political leaders is known as political ownership of media. Many TV channels are now owned by politicians or are aligned with political parties is a well known fact to all. But the trend now is of politicians acting as de facto news editors. Some politicians are interested to take part in editorial meetings, and some of them who wish to remote-control the news selection. Political ownership is now a new trend and most of the political leaders they want to have their own news channel or newspaper in order to propagate their opinions.

An initial investment of Rs 100- crore is required to start a channel-and a recurring annual cost of Rs 1.5 crore is considered a good investment. Telecom Regulatory Authority of India (TRAI) recently reducing the net worth of parties who want to start a news channel to Rs 15 crore from the earlier Rs 100 crore, channels will only mushroom. It is interesting to note that, 12 years ago, TRAI had recommended in the past that political parties must be kept out of the news channel business.

Of the eastern States, a remarkably vibrant political presence in the media space is in Odisha. The interesting phenomenon here is that the politicians themselves are editors of most of their publications. Former chief minister Nandini Satpathy's son Tathagata Satapathy, former MLA and now a Biju Janata Dal MP, is editor of the Oriya daily *Dharitri* and the English Orissa Post, under the aegis of the Dharitri Group, held by Navajat Printers and Media Pvt. Ltd. The group also runs the Orissa Institute of Media Sciences and Culture, a school for journalism started in 2008. Bhatrihari Mahatab, son of former Odisha chief minister Harekrushna Mahtab, and current BJD MP, edits the Oriya daily, Prajatantra, controlled by the *Prajatantra Prachar Samiti* Trust. Ranjib Biswal, two-time Congress MP from Odisha, a leading member of Odisha Pradesh Congress and prominent in the Board of Control for Cricket in India, is managing editor of the Oriya daily *Samaya* and of *Saptahika Samaya*, a weekly, both published by Ashirbad

The most vibrant of Odisha's media baron is Baijayant (Jay) Panda, who controls *Odisha Television Ltd* (OTV), owned by his wife Jagi Mangat Panda. Jagi Mangat is also the director of Ortel Communications Ltd and Orissa Television Ltd, which broadcasts the State's most popular television channel. Finally, there is Soumya Ranjan Patnaik, professor of Political Science at the Benaras Hindu University and son-in-law of former Congress chief minister J. B. Patnaik, who, along with his brother, Niranjan Patnaik, former industries minister, owns the *Sambad* daily, *Kanak TV*, and *Radio Choklate*, which are held by Eastern Media Pvt. Ltd., a Rs. 110-crore company(v).

In this context, Kolkatta is not also lagging behind, The Trinamool Congress has, over the past few years, built up its own base in the media room, courtesy *Kolkata TV*, controlled by SST Media Private Limited, reportedly financed by R.P. Techvision India Pvt. Ltd, when it ran into financial trouble. There is also *Sambad Pratidin*, owned by Swapan Sadhan (Tutu) Bose, once a blue-eyed boy of the former West Bengal chief Minister, the late Jyoti Basu, who is now closely associated with Mamata Banerjee, who has sent his son to the Rajya Sabha. *Sambad Pratidin* is controlled by Pratidin Prakashani. The Trinamool Congress also controls Channel 10, held by Bengal Media Private Limited owned by Santanu and Sudeshna Ghosh. Curiously, it was the Jyoti Basu connection that put M. J. Akbar and Tutu Bose together to launch the Kolkata edition of the *Asian Age*, an association that did not survive too many years.

In Andhra Pradesh, Jagan Mohan Reddy, son of the late chief minister, Y. S. Rajasekhara Reddy, has the newspaper and television channel *Sakshi*, both owned by Jagan Mohan-controlled Indira Television Limited (Sakshi TV) and Jagati Publications Ltd, the holding company for the daily *Sakshi*. *Sakshi TV* has had a photograph of Y. S. Rajasekhara Reddy on a top corner.

Andhra Pradesh has two other literally big political names in the media world: T.

Venkataram (Ram) Reddy, nephew of Congress MP, T. Subbirami Reddy, has a considerable media empire comprising *Andhra Bhoomi*, *Deccan Chronicle*, *Asian Age*, and *Financial Chronicle* that are held under Deccan Chronicle Holdings Ltd (in which TVR holds 21 per cent). The Asian Age, one may recall, was started with onetime Congressman M. J. Akbar, Venkatram Reddy, and the now discredited Suresh Kalmadi. K. Chandrasekhara Rao-controlled television channel *T-News*. The Telangana Rashtra Samithi chief controls the channel through the holding company, Telangana Broadcasting Private Limited. He says that he had borrowed Rs. 4 crore to invest in Namaste Telengana and Rs. 50 lakh for the *T-News* Channel

The Communist Party of India publishes The Marxist; five dailies in different Indian languages; several weeklies and fortnightlies in Assamese, Kannada, Marathi Oriya, Bengali, Malayalam, Punjabi, and Gujarati. *Swadhinata*, its Hindi weekly and *Abshar*, its Urdu fortnightly are published from Kolkata. There are also Hindi fortnightlies, *Lok Samvad* (Uttar Pradesh), *Lok Jatan* (Madhya Pradesh), and *Lok Janvad* (Bihar). Besides, there are *Janashakti* (Kannada), *Ganashakti* (Assamese and Bengali) *Jeevan Marg* (Marathi), *Samyabadi* (Oriya), and *Chitan* (Gujarati). It also owns news agency, the India News Network.

"In Tamil Nadu, the channels are divided into two neat binaries-those that swear by Karunanidhi and those that swear by the AIADMK's J. Jayalalitha," says Maalan, a senior journalist who has worked with Sun TV before it temporarily snapped links with the DMK in 2007. He has also been with Jaya TV. On Jaya TV, Karunanidhi is always referred to as the chief minister of a minority government with outside support from the Congress. Unavoidably, the AIADMK chief's proclamations are carried without cuts or any editing. The channel also sings paeans to her. Not surprisingly, vice-president (news) K.P. Sunil says the fact that he has put in more than nine years in the channel is testimony to the fact that Jayalalitha does not interfere. But there are many who say that the AIADMK chief's writ runs on most decisions.

But channels controlled by political parties are now increasing day by day. In Andhra Pradesh, there are 14 news channels owned or partially bankrolled by politicians. In Karnataka, there are four, and in Tamil Nadu five. Kerala, West Bengal, Maharashtra and Uttar Pradesh have their fair share of channels linked to politicians. In all, there are close to 40 channels that are either funded by parties or are directly owned by politicians. The West Bengal government led by Mamata Banerjee recently proposed that the state government should itself set up its own daily newspaper and television channel.

VI. Conclusion

Day by day, the political leaders, they either own or control the media and they use it for their benefits. Due to the political ownership of media, the objectivity of news is no more. During elections, the political leaders use the media for campaigning purpose and try to induce the voters.

References

1. R.E. Babe, "Canada," in Vicki Macleod, ed, *Media Ownership and Control in the Age of Convergence* (1996); James Winter, *Democracy's Oxygen* (1997).

2. Aditi Roy Ghatak and Paranjoy Guha Thakurta, *Politics and Media Control* (2012)
3. Downing, John, *The SAGE Handbook of Media Studies*, SAGE, 2004, p. 296.
4. Lorimer, Rowland and Scannell, Paddy *Mass communications: a comparative introduction*. Manchester University Press, 1994, pp. 86-87.
5. Mohapatra, Atanu, *National vs. Regional Media Ownership in India*. *Media Critique*; July-September, 2012

Websites

6. <http://www.cpim.org/content/other-publications>
7. <http://warangalcity.co.in/2011/10/31/telangana-rashtra-samiti-president-k-chandrasekhar-rao-wants-the-party-to-spell-polavaram-stand/>
8. <http://isomes.com/>
9. <http://indiankanoon.org/doc/>
10. <http://business.outlookindia.com/printarticle.aspx?278366>)

Gender Responsive Budget Analysis in Water Sanitation Services in the Resettlement Colonies in India

Dr. Gyana Ranjan Panda¹ and Trisha Agarwala²

***Abstract**-The paper attempts to study the Gender Responsive Budgeting (GRB) in the field of urban water and sanitation in Delhi region in order to ascertain the hypothesis that the budgeting and planning in the broad parameters of policy and public management impact the lives of women and girls disproportionately compared to men and boys. The study finds that various policies and schemes pertaining to urban water and sanitation in India can be termed as 'gender blind' since these do not recognize the gender-based disadvantages in accessing safe water supply and sanitation, sewerage and drainage. The overall budgetary allocation for water and sanitation in the resettlement colonies and for Jhuggi Jhopri (JJ) clusters (slums) in Delhi is grossly inadequate and not in sync with the needs and effective level of service delivery, in the context of the fact that there is rising presence of poor and marginalized communities due to insufficient essential services infrastructures. There is utter confusion and the lack of effective collaboration and consultation among various implementing agencies. Finally, the paper finds that the efforts of bringing out a 'Gender Responsive Budgeting' in India have been a cosmetic exercise so far.*

Key terms: Public Expenditure, Gender Responsive Budgeting, Water and Sanitation Policy, Slums of Delhi

1. Introduction

Water and Sanitation services in urban India have not attached adequate priority by the government. With increasing urbanisation, there is a tremendous pressure on civic infrastructure systems like water supply, sewerage and drainage, and solid waste management. As per recent data, (Vaidya, 2009, p.11) water supply is available only for 2.9 hours per day across cities and towns. The non-revenue water that includes physical and revenue losses account for 40-60 percent of total water supply. About 30-50 percent households do not have sewerage connections and less than 20 percent of the total waste water is treated. Solid waste systems are severely stressed. The state of services reflects the deterioration in the quality of city environments. As per the 54th Round of the National Sample Survey (NSS), 70 percent of urban households accessed water through taps and 21 percent through tube-wells or hand

pumps. Sixty-six percent of urban households were reported as having their principal source of water within the premises while 32 percent had it within 0.2 km. Forty-one percent had sole access to their principal source of drinking water and 59 percent shared a public source. The NSS statistics show that 26 percent of households had no latrines, 35 percent were using septic tanks and 22 percent were using the sewerage system. Sewerage connections varied from 48 percent to 70 percent in the country. It is estimated that about 1 15,000 tonnes of Municipal Solid Waste is generated daily in the country. Per capita waste generation in cities varies between 0.2-0.6 kg per day and it is increasing by 1.3 percent per annum.¹

Similar is the situation in Delhi even though Water and Sanitation is a very important component of planning in the national capital. As per the 65th Round of the National Sample Survey (NSS, 2008-09), there is a considerable

Dr. Gyana Ranjan Panda¹ is currently associated with Centre for Budget and Governance Accountability (CBGA), a New Delhi based think-tank working on budget and public policy issues in India. He keeps research interests on the issues pertaining to drinking water and sanitation, climate change, social sector budgeting and legislative oversight of budgets in India. Trisha Agarwala² is currently working as Programme Officer in Focus on the Global South (India Programme). She keeps strong interests on public provisioning in drinking water and sanitation programme in India.

shortfall of these amenities for people living in slums and relocation colonies. The Delhi state sample suggests that 88 percent of slums largely depend on piped water supply followed by around 9 percent that are dependent on hand pumps and tube-wells as a major source of water while the remaining 3.5 percent are served by other sources. Sixty-three percent of slum dwellers use tanks/flush type latrine facilities for sanitation. Underground sewerage is found to exist only in around 23 percent of slums while 2.8 percent of slums have underground drainage systems, 3.4 percent covered (pucca) drainage systems and 11.1 percent open (katcha) drainage systems. Around 16 percent of the slums have no drainage system. Local bodies collect garbage from 66 percent of the slums. Of the slums where garbage is collected by local bodies, the frequency of collection was 43 percent on a daily basis. In 13 percent of the slums, the garbage was collected at least once in two days; in 24 percent slums, the garbage collection was once in 3 to 7 days, while it was once in 8 days and above in 20 percent of the slums. That apart, 24 percent of the slums do not have any regular mechanism for garbage disposal (Government of NCT Delhi, 2010). Intermittent and inequitable distribution of water supply is a regular feature of urban metropolises. For instance, the per capita supply ranges from 20 to 400 lpcd (litres per capita per day) in different parts of Delhi (Ministry of Urban Development, 2011).

The infrastructure shortages pertaining to water and sanitation in the urban slums of Delhi are linked to the urban poverty as approximately half of the populations in Delhi live in JJ relocation colonies with lack of tenure, poor living conditions, unemployment and few livelihood options (Sheikh, 2008).. Availability and access to essential services like health clinics, clean drinking water, safe sanitation and electricity affect both men and women. However, due to women's secondary role and position in society and the prevalent patriarchal system, the lack of certain services impact women more than men. On one hand, while water collection and management is seen largely as the responsibility of women in both rural and urban settings; on the other, the lack of water and sanitation facilities

significantly and disproportionately impacts the lives of women and girls as compared to that of men and boys.

1.1 Scope and Methodology of the Study:

The first and foremost objective of the study is to analyse specific urban water and sanitation programmatic interventions and scrutinise their guidelines, both at the Union and state government (Delhi) levels, from the gender perspective in terms of women's accessibility to safe drinking water and hygiene sanitation in the urban set-up. In this context, the study intends to capture the quantum of budgetary outlays for urban water and sanitation in Delhi region with a focus on the North-West district of Delhi, i.e. Narela and Model Town as sub-divisions of the north-west district and Bawana and Bhalaswa as resettlement colonies. There are other research questions the study intends to look into such as: What are the institutional and budgetary processes specific to water and sanitation programmes and schemes? How effective are these processes? Are the funds that are being allocated utilised effectively? If not, what are the key constraints in the implementation of these specific programmes and schemes for water and sanitation? What are the key gender-specific concerns emerging based on the analysis of the budgets for water and sanitation in the study area?

The methodology for the study is based on the analysis of public budget and its related aspect of PETS. At the outset, the study tries to analyse the guidelines for many of the water and sanitation schemes highlight both overall and component level physical and financial norms for implementing specific projects. Understanding such norms constitutes a critical area of budget analysis of the Water and Sanitation sector since the hardware and software components are inbuilt in the schemes. An in-depth study of various Centrally Sponsored Schemes such as Accelerated Urban Water Supply Programme (AUWSP) and Jawaharlal Nehru National Urban Renewal Mission (JNNURM) implemented by the Ministry of Urban Development and Integrated Low Cost Sanitation Programme

(ILCSP) by the Ministry of Housing and Urban Poverty Alleviation is therefore necessary. Various government policy guidelines such as the National Urban Sanitation Policy become extremely crucial in setting the context of the study.

An attempt to outline the fund-flow mechanism from the level of the Union Government to the state (Delhi) and subsequently down to the line departments and to the local implementing agencies is also made to trace whether the process of budget-making for water and sanitation services has followed up top-down or bottom-up planning and budgeting. In this regard, the study also followed the interview method to examine functions and roles of various administrative agencies in the process of fund allocations and fund management for water and sanitation in the study areas. The interviews of implementing officials concerned at district and sub-district levels intended to gather perceptions and seek quantitative information on funds approved and released and funds utilised on water and sanitation services. This methodology helped in gauging their perceptions of various constraints on effective implementation of water and sanitation services in the study area and generated some qualitative perspectives in the study.

The study has also relied upon an exhaustive review of available literature on public expenditure analysis of the urban Water and Sanitation sector, more specifically Delhi. Analysis of various budget documents, particularly the Detailed Demands for Grants of the Ministry of Urban Development and Ministry of Housing and Urban Poverty Alleviation at the Union and State (i.e. Delhi) levels pertaining to water and sanitation for the last four years (2007-08, 2008-09, 2009-10, and 2010-11) have been taken up. Such an analysis generated data for total quantum of funds for urban water supply and sanitation for Delhi region. Besides, the analysis of the state government's fund outlays through the budgets of MCD, Delhi Jal Board (DJB) and DUSIB for creating essential infrastructure, maintenance and sustenance of water supply and sanitation services were

significantly helpful to gauge the quantum of budgetary outlays for the JJ colonies and its adequacy to translate plans and programmes into effective service delivery.

The selection of the two JJ clusters, Bawana and Bhalswa, as study regions is based on field assessment by JAGORI and CBGA on the implementation of water and sanitation services in the areas. Bawana, in North-West Delhi near the Haryana state border, was identified as the site for relocation for a large number of people evicted in 2004. Residents living in JJ colonies/slums from Yamuna Pushta, Dhapa Colony, Banuwal Nagar, Saraswati Vihar, Deepali Chowk, Vikaspuri, Nagla Machi and Jahangirpuri among others were evicted to this site about 35 km away from their homes. The plots in Bawana were assigned only to those who could prove their identity and proof of residence. People who lived in Delhi before 1990 were given 18 sq m plots. Families that lived in Delhi prior to 1998 were allocated plots of 12.5 sq m. Bhalswa is also located in North-West Delhi next to a landfill site. Most people residing here were evicted from areas in North and East Delhi from communities previously located in Yamuna Pushta, Gautampuri, Barapulla, Nizamuddin, I.T.O. and Rohini, about 10 to 20km from their homes. They were moved here in 2000 and were allotted plots of either 12.5sq m or 18sq m based on their years of residence in Delhi. Today, Bhalswa has roughly 2,600 plots with an approximate population size of 25,000.

The lack of proper sanitation facilities and water supply is something residents of the two study areas have learnt to live with. While conducting field visits, the study team observed gender-based disadvantages due to lack of access to safe drinking water, clean and affordable sanitation, sewerage and drainage, which are consistent with the critical inputs provided by NGOs such as JAGORI and Action India's work in the relocation colonies of Bawana and Bhalswa.

Gender-based Disadvantages in Accessing to Water Supply²:

- Time and opportunity cost for work lost due

- to time spent in water collection.
- Conflicts and fights regarding space to wash clothes and cook.
- Physical and sexual harassment in public transport while collecting water from distant places.
- Exposure to physical and sexual violence while collecting water from tankers.
- Absenteeism and dropout rate of girl children from schools.
- Unsafe drinking water raises the risk of women, men and children being susceptible to water-borne diseases such as cholera and diarrhoea, affecting their health and subsequently livelihood.

Gender-based Disadvantages in Accessing Sanitation, Sewerage and Drainage³:

- Incidents of sexual harassment while availing sanitation facilities at Community Toilet Complexes (CTCs).
- Poor and faulty design of CTCs which put women at the risk of being harassed.
- CTCs are not open for the entire day which causes inconvenience to women to meet their sanitary needs.
- Inadequate and unsafe sanitary public infrastructure causes loss of dignity and privacy to women who are forced to resort to open defecation.
- Inadequate infrastructure raises vital safety concerns for women as they are sexually assaulted or attacked when they resort to open defecation.
- Women have to wait until dark to defecate and urinate in the open, so tend to drink less water during the day, resulting in all kinds of health problems such as urinary tract infections (UTIs).
- Poor maintenance and design of drains leading to conflicts that put women at risk physically.
- Loss of dignity and privacy while disposing menstrual waste.
- Hygienic conditions are often poor in public defecation areas, leading to worm infestation and water-borne diseases.
- Girls, particularly after puberty, miss school due to lack of proper sanitary facilities for

dealing with menstrual hygiene.

Women in Bawana and Bhalswa localities have reported these problems while accessing toilets and sanitation facilities. Their complaints relate mainly to incidents of sexual harassment at the CTCs and in open areas whenever CTCs cannot be accessed. Initiatives undertaken by the community have been the only way to counter these problems. This raises the question of government action, considering that a woman's dignity and safety is severely undermined especially among the vulnerable urban poor.

In this regard, Gender Responsive Budget Analysis in water and sanitation is critical to identifying the gender component in water and sanitation related schemes, tracking the corresponding budget outlays and expenditures and assessing the adequacy of the spending to respond to the specific gender needs.

Budgets are critical policy documents of the government that reflect its commitments and priorities. Analysis of the budgets helps assess the "gaps" in implementing these commitments and suggest corrective actions. In recent years, Gender Responsive Budgeting (GRB) has emerged as a powerful strategy to ensure inclusion of the interests of the socially disadvantaged groups in the planning and budgeting processes. GRB is not an accounting exercise but an ongoing process of engagement with policies across sectors to ensure that gender gaps are addressed. In other words, it translates gender commitments into budgetary commitments. Gender Responsive Budget Initiatives (GRBI) help assess the gender responsiveness of programmes and ensure that the "goal" of gender equity is achieved through the instruments of budgets. It is a process that entails maintaining a gender perspective at all stages of planning and execution. GRB is not an accounting exercise but an ongoing process of engagement with policies across sectors to ensure that gender gaps are addressed. In other words, it translates gender commitments into budgetary commitments.

GRBIs are tools that analyse budgets to see how

government policies and programmes have different impacts on women and men, and girls and boys (Khosla, 2003, p5). The various tools that can be used for a gender sensitive budget analysis (UNIFEM, 2005) are:

- 1) Gender-aware policy appraisal
- 2) Gender-disaggregated beneficiary assessments
- 3) Gender-disaggregated public expenditure incidence analysis
- 4) Gender-disaggregated tax incidence analysis
- 5) Gender-disaggregated analysis of the impact of the budget on time use
- 6) Gender-aware medium term economic policy framework
- 7) Gender-aware budget statement

Against this backdrop, the paper attempts to demystify the planning and budgetary processes related to governments' initiatives on water and sanitation. "Gender-aware policy appraisal" (GRB Tool 1) has been used to closely examine and analyse policies and budgets specific to water and sanitation in Bawana and Bhalswa. In the absence of the availability of sex-disaggregated data as well as budget data at the level of Bawana and Bhalswa, "gender-disaggregated public expenditure incidence analysis" (GRB Tool 3) could not be used. However, as the Government of India has adopted GBS as a "Gender-aware budget statement" (GRB Tool 7), the study makes a stronger case for bringing in various programmes and schemes pertaining to water and sanitation within its ambit.

The study constitutes three chapters. The first chapter deals with the policies, acts and schemes/programmes dealing with water and sanitation in urban areas at the Union, state and local government levels. This section also looks closely at how and where women feature in these policies, acts and schemes. The next chapter focuses on budget analysis at the level of the Union and Delhi state from the perspectives of water and sanitation, and extends to allocations for the resettlement colonies. This section also highlights the prevailing fund-flow mechanism in some water and sanitation schemes in Delhi. The final chapter discusses

various issues with policy implication such as identifying various constraints in the effective delivery of water and sanitation services in the resettlement colonies and how it impacts low-income women and girls in the region. Issues regarding implementation and suggestions to counter them have also been highlighted.

2. Water and Sanitation Policies and Programmes for Urban Settings: What are the Entitlements for Women?

What are the entitlements for women in various policies and programmes pertaining to Water and Sanitation in urban settings? The question relating to entitlements is also linked to needs assessment of women, which has not been given due priority while making plans and programmes for the development and modernisation of cities. A look at some of the schemes and policies involving slum and resettled populations at the Union, state and local body levels will shed light on the extent to which women and girls have been included as also the budgetary provisions made for them. The analysis of the schemes and policies also attempts to cull out entitlements for women, if any.

2.1 Policies and Schemes at the Union Level:

At the Union Government level, there are some schemes and policies that focus specifically on water and sanitation in the urban setting. A major government programme that provides facilities for water supply and sanitation in urban areas is Jawaharlal Nehru National Urban Renewal Mission (JNNURM), which aims at improving and augmenting economic and social infrastructure facilities of the cities, extending basic services to the urban poor including security of tenure at affordable prices and strengthening municipal governments and their functioning in accordance with the provisions of the 74th Constitutional Amendment.⁴ Services to the urban poor include access to water supply and sanitation which largely hinges on an effective local government. The cities under JNNURM are supposed to develop City Development Plans (CDPs) demonstrating their

plans and commitments to JNNURM's objectives. Plans have been developed for all the cities in the Mission but these have not been done in a consultative manner involving all sections of society. This non-consultation has mainly been attributed to the inadequate capacity of urban local bodies which form the pivot in the Mission. This is adjunct to the 74th Constitutional Amendment Act which calls for devolution of funds, functions and functionaries to ULBs. The following section analyses various inputs to JNNURM and other related policies in which women's concerns, particularly water and sanitation, are discussed.

- Jawaharlal Nehru National Urban Renewal Mission: (a) Basic Services to the Urban Poor (BSUP), (b) Rajiv Awas Yojana (RAY), and (c) Integrated Housing Slum Development Programme (IHSDP)
- Service-level Benchmarking
- Urban Sanitation Policy, 2008
- National Urban Habitat and Housing Policy, 2007
- Mid-Term Appraisal of the 11th Five Year Plan

Other than the Urban Sanitation Policy, none of these policies and schemes deals with sanitation and water supply directly. Water and sanitation is either linked with housing for the poor or with employment generation, and has not been treated as a standalone issue. Moreover, gender has not been overtly mentioned, but just implied. This shows that the policymakers have not directed enough attention to the needs of women and girls relating to water supply and sanitation, especially in the urban slums. The National Slum Development Programme was one of the few schemes which had a provision for adequate water supply, sanitation, housing, solid waste management, primary and non-formal education in urban slums. It provided additional Central assistance to states to supplement the resources of the state government for provision of basic infrastructure and services in slum areas. Unfortunately, it was discontinued in 2009-10.

Basic Services to the Urban Poor (BSUP) scheme under JNNURM has stressed on the

development of basic services for the urban poor which includes water and sanitation. To maintain these basic services, one of the objectives of the scheme is to secure effective linkages between asset creation and asset management so that they become self-sustaining over time. However, there is no mention of a separate fund for water and sanitation.

Rajiv Awas Yojana (RAY) has a vision of a "slum free state". It seeks to bring existing slums within the formal system while redressing the deeper issues of slum creation. The scheme talks of earmarking for basic services to the urban poor within the local body budgets. As one of its reformative measures, it also mentions provision of basic services to the urban poor which includes water supply and sanitation. The intention of the scheme belies the fact that no separate funds have been earmarked to achieve its vision.

Integrated Housing Slum Development Programme (IHSDP), In addition to providing shelter through up gradating and construction of new houses, IHSDP also aims to provide community toilets, water supply, storm water drains, community baths, widening and paving of existing lanes, sewers and street lights. Slum improvement and rehabilitation are part of the scheme, which focus on inclusive urban planning. Yet there has been no specific mention of women directly in the scheme despite the funding mechanism being explicitly laid out.

Service-level Benchmarking is another initiative of the Ministry of Urban Development (MoUD) as part of the urban reform agenda for enhancing accountability for service delivery through various Centrally Sponsored Schemes⁵ (CSS) like JNNURM. It is to be tried out on a pilot basis and envisages a shift in focus from infrastructure creation to delivery of service outcomes in order to introduce accountability in service delivery. Service-level benchmarking is surely a positive step but it remains to be seen to what extent the basic issues of access and availability of safe water and sanitation services are addressed.

National Urban Sanitation Policy 2008 aims to transform urban India into community-led healthy and livable cities and towns that have universal sanitation coverage. It has an ambitious plan focusing on the urban poor and women whereby the vision for Urban Sanitation in India is that "all Indian cities and towns become totally sanitised, healthy and livable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women" (Ministry of Urban Development, 2008). The main goals of the policy are awareness generation and behavioural change; open defecation-free cities, integrated city-wide sanitation, sanitary and safe disposal, and proper operation and maintenance of all sanitary installations. Here too, the policy rests on the assumption that the states would draw up State Urban Sanitation Strategies and City Sanitation Plans. The urban poor are confronted with the issue of land tenure which creates uncertainty and insecurity regarding their place of residence. There is the constant threat of eviction and the areas lack basic services such as safe water and sanitation facilities where the burden of collecting water and maintaining household hygiene falls on women who suffer the most from inadequate and inappropriate services in slums. The sanitation policy dwells on these issues but does not suggest ways to deal with the multiplicity of agencies and stakeholders involved in the implementation of water and sanitation services.

National Urban Habitat and Housing Policy (2007) "intends to promote sustainable development of habitat in the country with a view to ensuring equitable supply of land, shelter and services at affordable prices to all sections of society". It also plans to involve women at all levels of decision making to ensure participation in the formulation and implementation of housing policies and programmes. Further, it aims to address the special needs of women-headed households, single women, working women and women in difficult circumstances in relation to housing serviced by basic services, which would include water and sanitation. This is the only policy which tries to include women in

its guidelines.

Mid-Term Appraisal of the 11th Plan stresses ULB level reforms such as 100% cost recovery on Operation and Maintenance (O&M) for Water Supply, 100 percent cost recovery on Solid Waste Management and, internal earmarking of funds for services to the urban poor. The Appraisal brings to light the finding that nearly 80 percent of the funds under UIG and more than 90 percent of funds under Urban Infrastructure Development Scheme for Small & Medium Towns (UIDSSMT) have been committed to projects in water supply, sewerage, drainage and solid waste management which shows that most cities still have a significant backlog in the provision of basic urban services to their residents. Further, in some states, less than 30 percent of the funds allocated have been claimed. In Delhi itself, less than 6 percent has been claimed showing the extent of underutilisation of funds.

2.2 Policies and Schemes at the Delhi State and Local Government Levels:

Following are certain policies and schemes, pursued by the Delhi Government for the development of the city and have significant implications on the issue of gender in the delivery of services of water and sanitation.

- City Development Plan (CDP) under JNNURM
- Master Plan of Delhi Development Authority (DDA)
- The Delhi Urban Shelter Improvement Board (DUSIB) Act, 2010
- Member of Legislative Assembly Local Area Development Scheme (MLALADS)
- State level Schemes for JJ Colonies

City Development Plan (CDP) that comes under JNNURM, the Delhi Development Authority (DDA) Master Plan and MLALADS, has a vision to develop Delhi into a highly livable city with reliable infrastructure. The CDP is ambitious in its vision where it outlines strategies for economic development, civic infrastructure development, slums and urban poor

development as well as recommendations on urban governance. It recognises the fact that "women find it unsafe and embarrassing to defecate in the open and in community toilets" (Department of Urban Development, 2006) but does not chart out solutions to address the issue. A review of the CDP for Delhi undertaken by Centre for Civil Society (2007) concludes that the proposals for the urban poor and housing make up just 16 percent of the total planned investments in the city, an amount that does not match demand in terms of numbers or level of services needed.

Master Plan of Delhi Development Authority has no clear policy on slum relocation despite the fact that it is a growing problem. This is even more pertinent when seen in the light of the fact that the DDA was engaged in toilet construction in the project area of Bawana as well as the sole authority involved in land/plot allotment to the slum dwellers.⁶

Delhi Urban Shelter Improvement Board (DUSIB) Act, 2010, was passed by the Legislative Assembly of Delhi on April 1, 2010 since there was a felt need for a supportive body with statutory powers. This was followed by DUSIB coming into existence. As per the Act, the Board has the authority to implement the provisions of the Slum Areas (Improvement and Clearance) Act, 1956. It states that the Board may prepare a scheme for the improvement of any Jhuggi-Jhopri Basti which may include provisions of toilets and bathing facilities, improvement of drainage, provision of water supply, street paving, and provision of dustbins or sites for garbage collection and street lighting. The scheme may include provisions for payment or for contribution of labour by the residents of the Jhuggi-Jhopri settlement, individually or collectively, and may also include provision for recovery of charges for the use of toilets and bathing facilities which in essence means that user charges may be levied on the slum dwellers.

One can clearly note that there is no specific mandate on water and sanitation service provision and that nothing is specifically earmarked for women. It only lays out duties and

directions on what the Board "may" do on basic services provision and not what it "should" do. Although there is a provision for an Urban Shelter Consultative Committee to be constituted as part of the Board, the onus on basic services provision is at the Board's discretion. A State Audit Report of Delhi on MCD (CAG, 2008 & 2003, p 91) showed that the Slum and JJ Department has failed to provide the intended minimum basic amenities like Jan Suvidha⁷ Complexes, potable water, Basti Vikas Samiti Kendras⁸, Community Toilet/Bathrooms to beneficiaries due to its lax attitude and achievement of targets ranged between 29 percent and 42 percent only. This goes to show that the Slum and JJ wing was unable to achieve its targets in 2001-02 as well as suffered from careless implementation.

Member of Legislative Assembly Local Area Development Scheme (Government of NCT of Delhi, 2009) enables each MLA to undertake small developmental works in his or her constituency through the allocated funds of Rs 20 million (\$ 0.44 million) per year, which has been increased to Rs. 40 million(\$0.88million) in 2011.⁹ The MCD Councillor Fund has also been raised to Rs. 10.5 million (\$0.23million).¹⁰ The works related to water and sanitation that can be taken up under this scheme are public toilets at different locations, construction of tube wells and water tanks for drinking water provision, construction of roads and drains including roads, approach roads, link roads, approved by layouts, sanitation, street lighting, provision of common services including maintenance of community toilets, courtyard, common path and similar other services (Centre for Civil Society, 2009). The scheme has a lot of scope for provision of water and sanitation services for the urban poor, but only if they come under the radar of the politicians. One is well aware that the urban poor, especially evicted populations are the last priority for politicians except as valuable vote banks.

*Delhi State level schemes*¹¹ which are specifically dealing with water and sanitation in JJ and relocation colonies are:

- In-situ upgradation of JJ Clusters and Informal Shelter (DUSIB)
- Environmental Improvement in Urban Slums (DUSIB)
- Construction of Pay and Use Jan Suvidha Complexes (DUSIB)
- Additional Facilities in Jhuggi Jhopri Relocation Colonies (JJRCs) (MCD)
- Sanitation in JJ Cluster (MCD)
- Augmentation of water supply in JJ Clusters (DJB)

Schemes at the level of the state government pertaining to JJ colonies are not as many to improve water and sanitation situation in the slums. There is no direct intervention benefiting women and girls in the schemes. However, the schemes do have objectives that aim to improve the living conditions of slum dwellers.

At the state government and local body level, certain state level and ULB reforms have been initiated under JNNURM. It is envisaged that the states would ensure meaningful engagement with ULBs in managing parastatals as well as delivery of services. This is also to focus on effective decentralization as envisaged in the 74th Constitutional Amendment Act. Reforms at the ULB level include among other things earmarking within local body budgets for basic services to the urban poor and provision of basic services such as security of tenure at affordable prices, improved housing, and water supply and sanitation. These reforms, if effectively implemented, could go a long way in addressing many of the issues and minimising the hurdles among different agencies. The measures would benefit the overall population and not specifically poor urban women.

The above analysis of the policies and schemes throw light on the extent to which the urban poor and, more specifically, poor urban women are prioritised in the context of provision of water and sanitation services. Other than the National Urban Sanitation Policy (2008) and National Urban Habitat and Housing Policy (2007), which recognise women and their disadvantaged position in water and sanitation services, none of the schemes and policies mentions women.

Clearly, their absence at the level of policies and schemes shows how invisible they are in the planning process. The next section highlights the budgetary aspects of water and sanitation services and how these influence and impact women's and girls' lives in the two relocation colonies studied.

3. Budgets for Water and Sanitation in Delhi

The Water and Sanitation sector has always been a part of the country's five year plans with necessary outlays accorded to it by the Planning Commission since 1951 (the first Five Year Plan), though not on the basis of priority. With the enactment of the 73rd and 74th Constitutional Amendments, relevant legislations were amended in order to decentralise certain responsibilities, including water supply and sanitation to municipalities. Since the assignment of responsibilities to municipalities is the state's obligation, different states followed different approaches and began to finance water supply and sanitation through a number of state programmes, and more recently through a number of National level programmes. In urban areas, ULBs are mostly in charge of operation and maintenance and the priorities are attached to legalised colonies with specific reference to some flagship schemes as a result of which, many unauthorised resettlements and JJ colonies (slums) are left alone to certain ad-hoc interventions with insignificant public provisioning.

This section analyses the budgets for urban water supply and sanitation at the Union government level and the public spending on water and sanitation by the Delhi government in terms of allocations for JJ colonies while trying to highlight the fact that inadequacy of budgets affects the level of service delivery for the disadvantaged groups of society. The analysis also argues that there is no space for "gender" in the budgets of the Water and Sanitation in India, and the inadequacy of allocations in such an indivisible sector has led to poor quality of service delivery and inadequate infrastructure, which in turn affect the safety and dignity of women in the society.

3.1 Spending on Water and Sanitation at the Level of the Union Budget:

At the Union Budget level, the government's flagship JNNURM is one of the key programmes for coverage of water supply, sanitation and sewerage in urban areas. A look at the budgetary allocations of some schemes at the Central level shows the funds that the Centre has allocated in the past four years (Table 2.1). The Sub Mission on Urban Infrastructure and Governance was allocated Rs.30.67billion (\$680 million)¹³ in 2010-11 which has been reduced. The Sub Mission on Basic Services to Urban Poor witnessed a slight increase in allocation from 2009-10 although from 2007-08 to 2010-11, the outlays have been almost stagnant. The outlays for Integrated Housing and Slum Development Programme (IHSDP), which has a component of slum improvement and rehabilitation projects and provision of community toilets and water supply, has been drastically cut down. From Rs.7.7 billion (\$177 million) in 2009-10, it has come down to Rs. 5.8 billion (\$ 5.8million) in 2010-11Revised Estimate (RE)¹⁴. Since 2007-08, the allocation has decreased, barring in 2008-09 when it rose to Rs. 12.9 billion (\$287million). An encouraging feature has been the massive jump in allocation for the Rajiv Awas Yojana from Rs. 600 million (\$13million) to Rs.10 billion (\$222million) in successive years. While this is undoubtedly a major increase in budgetary allocations, the fear is that the implementing agency may not have the required capacity to handle such huge amounts of money for one programme.

Table 2.1 Expenditures on selected Union Level Schemes relating to Urban Development (Figures in millions)

S.N.	Implementing Agency	Expenditures under Annual Plans ^b			
		2007-08	2008-09	2009-10	2010-11
1.	MCD	14119.00 (\$ 313)	11913.00 (\$ 264)	14379.00 (\$ 319)	13754.00 (\$ 305)
2.	Slum and JJ	904.00 (\$ 20)	194.00 (\$ 4.3)	136.00 (\$ 3)	667.00 (\$ 15)
3	DJB	13423.00 (\$ 298)	14503.00 (\$ 322)	16489.00 (\$ 366)	16081.00 (\$ 357)
4	NDMC	405.00 (\$ 9)	114.00 (\$ 3)	1549.00 (\$ 34)	965.00 (\$ 21)

Note: a)The five schemes in the table are covered under JNNURM, Ministry of Urban Development, Government of India, b) Actual Expenditures, c) Revised Expenditure, d) Figures in millions are in Indian Rupees which has been converted to USD (\$) at the rate of Rs.45.0875 for \$1 as on 27thJune 2011. <http://www.x-rates.com>

Source: Compiled from various Union Budgets Document of various years; www.indiabudget.nic.in

3.2 Spending on Water and Sanitation in Delhi:

In the allocation of business between Union and States as per the federal structure of India, the subjects relating to Water and Sanitation are considered as state subjects¹⁵, in which the states play a very important role in the planning, budgeting and implementation of programmes. In Delhi, implementation of water and sanitation services for urban areas is managed by implementing agencies such as the MCD, Slum and JJ Department (which is now DUSIB), DJB and New Delhi Municipal Council (NDMC). DJB has the sole responsibility for specifically dealing with Water and Sewerage. On the other hand, MCD, JJ and Slum Wing of MCD, and NDMC are implementing specific programmes dealing with the problems of sanitation and solid waste management in Delhi. As Table 2.2 highlights, MCD and DJB have been allocated higher plan outlays in the Annual Plans and are consistently being prioritised in the annual plan exercises. On the other hand, the annual plan outlays for the Slum and JJ Wing of MCD have been inadequate to meet the requirements of the slum dwellers in JJ clusters, relocation and unauthorised colonies.

Table 2.2: Budgetary Expenditures of Implementing Agencies of the Department of Urban Development, Government of Delhi (Figures in million)

S.N.	Name of the Scheme ^a	2007-08AE ^b	2008-09AE	2009-10 AE	2010-11REc
1.	Sub Mission on Urban Infrastructure and Governance	24740.00 (\$ 548.71)	44004.00 (\$ 975.96)	37765.00 (\$ 837.59)	30679.00 (\$ 680.43)
2.	Sub Mission on Basic Services to Urban Poor (BSUP)	10220.00 (\$ 226.67)	14727.00 (\$ 326.63)	12345.00 (\$ 273.80)	14140.00 (\$ 313.61)
3.	Integrated Housing and Slum Development (IHSDP)	7880.00 (\$ 174.77)	12952.00 (\$ 287.26)	7771.00 (\$ 172.35)	5781.00 (\$ 128.21)
4.	Rajiv Awas Yojana (RAY)	-	-	600.00 (\$ 13.30)	10000.00 (\$ 221.79)

Note: a) Figures in millions are in Indian Rupees which has been converted into USD (\$) with a conversion rate of Rs.45.0875 for \$1 as on 27June 2011. Source: <http://www.x-rates.com>

b) Each Five Year Plan is classified again as five Annual Plans. The Eleventh Five Year Plan (Periods between 2007 and 2012) consists of five annual plans. The expenditure figures reflected here are from first four Annual Plans of the Eleventh Five Year Plan for Government of Delhi.

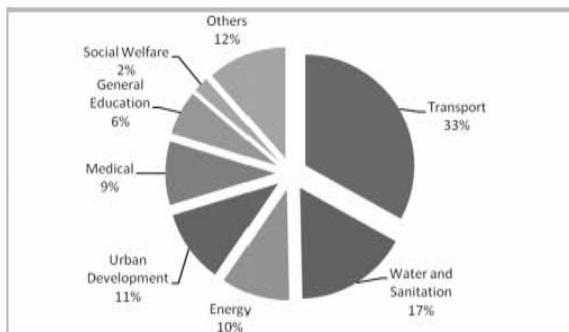
Source: Compiled from various Annual Plans (2007-08 to 2010-11), Planning Department, Government of Delhi.http://delhi.gov.in/wps/wcm/connect/doit_planlink/Planning/Home/Plan+Outlay+and+Expenditure

The Water and Sanitation sector has assumed considerable priority in the five year planning cycle of Delhi. An analysis of 11th Five-Year16 Plan budget17 of Delhi (Chart 2.1) shows that it is the second most important area of intervention.

In absolute numbers, the budget for water and sanitation in the plan period is approximately Rs. 91 billion (\$2billion) (Table 2.3) which is 17 percent of the total plan outlays. The total approved plan outlay for 11th Five Year Plan (FYP) is approximately Rs. 548 billion (\$12 billion). Actual expenditure of the plan budgets for water and sanitation in absolute numbers is around Rs. 77.52 billion (\$1.7billion). This constitutes 85 percent of the total plan outlays for water and sanitation sector. It further indicates that even if the sector has been given priority at the state planning level, the expenditure levels are not encouraging. It can be observed from Table 2.3 that the level of spending also varies in the annual plans. While almost 49 percent of the total approved five year plan budgets have been spent in the first three years of the annual budgets, the remaining two annual plans of the 11th FYP have managed to spend only 36 percent of the total approved budgets.

The allocations in the last three annual budgets have also stagnated and Rs. 13.72billion has remained unspent in the water and sanitation plan outlays.

Chart 2.1 Share of Water and Sanitation in 11th Five Year Plan Outlays for Delhi



Source: Compiled from 11th Five Year Plan Document for Delhi, Govt. of Delhi and Annual Financial Statement (AFS), Union Budget document, Govt. of India, various years

Table 2.3 Analysis of 11th Five Year Plan (FYP) Water and Sanitation Budget in Delhi (Figures in million)

	Total 11 th FYP Approved Outlays for Water and Sanitation	91250.00 (\$ 204)
Budgets for Water and Sanitation in the Annual Plans	2007-08 AE	13460.00 (\$ 299)
	2008-09 AE	14569.00 (\$ 323)
	2009-10 AE	16489.00 (\$ 366)
	2010-11 RE	16508.00 (\$ 366)
	2011-12 BE	16501.00 (\$ 366)
Total Expenditure in the 11 th FYP Period		77526.00 (\$ 1719)
As % of Total Plan Outlays		85 %

Note: a) Figures in million are in Indian Rupees which has been converted into USD (\$) with a conversion rate of Rs.45.0875 for \$1 as on 27June 2011. Source: <http://www.x-rates.com>

Source: Compiled from 11th Five Year Plan Document for Delhi, Govt. of Delhi and Annual Financial Statement (AFS), Union Budget document, Govt. of India, various years.

The provisioning for the water and sanitation sector in Delhi mainly comes from the Plan Budget. An analysis of the Delhi state budget suggests that the overall budgetary allocation for water and sanitation has increased over the years. In 2007-08, the total budget for water and sanitation was Rs. 13.46 billion (\$299million) which went up to Rs. 16.51 billion (\$366million) in 2011-12 (BE) with an average

growth rate of approximately 5 percent. If the increased budget of the sector in 2011-12 (BE) is compared with Budget 2010-11, it shows no change. It contrasts with the increased budgets for water and sanitation in 2009-10 and 2008-09 over the previous years, wherein the increased budget was Rs. 1.92 billion (\$43million) and Rs. 1.11 billion(\$23million) respectively. This indicates that the budget for water and sanitation has shrunk in the successive budgets of the 11th Plan period. In this regard, the total budget expenditure also has shown a sharp decline. In 2007-08, the share of actual expenditure on the sector compared to the total budgetary expenditure was 7.4 percent which dipped to 6.1 percent in 2011-12 BE (Table 2.4). Taking inflation into account, when the sector is compared with the Gross State Domestic Product (GSDP) of Delhi, it is found to be only 0.9percent in 2007-08 and even lower at 0.6 percent in 2010-11 (Chart 2.2). The declining trend of budgets for the water and sanitation sector is to be understood in the perspective of the diminishing share of the Delhi State Budget to Delhi's GSDP since 2007-08. It was approximately 13percent in 2007-08 which, over the years, has dropped to 10 percent of GSDP¹⁸ in 2010-11 RE.

Table 2.4: Budgeting for Water and Sanitation in Delhi (Figures in millions)

Items	2007-08	2008-09	2009-10	2010-11 RE	2011-12 BE
Total Budgetary Expenditure (TBE) ^a in Delhi	181600.00 (\$ 4028)	203620 (\$ 4516)	249260 (\$ 5528)	270280 (\$ 5995)	270670 (\$ 6003)
Gross State Domestic Product (GSDP) ^b of Delhi	1443030 (\$ 32005)	1659480 (\$ 36805)	2178510 (\$ 48317)	2588080 (\$ 57401)	NA
Budgeting for Water and Sanitation	13460 (\$ 299)	14570 (\$ 323)	16490 (\$ 366)	16510 (\$ 366)	16500 (\$ 366)
Water and Sanitation as % of TBE	7.41	7.16	6.62	6.11	6.10
Water and Sanitation as % of GSDP	0.9	0.9	0.8	0.6	NA

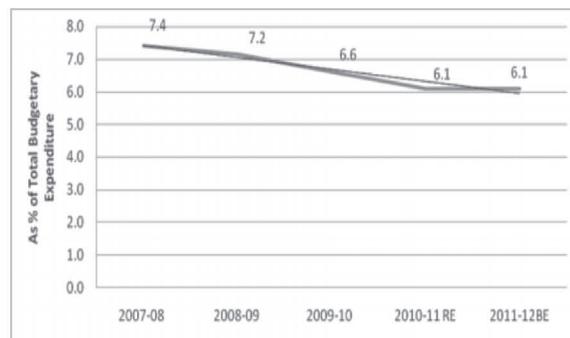
Notes:

- a) TBE is calculated from the Annual Financial Statements (AFS) of Delhi Budget (various years).
- b) GSDP of Delhi has been sourced from the Budget Speech of Delhi Budget (various years)
- c) Budgets for water and sanitation have been calculated from the AFS of Delhi Budget (various years)
- d) Figures in millions are in Indian Rupees which has been converted to USD (\$) at the rate of Rs.45.0875 for \$1 as on 27th June 2011.

Source: <http://www.x-rates.com>

Source: Calculated from Annual Financial Statement of Delhi Budgets of various years

Chart 2.2: Share of Water and Sanitation to Total Delhi Budget from 2007-08 to 2011-12



Source: Calculated from Annual Financial Statement of Delhi Budgets of various years Furthermore, the inadequacy of provisioning for water and sanitation is reflected in the per capita expenditure of the Government of Delhi. Based on the latest population projections for Delhi, the government has spent only Rs. 880 (\$20) per person in 2011-12 (RE) for provision of water and sanitation facilities.¹⁹ The indication is that even though the five year plans for Delhi have underscored water and sanitation to be a significant issue, the public provisioning remains insignificant.

3.3 Spending on Water and Sanitation at the level of Urban Local Bodies:

The responsibility of urban water and sanitation is given to municipalities by the states. States generally plan, design and execute water supply schemes, operating them through their State Departments and State Water Boards (in the case of Delhi, it is the MCD and DJB).

DJB, which is nodal implementing agency for water supply in Delhi, supplies treated water in bulk to the NDMC, the civic body responsible for the New Delhi (also called Lutyens' Delhi) municipal area, and to the Delhi Cantonment Board (DCB), which is in charge of civic matters in the Military Cantonment area. Both these bodies are responsible for distribution of water within their own territories. The water supply infrastructure in these territories is owned by them and, consequently, it is not the responsibility of the DJB; the MCD area is the

responsibility of DJB.

The Slum and JJ Department under the MCD was responsible for implementation of various schemes and programmes to provide minimum basic civic amenities for the relocation of squatter families. Effective from 2010-11, the department has become the Delhi Urban Shelter Improvement Board. Prior to 2010-11, the Slum and JJ Department was under the overall charge of the Commissioner of the MCD. The Additional Commissioner, who was appointed by the state government, was responsible for implementation of various schemes. S/he was assisted by deputy commissioners, directors, joint directors and other officers of the engineering wing. Primarily, the schemes were targeted at relocation of squatters and in situ upgradation (Delhi Citizen Handbook, 2009). However, the DUSIB is under the Delhi State government.

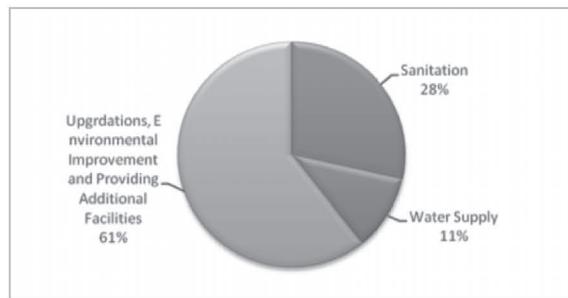
Funds to ULBs are usually grants-in aids that are given by the state. Grants-in-aid are given by the Union to state governments and by the state governments to the local bodies discharging functions of local government under the Constitution. They are released for the specified purpose of supporting an institution, including construction of assets. Grants-in-aid released by the Union to state governments are paid out of the Consolidated Fund of India.²⁰

The grants-in aids received by the local bodies from the state governments are used for meeting their operating as well as capital expenditure requirements.

The ownership of capital assets created by local bodies out of grants-in-aid received from the state government lies with the local bodies themselves.²¹ Coming to the analysis of budgetary allocation for water and sanitation service provision in JJ colonies, one finds a similar situation at the state level.

There are at least 1,080 JJ colonies²² in Delhi with an approximate

Chart 2.3: Budgeting for JJ Clusters in Delhi in 2010-11



Source: Compiled from Detailed Demands for Grants, Demand No-11- Urban Development & Public Works and Budgets of DJB, Govt. of Delhi, various years

Table 2.5: Expenditure for water and sanitation in Jhuggi Jhopri Colonies in Delhi (Figures in millions)

Sectors	Budgetary Heads	2007-08	2008-09	2009-10	2010-11 RE	2011-12 BE
For Water Supply in JJ Colonies	Major Head 2215 (Water Supply and Sanitation): Grants-in-aid to DJB for water supply in JJ clusters	80.00 (\$ 1.8)	80.00 (\$ 1.8)	90.00 (\$ 2.0)	90.00 (\$ 2.0)	90.00 (\$ 2.0)
A. Total Budgets for Water in JJ Colonies		80.00 (\$ 1.8)	80.00 (\$ 1.8)	90.00 (\$ 2.0)	90.00 (\$ 2.0)	90.00 (\$ 2.0)
For Sanitation Facilities in JJ Colonies	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters	1025.00 (\$ 23)	164.00 (\$ 4)	164.00 (\$ 4)	164.00 (\$ 4)	164.00 (\$ 4)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD (slum) for the construction of Pay & Use for Sewerage complexes	40.00 (\$ 0.88)	40.00 (\$ 0.88)	27.00 (\$ 0.60)	25.00 (\$ 0.55)	30.00 (\$ 0.67)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters and Unauthorized Colonies (Yamuna Action Plan Phase II)	0.0	0.0	0.0	10.00 (\$ 0.22)	10.00 (\$ 0.22)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for sanitation in JJ Clusters (Scheduled Caste Sub Plan)	225.00 (\$ 5)	36.00 (\$ 0.80)	36.00 (\$ 0.80)	36.00 (\$ 0.80)	36.00 (\$ 0.80)
B. Total Budgets for Sanitation in JJ Colonies		1290.00 (\$ 29)	240.00 (\$ 5.32)	227.00 (\$ 5.21)	235.00 (\$ 5.21)	240.00 (\$ 5.32)
For Up-gradation, Environmental Improvement and Providing Additional Facilities in JJ Colonies	Major Head 2217 (Urban Development): Grants-in-aid to DJB for water supply in JJ clusters	80.00 (\$ 1.8)	80.00 (\$ 1.8)	90.00 (\$ 2.0)	90.00 (\$ 2.0)	90.00 (\$ 2.0)
	Major Head 2217 (Urban Development): Grant for Provisions of additional facilities in JJ colonies	410.00 (\$ 9)	445.00 (\$ 10)	410.00 (\$ 9)	410.00 (\$ 9)	410.00 (\$ 9)
	Major Head 2217 (Urban Development): Grant to NDMC for Environmental Improvement in JJ clusters	7.5	0	0	0	0
	Major Head 2217 (Urban Development): Grants-in-aid to MCD for additional facilities in JJ colonies (SCSP)	90.00 (\$ 2)	90.00 (\$ 2)	90.00 (\$ 2)	90.00 (\$ 2)	90.00 (\$ 2)
	Major Head 2217 (Urban Development): Grants-in-aid to MCD (Slum) for in-situ up-gradation of JJ Clusters	0	0	0	0	20.00 (\$ 0.44)
C. Total Budgets for Up-gradation, Improvement and Providing Additional Facilities in JJ Colonies		588.00 (\$ 13)	615.00 (\$ 14)	590.00 (\$ 13)	590.00 (\$ 13)	610.00 (\$ 14)
Total Budgets for JJ Colonies (A+B+C)		1958.00 (\$ 43)	935.00 (\$ 21)	907.00 (\$ 20)	915.00 (\$ 20)	940.00 (\$ 21)

Notes: a Figures in millions are in Indian Rupees which has been converted to USD (\$) at the rate of Rs.45.0875 for \$1 as on 27th June 2011. Source: <http://www.x-rates.com>

Source: Compiled from Detailed Demands for Grants, Demand No-11, Urban Development & Public Works, and Budgets of Delhi Jal Board, various years

Table 2.6: How Much is Spent on one JJ Colony Resident for Water and Sanitation in 2011-12?

Head	Per capita Expenditure on Water and Sanitation*
Water	Rs. 30 (\$ 0.66)
Sanitation	Rs. 80 (\$ 1.78)
Slum Development	Rs. 173 (\$ 3.83)

Note: * Per capita Expenditure on Water and Sanitation for a JJ Colony has been obtained by dividing the sectoral budgets on Water, Sanitation and Slum Development as cited in Table 2.5 with the projected slum populations (JJ Clusters) in Delhi. As per data cited in Socio-Economic Profile of Delhi (2007-08) published by Planning Department, Government of Delhi, the approximate slum population (JJ Clusters) is 3.5 million.

Such low levels of allocations and spending for the JJ colonies has also affected the level of per capita expenditure of the JJ colony residents. Table 2.6 shows the per capita expenditure of one JJ colony resident in the Delhi Budget 2011-12 to be a mere Rs. 30 (\$0.66) for provision of water and Rs. 80 (\$ 1.78) for sanitation respectively, which are niggardly amounts that need to be enhanced. Another critical gap is the absence of planning to improve the level of water and sanitation facilities in these colonies.

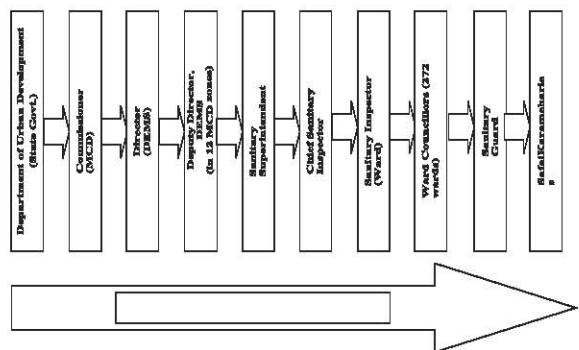
3.4 Budgetary processes in JJ Re-location Colonies and the Institutional Structures:

The budget for water and sanitation in JJRCs is routed from the Centre to the state government, which in turn are transferred to ULBs (MCD, DUSIB and DJB). Utilisation certificates are submitted by the MCD to the Delhi State Urban Development Department. A similar process is adopted for DUSIB and the DJB. Funds come in three installments on a quarterly basis in one financial year; 50 percent of the funds are provided in the first installment, 25 percent in the second and the remaining 25 percent is released through the third installment. There are instances where the money is released even on the last day of the financial year. Hence, it gets carried forward to the next financial year, in which case

adjustments are made in the following year's budget based on the allocations made in the previous year. For the Non-Plan budget, the Ward Committee prepares its Non-Plan budget and sends it to the Standing Committee of the MCD to be compiled and finalised. The grants-in-aid and loans are components of the Plan budget. As reported by officials, funds from MCD are electronically transferred to the zonal offices without any delay.

Chart 3.1 presents the institutional framework of the MCD through which planning and implementation of the various schemes take place. However, discussions with officials reveal that all schemes for JJRCs are ad-hoc interventions and are not included in the planning agenda for the city. Even though the institutional framework exists in some cases, the funds allocated are insufficient; a case in point being the DUSIB, which has been formed but the financial allocations for some of the interventions are inadequate. With regard to the reporting related to planning of the interventions, these are sent annually and sometimes bi-annually to the Department of Environmental Management Services (DEMS) under MCD.

Chart 3.1-Institutional Framework of Municipal Corporation of Delhi (MCD)



4. Constraints to Effective Service Delivery:

Policies and schemes for water and sanitation backed by adequate budgets is not the only prerequisite for effective service delivery. At the implementation level, various constraints impede smooth delivery of services. This section analyses various constraints to effective service delivery of water supply and sanitation services, which could provide inputs for

policymakers at the national, state and local levels of government.

4.1 Budget Adequacy:

It is evident from the analysis that the overall budget for water and sanitation at the Central and state level remains inadequate. This is further exemplified by the fact that the budget for water and sanitation in JJRCs is the lowest among all the other budget heads. Meetings with DUSIB officials revealed that there is no separate Non-Plan budget for JJ Relocation Colonies and no special budget for "slum improvement". All transfers are through grants-in aids which indicate one-time Plan expenditure. The Non-Plan budgets are own source revenue (tax) that are regulated by the Delhi Municipal Corporation (DMC) Act. There is also no separate budget line for sanitation in the departmental budget of DUSIB. Most of the JJ relocation previously being handled by the JJ and Slum Wing is now done by the DUSIB. They have a separate budget and are managed autonomously since they are not categorised as regular colonies and are mostly owned by DDA. The MCD has no specific allocation for JJ relocation from its Non-Plan budget. The Ward Committee of MCD has the authority to approve works amounting to Rs. 10 million (\$ 0.22million) while the MCD can approve more than Rs. 10 million from the Non-Plan budget.

Planning:

Planning for water and sanitation in JJRCs is more a matter of procedure than a consultative process whereby opinions of women and men from the relocation colonies ought to be taken into account prior to planning. Annual plans are prepared by the MCD and then submitted to the Delhi State Urban Development Department, which checks it, modifies it and finally approves it. These are usually submitted in the months of December and January, the last quarter of the financial year.

In this regard, problems of institutional structures have also arisen in the study area where, for instance, the MCD is in charge of

implementation of water and sanitation programmes in the core Narela zone while DDA and DUSIB handle the peri-urban area. As stated by an MCD official, "since DDA does not have the necessary wherewithal to construct sanitation infrastructure, the MCD has to oversee the construction and the Operation & Maintenance (O&M). Wherever DDA has constructed sanitation facilities, it has been outsourced to private companies". With regard to provision of water supply, the plans are made at the DJB with inputs from Zonal offices. The Delhi State Urban Development (UD) Department plays a significant role in the overall planning and expenditure of funds in authorised colonies but this is not the case in the unauthorised colonies.

Human Resource:

Field reports show that staff constraint is a nagging issue in provision of water and sanitation services. Owing to this, the sanitation services provided through CTCs are not adequately staffed, with the result that women of Bawana and Bhalswa have to bear the brunt of unsafe and unhygienic toilets. Discussions with officials reveal that no separate staffs are allocated for JJRCs; it is the MCD staff who are maintaining the CTCs. As reported by MCD officials, problems have been observed at the zonal level in terms of slackness in work and, in many instances, cases of corruption have also come up. Within the MCD itself, the tasks are divided where construction and O&M of CTCs is taken care of by the Engineering Department and other tasks such as sweeping are handled by the Sanitation Department of MCD. Officials revealed that while they do not face a staff crunch, they do have a concern regarding the safai karamcharis' attitude towards their work. There has also been no training imparted to DUSIB/ JJ and Slum Wing staff for the past 5 years. Twenty-eight workers are engaged in Bhalswa JJ Relocation Colony, 13 workers for the garbage dump and 15 workers for sweeping. As per the figures given by DUSIB officials, there are 10 CTCs out of which only 6 are in working condition in Bhalswa. Field reports state that there are only 3 CTCs in working condition. With over 20,000 people in Bhalswa, it is surely a

matter of concern as to how safe sanitation is maintained.

Issue of Convergence:

Several agencies are involved in water and sanitation service delivery. The DDA, DUSIB, MCD and the DJB are all engaged at some level in providing water supply and sanitation in JJRCs. In many instances, construction of CTCs have been done by DDA which are then run by MCD and in turn contracted out to private companies. The DUSIB is only involved in in situ and environmental development of JJ colonies; it does not oversee the CTCs. The O&M is done by MCD and private companies. The DUSIB are unable to implement any kind of work in Bhalswa JJ colony, owing to a lot of private land. Hence, the multiplicity of agencies handling different components of water and sanitation leads to lack of accountability and ownership of service provision. Convergence of agencies and departments is also important to ensure smooth functioning of water and sanitation service provision. For instance, DUSIB in Bhalswa owes DJB financial dues of around Rs.40 to 50 million. Similarly, in Bawana and Bhalswa, tubewells in CTCs are installed by DJB while it is the MCD that pays for it. The DJB has no responsibility to maintain the water connection that it has provided to the JJRCs, leaving the MCD with the onus of maintenance. Neither Bawana nor Bhalswa have been provided with a sewerage system by the DJB which has led to complaints of sewage backflow, damaged septic tanks and water logging.

Issues of Quality and Cost:

Officials in both the study areas have raised concerns about poor quality cleaning equipment, which is of crucial importance for proper maintenance of CTCs. Equipment is centrally procured by MCD according to demands made by the zonal offices. Although no user fees are charged by the MCD, the CTCs run by the private agencies in both the JJRCs charge some user fees. Women, in addition to paying for themselves, every time they use a CTC, also have to pay for their children.²³This raises a question as to how

can one expect the urban poor to pay for sanitation services when they manage to live on less than a dollar a day. In Narela zone, previously CTCs were maintained by NGOs but since maintenance was faulty, it was transferred to the Engineering Department of the MCD. Poor quality construction and faulty design of CTCs has been one of the findings from the field (the roof of the CTCs is open which puts women in a vulnerable position) and is an example of gross neglect of standards, points to lack of proper supervision and guidance at the implementation level. The larger issue of privatisation of CTCs comes up whereby one questions the role of the government in providing basic services and involvement of private players in service provision.

Conclusion:

Gender-based disadvantages that women face while accessing water and sanitation facilities are greatly intensified in a situation which has a failing infrastructure in terms of poor health facilities, lack of education and income earning opportunities. JJRCs are typically characterised by this. Analysis of the various reasons for the dismal condition of essential services is merely not enough; rather solutions to counter them need to be looked into.

First, policies and schemes for urban water and sanitation as analysed in the first section do not have much to offer to women, especially for those residing in JJ Relocation Colonies. At the outset, these schemes do not have any scope for consultation with women and men users regarding the design of CTCs as well as on the setting of facilities, nor do they recognise the fact that poor water and sanitation services affect women more than men. Although women find recognition in some policies, albeit cursorily (Urban Sanitation Policy, 2008 & National Urban Habitat and Housing Policy, 2007), this is hardly in the context of water and sanitation. There is surely a need to build in gender-sensitive components in the schemes pertaining to urban water and sanitation. Also, the design and construction of hardware for water and sanitation should be done keeping in mind

specific gender concerns.

Second, budgets for water and sanitation in JJRCs are woefully inadequate (as assessed in Section 2). Allocations for schemes at the Union level down to the local body level have either remained stagnant or dwindled. Although the water and sanitation sector is the second most prioritised area in the Delhi budget (almost 17 percent of total Plan outlays) after transport, however, only Rs. 240 million (\$5.3 million) has been spent for sanitation and Rs. 90 million (\$2 million) for water in 2011-12. Gender Responsive Budgeting for water and sanitation would certainly aid the process of improving water and sanitation services in JJRCs for women and men. However, one can assess it only when the Department of Drinking Water and Sanitation starts reporting in the Gender Budget Statement. Not only are higher allocations for overall water and sanitation required, but is also the need for increased outlays in JJ Relocation Colonies. In addition, providing allocations for water and sanitation in JJRCs under Non-Plan head (to meet recurring / day-to-day expenses) would greatly improve the outcomes. Clearly, the problem of inadequate resources for water and sanitation needs to be addressed; this is exemplified by the fact that the Delhi government spends a mere Rs. 30 (\$0.66) on water supply and Rs. 80 (\$1.78) on sanitation per JJ colony resident in 2011-12 (Table 2.6).

Finally, in addition to the paucity of funds, issues of implementation of the government programmes also make water and sanitation services out of reach of the urban poor. Issues of lack of planning, shortage of human resources and poor convergence among the implementing agencies need to be effectively surmounted for smooth implementation of the programmes and schemes. The mismatch in terms of inadequate planning and budgeting for the sector vis-à-vis the needs of the people with regard to water supply and sanitation makes for poor outcomes. In this regard, women's active participation at the planning stage might be able to ensure that their needs are addressed. Successful convergence and collaboration of the various ULBs and parastatals in charge of water and sanitation may solve a

large number of implementation bottlenecks. One also needs to look at other macro issues such as land tenure rights in JJ Relocation Colonies, which make schemes and interventions in water and sanitation little more than ad-hoc interventions.

End Notes:

1. The data is referred in Vaidya C. 2009. Urban Issues, Reforms and Way-forward in India, Working Paper no.4/2009- DEA, Department of Economic Affairs, Ministry of Finance, Government of India.
2. These arguments are compiled on the basis of inputs (Interview with the community workers of NGOs: JAGORI' and 'Action India')
3. These arguments are compiled on the basis of inputs (Interview with the community workers of NGOs: JAGORI' and 'Action India')
4. The 74th Constitutional Amendment is a path-breaking development in strengthening the urban local bodies in the country. It was passed by the Parliament of India in December, 1992 and received presidential assent on April 20, 1993. The main characteristic of 74th Constitution Amendment Act, 1992 is that it provides Constitutional recognition to the powers and functions of the urban local bodies. The Act adds Part IX-A to the Constitution covering Articles from 243P to 243 ZG. It also introduces the Twelfth Schedule in the Constitution, which lists 18 subjects coming under the jurisdiction of municipalities. Under the allocated subjects falling under the jurisdiction of municipalities, subjects such as slum improvement and upgradation, water supply for domestic, industrial and commercial purposes, public health, sanitation conservancy and solid waste management are prominently covered.
5. In the case of a Centrally Sponsored Scheme, the Central Government provides a part of the funds and the state government provides a matching grant for the scheme. The ratio of contributions by the Centre and a state is pre-decided through negotiations between the two.

6. Discussions with JAGORI staff s reveal that DDA had initially constructed the CTCs in Bawana which were later handed over to the MCD.

7. Community toilet complex

8. Community development centres

9. http://articles.timesofindia.indiatimes.com/2011-06-15/delhi/29660991_1_delhi-govt-hikes-sheila-dikshit-fund

10.<http://www.delhielections.com/2011/01/21/786867/mcd-councillor-fund-hiked-to-rs-2-crore/index.html>

11. Annual Plan 2009-10, Department of Urban Development, Government of NCT, Delhi.

12. The 73rd Constitutional Amendment Act was passed by the Parliament of India in 1992 and came into force in April 1993 to provide constitutional sanctity to grass-root democracy in the country. It provides recognition to the constitution, powers and functions of the rural local bodies for the first time in the history of India. It introduced Schedule Eleven (IX) in the Constitution, which lists 24 subjects coming under the jurisdiction of Rural Local Bodies (RLBs). Under the allocated subjects falling under the jurisdiction of RLBs, Drinking Water is a one of the subjects. Rural sanitation does not fall within the ambit of the RLB's jurisdiction.

13. Note: 1 billion is 1,000 million (Rs. 100 crore).

14. Revised Estimates is the first nine months actual expenditures and next four months projected expenditures based on first nine months actual expenditures. Henceforth, the figures considered as Revised Estimates would be referred to as RE

16. The socio-economic development of India is based on the five year developmental planning that is developed, executed and monitored by the Planning Commission, which is an

autonomous, non-Constitutional body that carries out planning in the country. The Chairman of the Planning Commission is the Prime Minister of India. Plans are formulated and executed for a five year period. Every state also prepares a Five Year Plan. The First Five Year Plan was made for the duration 1951-1956.

17. Plan Expenditure is meant for financing the development schemes formulated under the given Five Year Plan or the unfinished tasks of the previous Plans. Once a programme or scheme pursued under a specific Plan completes its duration, the maintenance cost and future running expenditures on the assets created or staffs recruited are not regarded as Plan Expenditure. Any expenditure of the government that does not fall under the category of Plan Expenditure is referred to as Non-Plan Expenditure.

18. The government, private firms, and households are important contributors to GSDP. When the government's share to the GSDP decreases, it implies that the government has withdrawn from provision of certain welfare responsibilities and sought private players to fulfil these. Privatisation of water and sanitation should be looked at from this perspective.

19. Per capita spending on a person for availing water and sanitation facilities has been obtained by dividing Total Budgetary Spending on Water and Sanitation by the Total Projected Population in Delhi in a given year.

20. This is supreme account of Government of India duly recognised by the Constitution of India. All revenues received by Government by way of taxation like income-tax, central excise, custom, land revenue (tax revenues) and other receipts flowing to Government in connection with the conduct of Government business like receipts from Railways, Posts, Transport (non-tax revenues) are credited into the Consolidated Fund. All expenditure incurred by the Government for the conduct of its business and providing services is debited against this Fund. It is equivalent to

Budgets of the Government.

21. See the URL:<http://www.cgaindia.nic.in>

22. Socio-economic profile of Delhi, Planning Dept., Govt. of National Capital Territory of Delhi, September 2008

23. Children under six years of age are not allowed to use the CTCs and those above six years have to pay.

References

1. Batra, B. *Entitlement to services and amenities in JJ Clusters, JJ Relocation Colonies and other Non-planned Settlements in Delhi: An Overview*, (2005), New Delhi: Institute of Social studies Trust, <http://www.isst-india.org/PDF/Entitlement%20to%20Services.pdf> (As accessed on 28 June 2011)

2. Centre for Civil Society, *Delhi Citizen Critique of City Development Plan*, (2007), (Programme Proceedings)
http://www.ccsindia.org/ccsindia/jnnurm/program_proceedings.pdf (As accessed on 28 June 2011)

3. Centre for Civil Society, *State of Governance: Delhi Citizen Handbook 2009*,
http://www.ccsindia.org/ccsindia/2009-dch/book_dch_2009.pdf (As accessed on 28 June 2011)

4. Comptroller and Auditor General (CAG), Report on the Government of NCT of Delhi, (2003). (Chapter 5 on Municipal Corporation of Delhi). New Delhi, Government of India.

5. Comptroller and Auditor General. (CAG), *Performance Audit Report of Water Management System in Delbi*, (2008). New Delhi: Government of India.

6. Delhi Development Authority, Master Plan for Delhi 2021, Ministry of Urban Development, (2007), New Delhi: Government of India.

7. Delhi Urban Shelter Improvement Board, The Delhi Urban Shelter Improvement Board

Act, 2010. New Delhi: Government of NCTDelhi. http://delhishelter.nic.in/DUSIB_Act_2010.pdf (As accessed on 28 June 2011)

8. Department of Urban Development, City Development Plan - 2006. New Delhi: Government of Delhi and IL&FS Ecosmart Limited.

9. Government of NCT Delhi, Guidelines for Member of Legislative Assembly Local area Development Scheme (MLALADS) (2009), Delhi.

<http://www.delhi.gov.in/wps/wcm/.../MLALADS%2BGuidelines%2B2009.doc> (As accessed on 28 June 2011)

10. Government of NCT Delhi, Revised Guidelines, Delhi MLA LADS 2002-03. New Delhi: Department of Urban Development.

11. Government of NCT Delhi, Socio-Economic Profile of Delhi (2007-08), New Delhi: Planning Department,
<http://delhiplanning.nic.in/SEP/67.pdf> (As accessed on 28th June 2011).

12. Government of NCT Delhi, Delhi Statistical Handbook, New Delhi, (2010) Directorate of Economics & Statistics,
http://delhi.gov.in/wps/wcm/connect/doit_des/DES/Our+Services/Statistical+Hand+Book/ (accessed on 28th June 2011).

13. Government of NCT Delhi, Urban Slums in Delhi, (Based on NSS 65th Round Survey, July 2008-June 2009).

http://www.environmentportal.in/files/UrbanSlum_65thRound.pdf(Accessed 28June 2011)

Jagori. (2010). Understanding Women's safety: Towards a Gender Inclusive City, Research Findings, New Delhi,
http://www.endvawnnow.org/uploads/browser/files/understanding_womens_safety.pdf (Accessed 28 June 2011).

14. Khosla, P. Water, Equity and Money: The Need for Gender Responsive Budgeting in Water and Sanitation, Hague, (2003). Netherlands Council of Women.

15. Khosla, R., Addressing Gender Concerns in

- India's Urban Renewal Mission, (2009), New Delhi: United Nations Development Programme (UNDP) India. Ministry of Finance. (2011a). Budget Documents of Delhi Budgets (various years), New Delhi, Government of NCT Delhi.
16. Ministry of Finance. (2011b). Outcome Budgets (various years), New Delhi, Government of NCT Delhi.
17. Ministry of Housing and Urban Poverty Alleviation, National Urban Housing and Habitat Policy (2007), New Delhi, Government of India.
<http://mhupa.gov.in/policies/duepa/HousingPolicy2007.pdf> (As accessed on 28 June 2011)
18. Ministry of Housing and Urban Poverty Alleviation, India: Urban Poverty Report (2009), New Delhi, Government of India.
19. Ministry of Housing and Urban Poverty Alleviation, Annual Report (2009-10), Government of India.
20. Ministry of Urban Development, Jawaharlal Nehru National Urban Renewal Mission (2005). New Delhi, Government of India,
<http://jnnurm.nic.in/nurmudweb/toolkit/Overview.pdf> (As accessed on 28 June 2011)
21. Ministry of Urban Development, National Urban Sanitation Policy (2008), New Delhi, Government of India.
22. Ministry of Urban Development, Annual Report (2009-10), Government of India. Ministry of Urban Development. (2011). Handbook of Service Level Benchmarking. New Delhi, Government of India.
http://www.urbanindia.nic.in/programme/uws_s/slbc/Handbook.pdf (As accessed on 28 June 2011)
23. Ministry of Urban Development, Minutes of the Meeting of the Working Group on Urban and Industrial Water Supply and Sanitation for the 12th Five Year Plan (2012-2017) held on 10th February, 2011 at Chamber of Secretary, Ministry of Urban Development, New Delhi, Government of India.
24. National Institute of Urban Affairs, Evaluation of Jan Suvidha Complexes and Bastee Vikas Kendras (2003), New Delhi, (Draft Report).
25. Planning Commission, Mid-Term Appraisal of the Eleventh Five Year Plan (2007-12), New Delhi, Government of India (2010).
http://planning.bih.nic.in/Documents/MTA_comp11th.pdf (As accessed on 28 June 2011)
26. Sen, K. M., Bhan, G., Swept off the Map: Surviving Eviction and Relocation in Delhi, New Delhi, Yoda Press, (2008).
27. Sheikh, S., Public Toilets in Delhi: An emphasis on the facilities for Women in Slum/Relocation Areas, Working paper No-192, New Delhi, Centre for Civil Society, (2008).
28. UNIFEM. (2005). Tools for a Gender-Sensitive Analysis of Budgets.
http://web.idrc.ca/uploads/user-S/11279431651Tools_for_Gender-Sensitive_Analysis_of_Budgets.pdf (As accessed on 28th June 2011)
29. Vaidya C., Urban Issues, Reforms and Way Forward in India, Working Paper No. 4/2009-DEA, Department of Economic Affairs, Ministry of Finance, Government of India.
http://www.finmin.nic.in/WorkingPaper/Urbanissues_reforms.pdf (Accessed 28 June 2011).
http://dda.org.in/planning/draft_master_plan.s.htm (As accessed on 28 June 2011)
30. Delhi Urban Shelter Improvement Board. (2010). *The Delhi Urban Shelter Improvement Board Act, 2010*. New Delhi: Government of NCT Delhi.
http://delhishelter.nic.in/DUSIB_Act_2010.pdf (As accessed on 28 June 2011)
31. Department of Urban Development. (2006) *City Development Plan - 2006*. New Delhi: Government of

Delhi and IL&FS Ecosmart Limited.

32. Government of NCT Delhi. (2009). Guidelines for Member of Legislative Assembly Local area Development Scheme (MLALADS) Delhi.
<http://www.delhi.gov.in/wps/wcm/.../MLALA DS%2BGuidelines%2B2009.doc>? (As accessed on 28 June 2011)
33. Government of NCT Delhi. (2003). *Revised Guidelines, Delhi MLA LADS 2002-03*. New Delhi: Department of Urban Development.
34. Government of NCT Delhi. (2007-08). *Socio-Economic Profile of Delhi (2007-08)*, New Delhi: Planning Department,
<http://delhiplanning.nic.in/SEP/67.pdf> (As accessed on 28th June 2011).
35. Government of NCT Delhi. (2010). *Delhi Statistical Handbook*, New Delhi, Directorate of Economics & Statistics,
http://delhi.gov.in/wps/wcm/connect/doit_des /DES/Our+Services/Statistical+Hand+Book/ (accessed on 28th June 2011).
36. Government of NCT Delhi. (2010). *Urban Slums in Delhi*, (Based on NSS 65th Round Survey, July 2008-June 2009).
http://www.environmentportal.in/files/UrbanSlum_65thRound.pdf(Accessed 28 June 2011) Jagori. (2010). *Understanding Women's safety: Towards a Gender Inclusive City, Research Findings*, New Delhi,
http://www.endvawnnow.org/uploads/browser/files/understanding_womens_safety.pdf (Accessed 28 June 2011).
37. Khosla, P. (2003). *Water, Equity and Money: The Need for Gender Responsive Budgeting in Water and Sanitation*, Hague, Netherlands Council of Women.
38. Khosla, R. (2009). *Addressing Gender Concerns in India's Urban Renewal Mission*, New Delhi: United Nations Development Programme

(UNDP) India.

38. Ministry of Finance. (2011a). *Budget Documents of Delhi Budgets (various years)*, New Delhi, Government of NCT Delhi.
39. Ministry of Finance. (2011b). *Outcome Budgets (various years)*, New Delhi, Government of NCT Delhi.
40. Ministry of Housing and Urban Poverty Alleviation. (2007). *National Urban Housing and Habitat Policy (2007)*, New Delhi, Government of India.
<http://mhupa.gov.in/policies/duepa/HousingPolicy2007.pdf> (As accessed on 28 June 2011)
41. Ministry of Housing and Urban Poverty Alleviation. 2010). *Annual Report (2009-10)*, Government of India.
42. Ministry of Urban Development. (2005). *Jawaharlal Nehru National Urban Renewal Mission (2005)*. New Delhi, Government of India,
<http://jnnurm.nic.in/nurmudweb/toolkit/Overview.pdf> (As accessed on 28 June 2011)
43. Ministry of Urban Development.(2008). *National Urban Sanitation Policy (2008)*, New Delhi, Government of India.
44. Ministry of Urban Development. (2010). *Annual Report (2009-10)*, Government of India.
45. Ministry of Urban Development. (2011). *Handbook of Service Level Benchmarking*. New Delhi, Government of India.
<http://www.urbanindia.nic.in/programme/uwss/slbc/Handbook.pdf> (As accessed on 28 June 2011)
46. Ministry of Urban Development. (2011). *Minutes of the Meeting of the Working Group on Urban and Industrial Water Supply and Sanitation for the 12th Five Year Plan (2012-2017) held on 10th February,2011 at Chamber of Secretary, Ministry of Urban Development, New Delhi,*

- Government of India.
47. National Institute of Urban Affairs. (2003). *Evaluation of Jan Suvidha Complexes and Bastee Vikas Kendras* (2003), New Delhi, (Draft Report).
48. Planning Commission. (2010). *Mid-Term Appraisal of the Eleventh Five Year Plan (2007-12)*, New Delhi, Government of India http://planning.bih.nic.in/Documents/MTA_comp11th.pdf (As accessed on 28 June 2011)
49. Sen, K. M., Bhan, G. (2008). *Swept off the Map: Surviving Eviction and Relocation in Delhi*, New Delhi, Yoda Press.
50. Sheikh, S. (2008). *Public Toilets in Delhi: An emphasis on the facilities for Women in Slum/Relocation Areas*, Working paper No-192, New Delhi, Centre for Civil Society.
- UNIFEM. (2005). *Tools for a Gender-Sensitive Analysis of Budgets*. http://web.idrc.ca/uploads/user-S/11279431651Tools_for_Gender-Sensitive_Analysis_of_Budgets.pdf (As accessed on 28th June²⁰¹¹)
51. Vaidya C. (2009). *Urban Issues, Reforms and Way Forward in India*, Working Paper No. 4/2009-DEA, Department of Economic Affairs, Ministry of Finance, Government of India. http://www.finmin.nic.in/WorkingPaper/UrbanIssues_reforms.pdf (Accessed 28 June 2011).

Land Crisis in Mahashweta Devi's *Mother of 1084* and Steve Hendricks *The Unquiet Grave*.

Quleen Kaur Bijral¹ and Dr. Vandana Sharma²

Abstract-Land Ethic as envisaged by Aldo Leopold in A Sand County Almanac, asserts that we need to change our "human role from conqueror, to a member of the land community". This reinforces the dilemma of rendering the non-human world in language and poetic strategies that have historically commodified, personified, and claimed it for human consumption, occupation, and subjective consolidation. According to Leopold:

A land ethic ... reflects the existence of an ecological conscience, and this in turn reflects a conviction of individual responsibility of the health of the land. Health is the capacity of the land for self-renewal. Conservation is our effort to understand and preserve this capacity. (A sand county 221)

The anthropocentric and hubristic denial of the subalterns by the mainstream poses a radical questioning of the relationship between literature and ethics, thereby, establishing Wayne C Booth's assertion that Fictions are the most powerful architects of our souls and societies. This paper proposes juxtaposition of two literary masterpieces to highlight the authorial responsibility vis a vis issues of land crises and human rights violation in India and America. Mahasweta Devi, the prominent tribal voice of India and an unflinching champion of aboriginal communities has always felt a strong sense of commitment to raise issues of tribal life involving land crisis, national identity and human rights. In the novel *Mother Of 1084*, Mahasweta Devi has depicted the plight of tribal in India especially the Naxals who are driven off their basic necessities owing to the dominion of serfdom. Devi as a formidable tribal voice underscores how the zamindaars or landlords confiscate the lands of the poor tribals, and repeat in verbatim the age-old cycle of feudal brutality. Likewise Steve Hendricks, the American author, in the *The Unquiet Grave* has highlighted the causalities by feudalism which shifts to the tribal or American Indian natives of the USA, the upshot of which is the resistant American Indian Movement. To expose this historical slave labour

in contemporary society, we can substitute the singular tags of peasants and landlords with collective labels. i.e. instead of a peasant we have a tribe, and in place of landlords the purveyor of feudalism is the system of government be it central or local and its instruments of authority. This paradigm is seen repeated in the modern India in the form of Naxalbari movement and in the USA by the American Indian Movement (AIM). The cause of the Naxals is charted by Indian author Mahasweta Devi while that of the AIM is highlighted by American journalist Hendricks. This paper proposes to analyze how Land if analyzed by romantic ecology becomes a source of sensual aestheticism, and when perused by the tenets of social ecology becomes an embodiment of crisis and wars and retaliations against their commodification.

Turning the clock back and forth, Land has been a recurring bone of contention among people. From Feudalism to Invasion to today's euphemistically called Encroachments and Trespassing, Land has been a magnet for crisis since ever. It is property in literal sense, but speaking figuratively, it is power and belongingness in a more pronounced sense. This paper proposes to analyze how Land if analyzed by romantic ecology becomes a source of sensual

¹Quleen Kaur Bijral¹ is a Research Scholar in School of Languages and Literature SMVD University, Katra and
²Dr Vandana Sharma² is the Director of School of Languages and Literature, Shri Mata Vaishno Devi University, Katra J&K.

aestheticism, and when perused by the tenets of social ecology becomes an embodiment of crisis and wars and retaliations against their commodification. I have perused Mahasweta Devi's Mother of 1084, and Steve Hendricks, '*The Unquiet Grave*' to explore Aldo Leopold's assertion that we need to change our "human role from conqueror, to a member of the land community" reinforces the dilemma of rendering the non-human world in language and poetic strategies that have historically commodified, personified, and claimed it for human consumption, occupation, and subjective consolidation.

The tribal crisis in India, which falls under the rubric of feudalism has been the objective behind Mahasweta Devi's writings. In an interview conducted by Gayatri Spivak which also featured in the book, *Chotti Munda and His Arrow* by Mahasweta Devi, the author has asserted to the reasons behind the strife between the tribals and the government:

The tragedy of India at Independence was not introducing land reform. A basic feudal system was allowed to stay. A feudal land system can only nurture and sustain a feudal value system...is anti-women, anti-poor people, against toiling people. It is the landowners who formed the ministry..." (Chotti Munda And His Arrow)

The author intends to write a script about the tribals as people live in constant ignorance about their culture and they are misunderstood to be a violent community. She in the text that we have taken, has exposed the victimization of the Naxals, and the movement which erupted when these tribals retaliated in West Bengal. In May 1967, when a policeman was killed by armed tribals, who were fighting against their intrusion into their lands, it caused severe casualties and worked as a spark that instigated the Naxalite movement. Samik Bandyopadhyay in his introduction to Mahasweta Devi's Mother of 1084 has traced out the genesis of this movement, and how it collapsed in 1971. The author has observed in this light, the

interconnectedness between land and the crisis of the tribals.

The criminalization of politics, letting the lumpen loose in the lower caste and tribal belts. Inhuman torture and oppression. That is the time(Emergency) when Naxal boys were harboured there, given shelter, allowed to escape. ..a continuing struggle... Yet after each rebellion-always related to land and labour-they were evicted from their home places. (Chotti Munda And His Arrow)

A radical green author Murray Bookchin, a radical green author and a champion of the tenets of 'social ecology' has dealt with the human domination and exploitation of natural resources when correlates the apparently disparate realms of society and ecology:

Social ecology suggests that the roots of current ecological and social problems can be traced to hierarchical (or more specifically kyriarchical) modes of social organization... The complexity of relationships between people and nature is emphasized, along with the importance of establishing more mutualistic social structures that take account of this. (Post-Scarcity Anarchism, 85-87)

In this union of ecology with societal issues, Murray has dealt with the nitty-gritty of human domination and has neatly found its basis in the exploitation of natural resources. In the novel Mother Of 1084, Mahasweta Devi has depicted the plight and cause of tribal in India especially the Naxals who are driven off their basic necessities owing to the dominion of serfdom. Devi as a formidable tribal voice underscores how the zamindaars or landlords confiscate the lands of the poor tribals, and repeat in verbatim the age-old cycle of feudal brutality. Likewise the American author, in *The Unquiet Grave* has highlighted the causalities by feudalism which shifts to the tribal or American Indian natives of the USA, the upshot of which is the resistant American Indian Movement. To expose this historical slave labour in contemporary society,

we can substitute the singular tags of peasants and landlords with collective labels. i.e. instead of a peasant we have a tribe, and in place of landlords the purveyor of feudalism is the system of government be it central or local and its instruments of authority. This paradigm is seen repeated in the modern India in the form of Naxalbari movement and in the USA by the American Indian Movement (AIM). The cause of the Naxals is charted by Indian author Mahasweta Devi while that of the AIM is researched by American journalist Hendricks. In the world of this turmoil, if we hark back to the founding words of social ecology as laid down by Murray, the intertwined echo of human domination and environment will become clear:

The notion that man must dominate nature emerges directly from the domination of man by man... But it was not until organic community relation ... dissolved into market relationships that the planet itself was reduced to a resource for exploitation. This centuries-long tendency finds its most exacerbating development in modern capitalism. Owing to its inherently competitive nature, bourgeois society not only pits humans against each other, it also pits the mass of humanity against the natural world. Just as men are converted into commodities, so every aspect of nature is converted into a commodity, a resource to be manufactured and merchandised wantonly.(for e.g. LAND in Mother Of 1084, and The Unquiet Grave) ... The plundering of the human spirit by the market place is paralleled by the plundering of the earth by capital(Post- Scarcity Anarchism 24-255)

Tribals have been drawing sustenance from the land, a fact which was observed by Mahasweta Devi in her travels in the rural areas. Aldo Leopold reinforces this sentiment by emphasizing on the philosophy of Land Ethic that clearly claims, "[A] land ethic changes the role of Homo sapiens from conqueror of the land-community to plain member and citizen of it. It implies respect for his fellow-members, and also respect for the community as such." In India, the

case of Naxals is the same but their lands are seized by their own democratic government. In an article covered by a leading newspaper, India has been pitted as among the top land-grabbing nations':

Increasing protests against land grabs is one of India's most pressing development challenges, said experts from international organizations working on natural resources, ecology, and livelihoods. ...have blamed the Indian government agencies and investors for the growing spate of violent clashes in the forest and tribal areas... Despite having legislations that could address the root cause of the conflicts, all states and tribal areas in the country are embroiled in these land disputes, said Arvind Khare, a global expert on land rights.(Chandel, Himani. 'India among top land-grabbing nations'. The Tribune.)

Robert JC Young in his work, 'Post Colonialism: A Very Short Introduction' claims and makes a very striking comment on why democracy doesn't rid this landlessness, as it clearly can't in the actual case of the Naxalbaris.

He remarks:

...in countries with well defined, different ethnic groups where one in the large majority, democracy can become a form of popularity, democratically agreed tyranny and oppression. In such countries, the minority (like in India the Adivasis and Dalits) have no legitimate political means of resistance against the tyranny of the majority. (Post Colonialism 60)

In America, the case of American Indians fits the bill of colonialism as Robert asserts while drawing ideas from the political theorist Benedict Anderson:

It always was assumed to become a nation, the people of a nation should resemble each other as closely as possible. if they looked different, spoke a different

language, followed a different religion, this was considered a threat to what the political theorist Benedict Anderson has characterized as 'imagined community' of the nation...The United States, nation of immigrants, makes an interesting test case... the US has something in common, that they or their ancestors came as immigrants—though...this doesn't apply to the first nations of native Americans who were displaced or exterminated in order to make room for the new arrival.(Post Colonialism 60)

Naxalbari movement shaped and provoked writers and activists to debate the voice of the marginalized tribes or Naxals. Mahasweta Devi has in most of her novels dealt with the issue of tribal life involving Land crisis and I find her works giving a new dimension to the practice of eco-criticism. The way French revolution played a huge role in modeling the Romantics like Shelly, Byron and Coleridge etc, I see the Naxalbari movement inspiring Mahasweta Devi as a writer and an activist to voice the predicament of the tribals and uphold their rights.

In an interview to show her resolute support to the indigenous community, she lambasted the government as:

I condemned police atrocities against the naxalites in the '70s and I am not scared that by supporting the right cause I will be labeled a Maoist."

(news.outlookindia.com/items.aspx?artid=681320)

Likewise in the USA, the indigenous tribes known as the American Indians have long been subjected to the brazen treatment dealt by the government. This however has not gone unnoticed by the slew of writers and activists who have exposed the reality behind this crisis. Hendricks in his radical novel which I have studied has picked a singular event which in a chain reaction started many explosive question marks on the conduct of the US government and its furtive home security. Steve Hendricks in the epigraph to the book writes:

I wrote this book for the Lakota Nation, who deserve better than my nation has given them. (The Unquiet Grave)

Mahasweta Devi in her work *Hazar Chaurasi Ki Maan* has mapped the Naxalbari movement from a family's personal journey through it. How the movement lost its cause to perversion and hijacking and distortion of a public unrest, into becoming a mere tool of personal feuds and rivalry, that is the question she intends to answer. The emergency in Mahasweta Devi's novel depicting the angst of the characters can be empathized in the tragic backdrop of Naxalbari movement. What Naxal crisis? Its origin? Causes to it? Its manifestations? Retaliation tactics against it? What resolutions and aftermath? The social relevance of her work doesn't only serve as a history chapter but also renders a substantial resolution of the contemporary crisis before us. In one of her essays, Devi writes her objective behind writing this novel;

In the Seventies, in the naxalite movement, I saw exemplary integrity, selflessness and the guts to die for a cause. I thought I saw history in the making and decided that as a writer it would be my mission to document it. As a writer, I feel a commitment to them, to mankind and to myself. I did not consider the naxalite movement an isolated happening...in the Naxalite movement I saw only a further extension of the movement of the past, especially the Tbhaga, Kakdwip, and Telenga uprisings. ..in the Hazar Charasi Ki maan I portrayed the naxalite movement in its urban phase in 1971-74; and against that and a generation gap, I set an apolitical mother's quest to know her martyred Naxalite son to know what he stood for: for she had not known the true Brati ever, as long as he had been alive. Death brings him closer to her through her quest(Hearing 'subaltern' Voices of Resistance in the Works of Mahasweta Devi, Taslima Nasrin and Monica Ali, 80)

Leopold notes how "An ethic, ecologically, is a limitation on freedom. An ethic, philosophically, is a differentiation of social from antisocial

conduct." (A Sand County Almanac 202)", and in the works of Mahasweta Devi she has fought against the absolute privileges of the authority, that borders on the anti-social conduct against the tribals. She was the first and foremost activist to have filed the initial public interest litigation against the state on behalf of the natives in 1998. The Naxals are considered far-left radical communists, loyal to Maoist political outlook and ideology. Devi in her interview with Spivak asserted that in most of her travels in the remote locations of the India, she has come across various tribes like the Sabars, and in her own words she has observed,

They are basically gentle, polite, highly civilized, and this innate blood civilization runs back thousands of years. A tribal lives in harmony with the nature around him, with human beings, even intruders...If we think of what Gandhi means, patience, tolerance, forgiveness, tribals have it. The way they suffer us is because they have a very ancient civilization. They can do it, we cannot. We get angry, lose our tempers, become beats, they do not. When they do it, one must understand their extreme desperation. (Chotti Munda And His Arrow)

In Naxalbari village, a section of the Communist Party of India (Marxist)(CPM) led by Majumdar, and others initiated a violent uprising in 1967. It adopted offensive stance to reallocate Land to the landless. Mahaweta Devi has in the novel without using aliases or pseudonyms named one of the leaders of the movement, 'Live Long Comrade Mazumdar! Revolutionary Comrade...the killers who killed our youth will never be forgiven!' EN Rammohan in the magazine Outlook India has disclosed the primal discrepancy that led to Naxal insurgency:

'the failure of implementing the 5th & 9th Schedules of the Constitution of India. In theory these Schedules were to provide for a limited form of tribal autonomy with regard to exploiting natural resources on their lands and also limiting the Land to be possessed by landlords and distribution of

excess Land to landless farmers & labourers.
(<http://en.wikipedia.org/wiki/Naxalite>)

But this schedule though in letter was written but in spirit was shamelessly out of action. This barefaced discrepancy is meticulously mentioned by Mahasweta Devi in the second part of her novel where she lucidly chronicles the start of the Naxal cause to its final stages:

The opposition had always pulled a majority of votes in the region. The government had taken its revenge by denying the region the simple comforts of a decent road, a health centre an adequate number of tube wells, or a bus route. (Mother Of 1084, 33)

Mao Zedong, the Chinese dictator and communist leader provided ideological headship for the Naxalbari movement. He advocated that Indian peasants and lower class tribals oust the government and the upper classes by violence. Vicious rebellions were organized in several parts of the country, which led to many divisions and partitions and fragmentation of the original CPM party into Communist Party of India (Marxist-Leninist) (CPI(ML)), then Maoist Communist Centre, further still partitioning into Communist Party of India (Maoist). The tactics to regain their pilfered lands were violent aggression pursued by Majumdar who in this model declared an "annihilation line", a dictum that Naxalites should assassinate individual "class enemies" (such as landlords, businessmen, university teachers, police officers, politicians of the right and left) and others. Throughout Calcutta, schools were shut down. Naxalites took over Jadavpur University and used the machine shop facilities to make pipe guns to attack the police. Their headquarters became Presidency College, Kolkata. The Naxalites found supporters among some of the educated elite, and Delhi's prestigious St. Stephen's College became a breeding ground of Naxalite activities.

Brati in *Mother of 1084* represents the youth who yearned to be part of this movement and were passionately sensitive to the marginalization of

the tribals hence they were an easy prey to be abused and manipulated by the party's supremos to run their dirty errands. He serves embodies the social cause of the as he is not only close to the cause via patriotic passion but being in the direct line of prejudiced unfairness of the government. Brati falls among the many youths who recruited themselves in the cause to redress the pervasive inequality faced by them and their neighbors. Their Land is infiltrated in the name of law, and absolute power, and to top it the lawful amenities and privileges, the right every citizen, are deplorably annexed as well. Aldo brings out this discrimination by stressing that, " land is a community is the basic concept of ecology...that land is to be loved and respected is an extension of ethics." (A Sandy County 14)

Brati being a native to this crisis is enmeshed/embedded to the cause by birth and by proximity. The readers however are alienated in being and are unclear and in the dark regarding the emergency of the crisis. They might understand on the level of human empathy but as to the knowledge of the fact of who the culprit is and who is not, or to put it straight who should they vote and who should they not, that knowledge they are estranged from. The environment in the novel is the field of Land crisis, and the characters working in this environment encourage public opinion by their relationships with the victims' family, friends, colleagues and other members of the party etc. Brati's father and his rest of family except Sujata are depicted as the representatives of the bourgeoisie values of pretences, extravagance, indifference and decadent lifestyles. Brati's resentment at his father's dishonest value system makes him connect to the movement which he sees as the same bourgeoisie system crippling the rights of the tribal. Brati dies at the hands of the traitors in the party, who selfishly abandoned the cause for their personal interests. Sujata receives a call to identify her son's body that is labeled by the number 1084. It is from that moment Sujata is provoked to tread down into the underbelly of the Naxalbari movement even when her family is adamant to erase the existence of their criminal son and his death. In the first parts of the novel Mother Of 1084 the role of Sujata as a romantic

can be discerned. She is concerned for Brati as a reader who doesn't know the reality behind Brati's death but only that his son died. It's only in the course of the novel, when she finds out about the movement and her son's dedicated involvement in it, she becomes aware.

In a vengeful satire at the society and her family, she exclaims:

(Brati) is charged with a crime...that he lost faith in the social system itself. Brati had decided for himself that freedom could not come from the path society and state followed...Brati and those like him were such anti-socials that their corpses would lie at the Kantapukur morgue.

Mahasweta Devi also ventures to expose the bourgeois system of belief that undermines the sensibility of the youth, and she attacks by it representing Sujata's husband as an emblem of this system. The husband is depicted as a typical believer in man's virility and reveres rather than abhor the immoral act of promiscuity to demonstrate his manliness via it. His own mother's approval over this distorted belief and the unscrupulous action out of it, dissuades Sujata to confront her husband red handed. Even his family except Sujata and Brati is indifferent to this extra-marital affair suggesting the deep pockets of their own colorful sins. Sujata's angst is that in the face of this heinousness, why still Brati was a criminal and a disgrace to his family:

(Brati was a criminal because) killers in the society, those who adulterated food, drugs and baby food had every right to live. the leaders who led people to face guns of the police and found for themselves the safest shelters under police protection had every right to live. But Brati was a worse criminal because he had lost faith in this society ruled by profit-mad businessmen and leaders blinded by self-interest. ...so death was his portion. death was the sentence reserved for everyone of them, those who had rejected a society of spineless, opportunist timer-servers masquerading as artists, writers and

intellectuals...anybody was permitted to kill them. (Mother Of 1084, 19)

Connecting the private feeling as the rationale behind a public action I find in the novel *Mother Of 1084*, the protagonist Sujata as the mouthpiece of this claim. She registers her ire at a system of beliefs, which is the culture of her family, and she finds in it a cause to revolt against the similar beliefs in many other bourgeois families that result in the dehumanization of the youth. Sujata hence through a private angst against family, is in fact rebelling against the system of beliefs pervasive in the public/society at large. Sujata believes if Brati had adhered to this corrupt system of beliefs, he would have been cherished and applauded by his family as one of their own. *"If Brati drank like Jyoti, if he could go about drunk like Neepa's husband, if he could flirt with the slip of a typist the way Brati's father did...then they could have accepted Brati as one of them"* (*Mother Of 1084*).

Sujata's son like the youth was maliciously exploited in the cause. Their demise instead of a martyr's became a 'scandalous death'. Bourgeois families like Dibyanath had to bury this ignominious existence of their sons instead of being dragged into the mire with them. A cause of the tribals was distorted by the crème de la crème of the political system while the youth incited to serve it, were betrayed of their trust, ambition and dream of a better home! What a 'programme of betrayal'.

Naxalbari movement in the novel is exposed by the epithet 'Decade of Liberation'. The cause was just. How abortive it is to realize that the youth couldn't see the decadent and despicable perversion of it. Lives lost. Martyrs turned into criminals. Defiled. Shamed and families held accountable even after the deaths and kept bereft of jobs and proper education. The dishonor and stigma of it passed to the living. And with their lives blotched, the grief of the bereavement is worsened with the hatred against them. "Sujata could see the weird design of an absurd play unfolding relentlessly' such is how Devi voices her satire at the bizarre turn of events after the death of Brati. It is a fact that is meticulously

proved by Dr. Dailen Debnath, in his methodological study of the movement that the ruling congress party had stealthily infiltrated spies or moles inside the unguarded Naxalite organization to gather information about its secret bases and arrest its supporters. Besides this strategy, the party itself was bi-tri and sundry times fragmented into disparate and antagonist sects. One party didn't shake hands with the other, even when the cause was singularly the same for everyone. Except few most of the members had no allegiance to one party and with this rising infidelity the party and its people wavered in their agendas and fell. This is what is in fact the tragic reason behind Brati and his friends' death. One of their party members, Anindya, the turncoat, betrayed their secret location to the hostile opponent party, who lynched them to death. The Naxal parties had majority of the recruits coming out of an urban-frustrated-middle class background without any Revolutionary teaching and zeal, and who were fraught for irrational clashes. Brati for instance was disillusioned with his father's blatant promiscuity, his mother's servility in the face of it, his relations' insulting and pretensions lifestyles, and so he sought a remedy in this movement against his problems. All these factors Devi surmises through her mouthpiece Sujata;

That was how they died. by trusting too many people. Brati and his fellow workers never realized that those they trusted could be tempted with offers, jobs for some, security for others, a happy life still for others...there were many who had joined them with the aim of betraying them. They had not realized that the system against which they fought had the capacity to contaminate even the child in the womb. (Mother Of 1084, 40)

In the novel *Mother Of 1084*, the young recruits in the CPI party belonged to such destitution and broken families which Lawrence implores us to see by the continuous refrain of his word 'ugly'. The nineteenth and today's 21st century, and still the melody of malady continue like a tradition to the present. What must be done? Dismantle the machines and the inventions of industrialization to retreat back to the old times? Leavis strongly

suggests the opposite:

there can be no going back: it is useless to think of ...scrapping the machine in the hope of restoring the old order...it is important to insist on what has been lost lest it should be forgotten; for the money of the old order must be the chief incitement towards a new... (The Green Studies Reader 75)

The cause of the Naxals in India and the AIM in America is tantamount to a place of their own. There is not any disgust with technology or education but an equitable distribution of it as stated in the just laws. There is also not any revulsion with modernity but the condition in which it is presented depriving the tribals/natives of their rights and deserved livelihoods. Finally the natives are not against the development schemes and rehabilitation plans as long as that doesn't involve annexing their lands in the name of country or its private proprietors' profits.

Anne Mae in the novel *The Unquiet Grave*, serves as a mouthpiece of this social malfunction. She from her grave just like Brati exposes the unsavory nitty-gritty of fulsome operations of an unremitting government which is bent either by ineptitude, revenge or greed to loot the poor of their lands. In the wake of such hostilities, these characters develop an aura of a vision which implies the set of goals and demands the victims have in mind in starting a revolution. This vision either can be these demands or the characters themselves who personify a cause through their personal trials and tribulations.

It is interesting to note, the comments of Mahasweta Devi on the crisis of the American Indians. In her interview she observed:

I have read about the American Indians, when small pox and other diseases came, they had no resistance against it, and these people had no resistance against the cultural invasion that took place. It is cultural, it is economic, it is connected with the land, with everything, they want to rob of the tribal of everything. (Chotti Munda

and His Arrow xii)

Hendricks in his novel *The Unquiet Grave* exposes this conduct of the US government which falls in the purview of a cultural and economic invasion. Author notes that America during their settlement allowed the American Indians a 'sovereign title' to south of Dakota, and some other large shares of lands called as the Great Sioux Reserve. In letter it was a fair agreement between the Indians and the American government of the old, 'to guarantee (lands) for all times-as long as the rivers shall run and the grass shall grow' but in spirit it was hacked and slashed to suit the avaricious appetites of government officials who desired lands and more lands. The Reserve was blatantly looted leaving its remnants as small plots, of which Pine Ridge was the biggest. The author quotes;

BIA(Bureau of Indian Affairs) program that moved Indians from reservations to cities...the benevolent idea behind the program was that since the efforts to bring the jobs to Indians had consistently failed, Indians would be brought to jobs. But the program also had a sinister motive, which was to get Indians off the lands that whites wanted. For centuries America had pushed Indians onto unwanted lands, only later to decide those lands were desirable for one thing... uranium or coal...farmland. So the BIA paid the Indians bus fare to cities-sometimes on threat...set them up in dismal apartments...most eventually returned...their Land had been bought or leased by the whites. (The Unquiet Grave 31)

Of course the Lakotas filed court cases to retake their lands which however got delayed for a long period, till the federal appeals court finally decreed in 1975, 'A more ripe and rank case of dishonorable dealing will never, in all probability be found in our history.' Keen remarks which were assented by the Supreme court however it decided to pay the Lakotas than return their Land. It was a furtive offer which Lakotas declined by ridiculing this deigning judgment, 'A used car for every Lakota' The author lists more 'Land thefts'

which continued to the modern age, with 'still more artful dodges for acquiring the Indian Land.' The stringent and bleak aspect of Feudalism is charted by the author in understanding the treatment of the Indians by the government and its laws;

Indians even in 1970's, were children-legally wards of the state...laws of America and the government sought to protect Indians from rapacious whites and to keep Indians in submission...their lands were held in trust...Indians could not use their lands as collateral for loans...no capital to buy the tools, supplies, and animals...only recourse was to lease the Land, sell it to non-Indians or leave it be...Corruption in matters related to Land flourished. (The Unquiet Grave, 36)

The offshoot of this maltreatment of the American Indians resulted in the decisive building of the American Indian party. In various part of the country the Indians fought for their mutual cause to redress the 'broken treaties', and their 'repatriation'. AIM was not the only agitator, but it became the singular most savior of the Indian's cause:

We're the landlords this country, the rent is due and we're here to collect... That was the power of the cause we were working for, the heritage we were reclaiming...for the generation that had it stolen from them (The Unquiet Grave, 30-70)

It is to this prevailing exploitation, Hendricks has put forth a simple solution to end the crisis, and bring about a reconciliation between the warring sides. In the post script, he concludes the work in decisively giving a solution to this crisis;

There is only one honorable solution to the privation of the Lakotas: to return the Land we stole from them-at least to return what is returnable. I use the word 'we' rather than our ancestors because if we know of the (Land) theft, as we do, yet do not right it, we are as guilty as our forbears. (The Unquiet Grave, 369)

A death by murder, and the atrophied corpse exposing the trail by which it ended in the mortuary, is a connecting link between Mother of 1084 and The Unquiet Grave. Mother of 1084 was a universal theme of Naxalbari Crisis, and even with the plot fictional, its premise is a real story of every youth embroiled in it. Devi has depicted the political strife using the exact names of political figures and places and only using fictional ones as Sujata and Brati to serve as models for many Sujatas and Bratis struggling and lost in the movement. The attention of the facts is hence called to us by a narrative of a family that is a model or representative of every family enmeshed in it. Hendricks exposes the mentality of the corrupt government exemplifying the collective hate of it and its forces against the natives:

They're conquered nation, and when you're conquered, the people you're conquered by dictate your future. (The Unquiet Grave)

In conclusion, if one is to consider the founding words of Land Ethic as envisioned by Aldo Leopold, the solution to this crisis is to return the lands to the tribals, and harbor respect and love for it than abuse it as a commodity.

We abuse land because we regard it as a commodity belonging to us. When we see land as a community to which we belong, we may begin to use it with love and respect. (Sand County Amanac vii)

References

1. A.Leopold, A Sand County Almanac, Oxford University Press, New York, 1949. Print.
2. Al-wazedi, Umme Sadat Nazmun Nahar. Hearing 'subaltern' Voices of Resistance in the Works of Mahasweta Devi, Taslima Nasrin and Monica Ali. ProQuest, 2008. Print.
3. Bookchin, Murray. The Ecology of Freedom. Post-Scarcity Anarchism . AK Press, 2004. Print.
4. Chandel, Himani. 'India among top land-

- grabbing nations'. The Tribune, December 18Tuesday, 2012.
5. Coup. Laurence. The Green Studies Reader. Routledge. 2000. Print
 6. Devi, Mahasweta. Hazar Charusi Ki Maan(Mother of 1084). Seagull Books, 1997. Print
 7. Devi, Mahasweta, Chotti Munda and His Arrow. Seagull Books, 2002, Print
 8. Hendricks , Stephen. The Unquiet Grave : The FBI and the Struggle for the Soul of Indian Country. Perseus Books Group, 2006. Print
 9. J.C Young. Robert. Post Colonialism: A very Short Introduction'. Oxford University Press, 2003. Print
 10. "Mahasweta Devi Dares PC to Arrest Her on Naxal Talks". Outlook India. Com. Kolkata, May 07,2010.
<news.outlookindia.com/items.aspx?artid=681320>
 11. "Naxalite". Wikipedia, The Free Encyclopedia.(<http://en.wikipedia.org/wiki/Naxalite>)

From Ajmer to Ahmedabad: The changing tactics of the Hindu Mahasabha

Dr. Bhuwan Kumar Jha

Abstract- Many political parties and groups that emerged during the course of the freedom struggle espoused the cause of their communities. In doing so, they wished to be seen as representing their community vis-à-vis the British power in India and other political formations. Some of them also tried to combine a social reform agenda with their political ambitions. The All India Hindu Mahasabha, founded in 1915, claimed to represent the political voice of the Hindu community. Emerging from the womb of the Arya Samajists and the Sanatanists, the party left a definite impression on the course of the anti-imperialist struggle. In the initial years, the differences between the Congress and the Mahasabha were blurred. However, during and after 1927, a drift is visible which became prominent after the Round Table Conference. During 1934 and 1937 elections, the leaders of the Mahasabha were keen to adopt a more pragmatic stance. As the elections approached, new alignment of forces began to take shape, culminating in the birth of the Democratic Swarajya Party and the Congress Nationalist Party, which carried, to a large extent, the ideological contours left behind by the Responsive Co-operation Party and the Independent Congress Party of the Yesteryears. This paper attempts to unravel the political trajectory of the Mahasabha during a crucial period when it clearly drifted towards a pronounced anti-Congress position. From the Ajmer session in 1933, presided over by Bhai Parmanand, to the ascent of Savarkar as president in 1937, the party gradually took a hardline position, at clear variance with that of the Congress. During the period, alienation of a dominant section of the Mahasabha leadership from the Congress is clearly discernible. Presence of different shades of opinion within the party became obvious when it came to the question of defining the party's relationship with the Congress. The built up to the elections of 1934 and 1937, when the occasion demanded formation of different political alignments, further complicated the situation.

Bhai Parmanand and the Ajmer deliberations

Inside the Mahasabha, leadership belonged to a wide spectrum of ideological leanings. Relationship shared with the Congress became a defining feature. Leaders like Madan Mohan Malaviya and Lajpat Rai were equally popular within the Congress. There were also leaders like B.S. Moonje, N.C. Kelkar, M.S. Aney and others who were sometime with the Congress and sometime with the Mahasabha. On the other extreme of this spectrum were leaders like Bhai Parmanand and V.D. Savarkar.¹ Parmanand, a staunch Arya Samajist, growing up in the environs of Lahore, represented, along with Savarkar, and to some extent Moonje, the unflinching militant face of the Mahasabha. While many leaders of the Mahasabha often toyed with the idea of aligning with the Congress

in one form or another mostly at the time of contesting elections, he not only opposed all Congress-led movements, but often adopted a view opposed to that of the Congress in all matters of political importance. He continuously attacked the Congress for all the ills that afflicted the country, especially the problem of Hindu-Muslim discord. If Hindus had to "safeguard the small preserves that are left to them", advised Parmanand, then the "illusion" that the Congress had brought freedom to the country had to be "dispelled as quickly as possible".²

With Parmanand fully in command, the Ajmer session (14-16 October 1933) marked a significant departure in the political attitude of the party. He was hailed as the fittest to lead the Hindus at a "critical juncture, when their very existence was threatened".³ His election as

Dr. Bhuwan Kumar Jha is working as Assistant Registrar, University of Delhi. He obtained PhD from the department of history from University of Delhi.

president also signaled an important development in defining the Mahasabha-Congress relationship. In his long speech, delivered in Hindi, he accused the Congress of committing errors in judging the situation which, he concluded, had compelled Hindus to enter upon a "new struggle" destined to be "more formidable" than the previous ones.⁴ Moving somewhat far, Parmanand felt "an impulse" in him that the Hindus would "willingly co-operate with Great Britain if their status and responsible position as the premier community" was recognized in the "political institutions of new India".⁵ Parmanand's overt reference to co-operation with the colonial power drew sharp reactions from the Congress and some whimpers from inside the Mahasabha too.

A prominent leader of the Mahasabha, B.S. Moonje, who had been unable to attend the Ajmer session, also expressed unhappiness at some of the resolutions passed at the Ajmer session.⁶ Jawaharlal Nehru, in a speech at the Banaras Hindu University, came down heavily on the Mahasabha's pretensions of representing the Hindus, labeling it "a small reactionary group":

"The policy of the Mahasabha, as declared by its responsible leaders, is one of co-operation with the foreign government so that, by abasing themselves before it, they might get few crumbs... The Mahasabha shows its attachment to vested interests by openly condemning every form of socialism and social change. Any thing more degrading, reactionary, anti-national, anti-progressive and harmful than the present policy of the Hindu Mahasabha is difficult to imagine."

When asked about his opinion on the Mahasabha in an interview to the press some years later, he quickly replied, "I dislike the mentality of the Mahasabha of seeking favour from the Government."⁸

Responding to the criticism of his Ajmer-speech in general, and of his proposal to offer co-operation to the government in particular, Parmanand justified his action by taking a different view of politics altogether:

"To my critics and opponents I have to say one thing that I do not think that politics is a religious creed or a dogma that must hold good for ever. In my view politics is a game of chess and the movements in that game have to be changed and modified in accordance with the outer circumstances."⁹

The fate of erstwhile Responsivists

The Swarajya Party founded in December 1922 by C.R. Das and Motilal Nehru had been plagued by factionalism during 1925-26. Four prominent Congress-Swarajist leaders from Maharashtra, Jayakar, Moonje, Kelkar and Aney had formed a group within the party styling themselves as Responsivists.¹⁰ After the 1926 elections, this group lay low. However, after the second Round Table Conference was over, they were again beset with the idea of forming a new party. However, they were seemingly less enthusiastic this time,¹¹ and keen to wait for "further development of events" to unfold.¹²

With the blue print for a future constitution ready, preparations began afresh for launching political-cum-electoral fronts towards the end of 1933. The Maharashtra Political Conference, under an initiative taken by N.C. Kelkar, formed the Democratic Swarajya Party in October 1933, whose members would be drawn from that of the Congress. However, in opposition to the Congress, the party recognized direct action as a legitimate political weapon, and also expressed its willingness to accept public office and responsibility.¹³ Kelkar had been an indivisible part of the former Responsivist group. His initiative in launching a new front without consulting his old colleagues anguished Jayakar. He complained that this "mistake" of prematurely forming the new front had closed options for the erstwhile Responsivists to obtain a "respectful place" within the recently-revived Swarajya Party at the centre.¹⁴ He was keen that the old Responsivists should have rather stood "uncommitted to any parties or programmes except Responsivism" in order to create "a strong pressure" upon the newly-formed Swarajya Party.¹⁵

Going a step further, Jayakar lamented the lack of unity among Hindus and noticed a clear downslide in the strength of Hindu leaders:

*'There is a lot in it with which I agree, but my difficulty is that Hindus are so divided that no common action is possible...We were much stronger in 1926 when Lajpat Rai and Malaviyaji were more watchful of Hindu interests than of the Congress.'*¹⁶

Congress Parliamentary Board

By April 1934, there was a sizeable opinion within the Congress in favour of council-entry. It was decided to revive the All-India Swarajya Party (that had ceased to function since the Lahore Congress) as an effective political organisation under the auspices of the Congress. The revived Swarajya Party while rejecting the White Paper, stopped short of specifying its position with respect to the Communal Award.¹⁷ Malaviya was unhappy that the Swarajya Party's resolution on the White Paper had failed to deal satisfactorily with the issue of the Communal Award. He asked the Congress to declare boldly that "no constitution is worth having, which is not based on joint electorates pure and simple".¹⁸

The All-India Congress Committee, in its meeting on 18-19 May 1934, decided to formally suspend the civil disobedience and constituted a parliamentary board of not more than 25 members with Ansari as president. This parliamentary board would be the chief electoral front of the Congress party for contesting elections to the Assembly. In a tactical move aimed to pacify the Malaviya group, it was provided that this board would be constituted of equal number of nominees of Ansari and Malaviya.¹⁹ Malaviya was concerned about the predicament of his own position in the board, because his views on certain contentious matters were "pronounced".²⁰ Jagat Narain Lal saw enough chance of a conflict between the Congress and the Mahasabha as the Congress was likely to remain silent over the Communal Award.²¹

Though the general mood within the Mahasabha was opposed to the Communal Award, the party was unsure of its own political prospects. Malaviya's growing proximity to the Congress also came as a dampener. Moonje appeared pessimistic. Jagat Narain Lal was also aware of heavy odds against them.²² He complained that owing to his commitments with the Congress, Malaviya now felt "a good deal of awkwardness in identifying himself openly with the Hindu Sabha and the Hindu cause".²³ Moonje emphasized that if the Congress did not condemn the Award openly, then the Mahasabha would be compelled to set up its own candidates.²⁴ However, the Congress was still not willing to commit itself to a position of opposing the Communal Award. The working committee of the Congress in its meeting on 17-18 June 1934 made it clear that the Congress could "neither accept nor reject" the Award as long as a division of opinion lasts.²⁵ This re-assertion further frustrated the Mahasabha leaders. Parmanand condemned the decision of the Congress working committee in unqualified terms.

Congress Nationalist Party

Pushed to the corner, Malaviya and Aney now started exploring other options. Malaviya regretted not having taken a "bolder stand" on the Communal Award, and now readied himself to start an agitation against it.²⁶ After resigning from the Congress Parliamentary Board, Malaviya and Aney formed the Nationalist Party to "organise a campaign throughout the country" against the Communal Award and the White Paper.²⁷ An article in the Servant of India concluded that by forcing Malaviya and Aney out of the parliamentary board, the Congress had virtually forced the Mahasabha out of its own fold.²⁸

Some leaders within the Mahasabha were not fully convinced about Malaviya's wholehearted opposition to the Congress candidates. Ganpat Rai told Moonje that Malaviya, on account of "his commitments" with Gandhi, might refrain from setting up candidates against the parliamentary board candidates, but the Mahasabha could not afford to follow suit

because the unopposed return of the parliamentary board candidates would do harm to the party's declared position on the Communal Award.²⁹ He also felt that a contest between the Congress and the Nationalist Party or the Mahasabha candidates would be inevitable.³⁰ Moonje was however not afraid of opposition by and contest with the Congress, what worried him was the apprehension that Malaviya might "not put forth energy and enterprise in the fight".³¹

The inaugural conference of the newly-created Nationalist Party (Calcutta, 18th August) was held amid much fanfare largely because of the firm conviction of the Bengali Hindus of having been wronged by the Communal Award and the Poona Pact. "Believe me", clarified Malaviya, "Mr. Aney and myself spent many a day to see if there was any possibility of coming to an understanding before we finally decided to take this step".³² The party was named as the Congress Nationalist Party with the object of carrying on agitation against the Communal Award and the White Paper, both in the legislatures and outside, and setting up candidates for election to legislatures for promotion of this object.³³ The party played down its difference with the Congress, stating that while the candidates of both the parties, i.e. the Congress (or the Congress Parliamentary Board) and the Congress Nationalist Party, will fight for "the same political programme", the former will remain neutral on Communal Award and the latter will "oppose it tooth and nail".³⁴ Malaviya and Aney were also in touch with the Congress. Gandhi suggested the possibility of avoiding "conflict and bitterness" by jointly examining the position in each constituency on its merits and "demonstrably weaker party retiring from competition", and in any case leaving Aney and Malaviya's constituency alone.³⁵

The working committee of the Congress could not agree on Gandhi's proposal for making the weaker candidate retire in each constituency, but decided not to contest seats where Malaviya and Aney were candidates as well as those in Sind and in the city of Calcutta.³⁶ As expected, Moonje and Parmanand were not extended the same

privilege. Moonje's contest with his old foe Abhyankar also became curious.³⁷ From Bihar, Jagat Narain Lal complained that many Congress leaders including Rajendra Prasad had "strained every nerve" to put him down.³⁸ Jayakar had been clearly sidelined in these electoral alignments. When Malaviya, Aney and Moonje jumped into the electoral fray with the new party, i.e. the Congress Nationalist Party, he conveyed his displeasure:

*'A Party can not remain in the Congress and then agitate against it, taking advantage of its name, prestige and popularity. I am sure some time later you will also realize your mistake.'*³⁹

1934 Elections

When assessed in terms of ideological and party lines, the scene preceding the election was one of utter confusion. The viceroy Willingdon's mapping of the situation said it all. To a query on the prospects of different political formations in the elections of 1934, the viceroy showed helplessness as it had become "extraordinarily difficult" to reply to this question "satisfactorily"!⁴⁰ He identified at least three political blocks in these elections- the "Malaviya lot" with both anti-White Paper and anti-Communal Award as the main plank; the "Gandhi lot" whose main plank was anti-White Paper alone; and the "solid block of Muslims" who would generally support White Paper, particularly the Communal Award.⁴¹

The Congress captured all seats open to general electorates in Madras, Orissa, U.P. and C.P. and lost two seats in the Punjab, three in Bengal and one seat each in Bombay and Ajmer. Out of these seven seats which the party lost, four were lost to the Congress Nationalist Party, which the working committee of the Congress was quick to claim as its own as they (the Congress Nationalist Party) were "pledged to vote with the Congress in all matters except the question of the Communal Award".⁴² The Congress Nationalist Party won seven seats: as many as four in Bengal, and one each in Berar, the Punjab and Sind.⁴³ Moonje lost to his bête-noire Abhyankar.

The Mahasabha's heavy defeat did not surprise Jayakar. He was especially critical of the way Malaviya had acted:

*'This seeming alliance with the Congress will not do. You cannot be in the Congress and agitate against it, any more than you can be in a joint Hindu family and ask for a partition.'*⁴⁴

Post-elections

After the elections were over and after the situation had stabilized a bit, fresh efforts were made to unify groups opposed to the Communal Award. Aney advocated forging the two entities, i.e. the Nationalist Party and the Democratic Swarajya Party, into "one common engine" to drive the "common cause of the two parties".⁴⁵ The Democratic Swarajya Party decided to explore the possibility of combining with the Nationalist Party to form an all-India party.⁴⁶ Moonje expressed the desirability of achieving political unity among non-Congress nationalist parties such as the Swarajya Party, the Responsive Co-operation Party, the Congress Democratic Swarajya Party and the Nationalist Party, if the Congress failed to "change its mentality in respect of Muslim communalism".⁴⁷ The Marathi leaders were always in favour of continuing with the separate existence of the Democratic Swarajya Party. Even a leader like Aney underlined that this party had "already proved its utility" and the main reason for its continuance was "to act as a safeguard against Congress going astray once again".⁴⁸ However, by the end of 1936, the brief honeymoon between the Congress Nationalist Party and the Democratic Swarajya Party was all but over. Aney's efforts to bring about a durable unity between the Democratic Swarajya Party and the Congress Nationalist Party had been unsuccessful. He consequently resigned as president of the former, as he felt that his differences with the view of the majority were of a "fundamental nature".⁴⁹ The latter, under the auspices of the other Marathi leaders, preferred to adopt a more clear anti-Congress posture.

During late 1936, as the elections under the new

provincial autonomy approached, the Congress leaders, particularly those in the Punjab, realized that the party's attitude on the Award had worked to limit its appeal. It was now made clear that the party's rejection of the Act of 1935 involved rejection of the Award as well. In August 1936, Nehru wrote to the Congress Nationalists of Bengal condemning the Award, saying that the issue could be solved ultimately only through independence.⁵⁰ The working committee of the Congress Nationalist Party expressed partial satisfaction at this change of the Congress attitude towards the Award and emphasized the need for sustained agitation against the Award.⁵¹

Elections of 1937

The elections of 1937 under provincial autonomy again posed the same unresolved question before the Mahasabha, i.e. whether to contest on its own or through political fronts like the Congress Nationalist Party and the Democratic Swarajya Party, or merely support candidates who promised to safeguard the 'Hindu' interests. The lack of internal cohesiveness on this issue was visible once again. Parmanand and Malaviya were again pulling in different directions. Malaviya wanted the Mahasabha to entrust the work of elections to the Congress Nationalist party, while Parmanand considered it advisable to leave the issue to the provincial Hindu sabhas, with the All-India Hindu Mahasabha providing moral and other kind of support to those provincial sabhas which decided to run elections.⁵² During the Lahore session of the Mahasabha (October 1936), conflict between the supporters of Malaviya and Parmanand became conspicuous. The session being organized in the stronghold of Parmanand, the organizers refused entry to the members of the U.P. Hindu Sabha, including Radha Kant Malaviya, as delegates.⁵³

Inside the Punjab, the non-Congress Hindu leaders, with the Mahasabha's support, formed a common executive committee called- the Hindu Election Board, which tried to counter the propaganda of the Congress and Malaviya's Nationalist Party. The Hindu Election Board won 11 seats in the province and the successful candidates formed the Hindu National

Progressive Party in February 1937.⁵⁴ In other provinces, the performance of the Mahasabha or groups supported by it was very dismal. In Bengal, it won two seats in the Assembly and one in the Council; one seat in the Central Provinces; one seat in Bombay Assembly and four seats in Sind Assembly.⁵⁵

New alignments and the final parting

As the elections got over, the issue of the policy to be followed inside provincial legislatures hogged the limelight. Following up logically on the political trend of the preceding years, the Nationalist Party shifted more intimately towards the Congress, while the Democratic Swarajya Party, centred in Maharashtra, merged with the Hindu Mahasabha. Aney and Malaviya were in close contact. Aney apprehended that few members of the Nationalist Party in the Assembly⁵⁶ were contemplating to move to the Congress.

Malaviya realized that the likelihood of the Congress accepting office, coupled with the fact that its election manifesto had now declared the Communal Award to be unacceptable, would act as a "powerful influence" on many members of the Congress Nationalist Party to join the Congress.⁵⁷ Moreover, he himself did not appear to be averse to the idea of merger, as he underlined that even after merger one could continue to fight for "justice to Hindus" and for a "nationalist attitude in all political matters".⁵⁸ He made it pretty clear that the Democratic Swarajya Party, which had got affiliated to the Mahasabha, stood automatically disqualified from the Nationalist Party.⁵⁹ In May 1937, the Democratic Swarajya Party decided to delete the clause which had made it obligatory for its members to be Congressmen.⁶⁰ The end of 1937 was marked by the arrival of Savarkar on the political scene. The prominent Mahasabha-Congress leaders like Malaviya, Aney or Kelkar were conspicuous by their absence at the Ahmedabad session in December 1937 where Savarkar presided. Coming out of the somewhat bitter experience of 1934 and 1937 elections, with Congress-Mahasabha leaders like Malaviya no longer around, the Mahasabha was now geared to chart a more independent trajectory. With hardliners like

Savarkar, Parmanand and Moonje in command, the party sought increasing militarization of the Hindus. As its anti-Congress and pro-loyalist positions became more pronounced, the organization attempted to project itself as the true representative of the Hindu interests, in the same way as the League was seen as representing the Muslims.

References

1 Both Parmanand and Savarkar had been revolutionaries in their youth, but turned towards the Mahasabha in their later days. They combined in themselves an extreme contempt towards the Congress and the Gandhian method of non-violence.

They thought that the policy of non-violence had worked to make Hindu youth docile, defensive and less aggressive.

2 Bhai Parmanand's introduction to the draft history of the Hindu Mahasabha, Indra Prakash (in-charge of the Hindu Mahasabha History) to Moonje, 20-10-1938, Moonje Papers, Nehru Memorial Museum and Library, New Delhi (hereafter NMML), Subject Files No. 50, Part II.

3 These words of praise came from Radha Kumud Mukherjee (chairman, reception committee), while proposing Parmanand's name as president of the party. See Indian Annual Register (hereafter IAR), July-December 1933, p. 201. He was elected president through a majority of votes. See Jagat Narain Lal (secretary, Hindu Mahasabha) to Moonje, 18-9-1933, Moonje Papers, NMML, Subject Files No. 32.

4 Indian Annual Register (hereafter IAR) July-December 1933, p. 204.

5 Ibid, p. 206.

6 to Ganpat Rai, 20-11-1933, Moonje Papers, NMML, Subject Files No. 35.

7 Speech at BHU, 12-11-1933, Selected Works of J.L. Nehru, Vol. VI, p. 157.

- 8 Interview to the press, Lahore, 2-6-1936, Tribune, 3-6-1936, Selected Works of J.L. Nehru, Vol. VII, p. 277.
- 9 Presidential address, All Bengal Hindu Political Conference, Calcutta, 18-19 January 1934, IAR, January-June 1934, p. 305.
- 10 They formed the Responsive Co-operation Party in opposition to the wishes of the mainstream Congressmen. This step proved crucial in diluting the support-base of the Swarajists, leading consequently to their defeat in the 1926 elections. Responsivists' chief demand was that the Swarajya Party should accept offices and other positions of responsibility offered by the government.
- 11 Moonje told Jayakar that it was high time to think of forming a new party for contesting forthcoming general elections. Moonje to Jayakar, 17-1-1933, Jayakar Papers, National Archives of India (hereafter NAI), File No. 236.
- 12 Jayakar to R.N. Mandalik, 4-4-1933, Jayakar Papers, NAI, File No. 236.
- 13 IAR, July-December 1933, p. 16. This restriction on being members of the Congress shall not be insisted upon until the Emergency Power Act banning the functioning of Congress bodies is repealed.
- 14 Jayakar to Aney, 13-4-1934, Jayakar Papers, NAI, File No. 207.
- 15 Jayakar to Moonje, 10-4-1934, Jayakar Papers, NAI, File No. 207.
- 16 Jayakar to Jagat Narain Lal, 18-4-1934, Jayakar Papers, NAI, File No. 207.
- 17 Meeting at Ranchi, 2-3 May 1934, IAR, January-June 1934, pp. 271-81. Among the Responsivists, only Aney had been invited to this conference, but even he could not attend due to family reasons. Aney to Moonje, 24-4-1934, Moonje Papers, NMML, Subject Files No. 39.
- 18 9-5-1934, IAR, January-June 1934, pp. 281-82.
- 19 Ibid, pp. 32, 285-94.
- 20 Jagat Narain Lal to Moonje, 10-6-1934, Moonje Papers, NMML, Subject Files No. 37.
- 21 Jagat Narain Lal to Moonje, 14-6-1934, Moonje Papers, NMML, Subject Files No. 37.
- 22 Jagat Narain Lal to Moonje (undated), Moonje Papers, Subject Files No. 39.
- 23 Ibid.
- 24 Moonje's opinion appeared in the Anand Bazar Patrika of 10 June 1934. The opinion was referred in Jagat Narain Lal to Moonje, 10-6-1934, Moonje Papers, NMML, Subject Files No. 37.
- 25 17-6-1934, IAR, January-June 1934, pp. 35, 300. The working committee pointed out that with the "White Papers lapsing", the "Communal Award must lapse automatically".
- 26 Jayakar to Sapru, 22-6-1934, Jayakar Papers, NAI, File No. 408. Malaviya was in Bombay at this meeting and met Jayakar few times.
- 27 Circular issued by Malaviya and Aney, 8-8-1934, Aney Papers, NMML, Subject Files No. 6. Also see, IAR, July-December 1934, pp. 28-29. The working committee of the Mahasabha welcomed this resignation as a "bold and courageous stand" which would "vindicate their honour and self-respect". 28-29 July 1934, IAR, July-December 1934, pp. 308-9.
- 28 Editor, Servant of India to Moonje, 2-8-1934, Moonje Papers, NMML, Correspondence.
- 29 Ganpat Rai to Moonje, 8-8-1934, Moonje Papers, NMML, Subject Files No. 37, Part II.
- 30 Ganpat Rai to Moonje, 9-8-1934, Moonje Papers, NMML, Subject Files No. 37, Part II.
- 31 Moonje to Ganpat Rai, 10-8-1934, All-India Hindu Mahasabha Papers, NMML, File No. C-1.
- 32 IAR, July-December 1934, pp. 30, 260-65.
- 33 Ibid. P.C. Ray, president of the reception committee hoped that the new party would be "a party within the

sheltering bosom of the Congress'.

34 'Congress Nationalist Party: What it stands for and why every Indian should support it', printed booklet issued by Malaviya and Aney, M.M. Malaviya Papers, NMML, Microfilm, Roll No. 1/1.

35 Gandhi to Malaviya, 3-9-1934, Aney Papers, NMML, Subject Files No. 6. He also appealed to Malaviya not to put any candidate against Asaf Ali.

36 Wardha, 9th and 11th September 1934, IAR, July-December 1934, p. 204.

37 Hindustan Times, 13-10-1934, Moonje Papers, NMML, Subject Files No. 38.

38 Jagat Narain Lal to Moonje, 17-10-1934, Moonje Papers, NMML, Subject Files No. 38.

39 Jayakar to Moonje, 21-9-1934, Moonje Papers, NMML, Subject Files No. 37, Part II.

40 Willingdon to Hoare, 3-9-1934, Templewood Papers, NMML, Microfilm, Roll No. 3.

41 Ibid.

42 Patna, 5-7 December 1934, IAR, July-December 1934, pp. 224-25.

43 Ibid, pp. 225-26.

44 Jayakar to Ganpat Rai, 23-11-1934, Aney Papers, NMML, Subject Files No. 7.

45 Aney to Jagat Narain Lal, 4-12-1934, Aney Papers, NMML, Subject Files No. 6.

46 Meeting at Akola, 5-8-1935, IAR, July-December 1935, pp. 20, 319-20.

47 First Andhra Swarajist Conference, Moonje's presidential address, 24-8-1935, Moonje Papers, NMML, Subject Files No. 44.9

48 Aney's presidential address at the Democratic Swarajist Conference, Chalisgaon, 10-11-1935, Times of India, 12-11-1935, Moonje Papers, NMML, Press Clippings, Sr. No. 7.

49 Aney to Ganpat Rai, 19-9-1936, Ganpat Rai Papers, NMML, Correspondence.

50 See Gerald A. Heeger, 'The Growth of the Congress Movement in Punjab, 1920-1940', *Journal of Asian Studies*, Vol. 32, No. 1, November 1972, pp. 39-51.

51 Benaras, 31 August-1 September 1936, IAR, July-December 1936, p. 6.

52 Interview with Daily Herald, Lahore, 6-1-1936, Anand Bazar Patrika, 9-1-1936, Moonje Papers, NMML, Press Clippings, Sr. No. 8.

53 They were allowed entry as visitors which they refused. Malaviya was conspicuous by his absence. Parmanand traced the genesis of his difference with Malaviya to the issue of contesting elections, because he (Parmanand) had insisted throughout, that as long as separate electorate continued, the Mahasabha must canvass for the Hindu seats. 18th session of the Hindu Mahasabha, Lahore, 21-23 October 1936, IAR, July-December 1936, pp. 259, 261. The UP Hindu Sabha was recognized by the Malaviya faction as the local Hindu Sabha within the province. Also see Ganpat Rai to Moonje, 24-9-1936, Ganpat Rai Papers, NMML, Correspondence.

54 See Heeger, 'The Growth of the Congress Movement in Punjab, 1920-1940'.

55 Ganpat Rai pointed out that the Mahasabha backed the Congress Nationalist Party, but the latter would not come forward lest it should get linked with the Mahasabha. See 'Oral Transcript of Ganpat Rai', NMML, pp. 35-36.

56 Aney to Malaviya, 14-4-1937, M.S. Aney Papers, NMML, Subject Files No. 6.

57 Malaviya to Aney, 26-4-1937, M.S. Aney Papers, NMML, Subject Files No. 6.

58 Ibid.

59 Ibid.

60 Times of India, 31-5-1937, Moonje Papers, NMML, Press Clippings, Sr. No. 9.

Grievance Handling Practices, Procedure and Redressal in Indian Industry

Dr. Supriya Choudhary

Abstract- Grievance may be any genuine or imaginary feeling of dissatisfaction or injustice which an employee experiences about his job and its nature, about the management policies and procedures. It must be expressed by the employee and brought to the notice of the management and the organization. Grievances take the form of collective disputes when they are not resolved. Also they will then lower the morale and efficiency of the employees. Unattended grievances result in frustration, dissatisfaction, low productivity, lack of interest in work, absenteeism, etc. In short, grievance arises when employees' expectations are not fulfilled from the organization as a result of which a feeling of discontentment and dissatisfaction arises. This dissatisfaction must crop up from employment issues and not from personal issues. The manager should immediately identify all grievances and must take appropriate steps to eliminate the causes of such grievances so that the employees remain loyal and committed to their work.

Introduction

A common impression of labour - management relations is that they are generally unsatisfactory. As is well known, various interest groups collaborate in the successful functioning of an organization, including an industry. Broadly speaking, a grievance is any dissatisfaction that adversely affects productivity. Beach defines a grievance as "any dissatisfaction or feeling of injustice in connection with one's employment situation that is brought to the notice of the management,"¹ where as Flippo indicates the grievance as "a type of discontent that must always be expressed. A grievance is usually more formal in character than a complaint. It must grow out of something connected with company operations or policy. It must involve an interpretation or application of the provisions of the labour contract."²

In India, the government has been making a plea for grievance machinery at the plant level ever since 1956 - 58 when the standing committee of the Indian Labour conference submitted a draft on the various aspects of a grievance procedure. The National Commission on labour set up by the Government as a tripartite body in 1969 also spelt

out the nature of grievance and a model grievance procedure. However, this remains a recommendation and is not a statute yet.

Some of the common grievances of employees-real or fancied-heard in industry are³:-

- (a) I am placed in grade IX. My present job involves more skill and responsibility compared to others placed in this grade. My repeated representations to place me in the next higher grade have not yet been considered.
- (b) My colleague and I joined service on the same day ten years ago. We draw the same salary, he has been allotted a company quarter, and I have been told to wait.
- (c) Ten of us work under a foreman. When overtime work comes up, he does not evenly distribute it among all of us. Instead, he gives it to three persons who are his favourites.
- (d) My colleague is a very difficult person. The foreman, therefore, does not tell him a thing when he neglects his maintenance work. On the contrary he requests me to do the left over portion

Dr. Supriya Choudhary is working as an Associate Professor, Maharaja Surajmal Institute Guru Gobind Singh Indraprastha University. Dr. Supriya has done M.Com. M.Phil., Ph.D., DOEACC 'O' Level and joined the university in 2005.

of the work of my colleague. How long can I continue to work like this etc.

The instances given above show that an employee feels dissatisfied and harbours a grievance when there is an infringement of his rights or interests. Mainly it arises out of the misinterpretation or misapplication of company policies, rules and practices.

Objectives of the Study

- (1) To provide formalized machinery to express and seek redressal of individual grievance arising out of work situation.
- (2) To enable employees / workmen to raise and issues / problems so that the management can learn about them and not just perceive.
- (3) To provide a check upon arbitrary actions.

Typical Grievances and Their Causes

Often, grievances appear to be simple interpersonal or interpretational problems. Though it is true in most cases, many a time grievances are a manifestation of a deeper systemic or cultural malaise in an organization. In such cases, resort to the formal grievance procedure may not provide solution to the real problem. Therefore, in order to locate the causal roots of grievances we may have to make an analysis of systems, procedures, policies, practices etc. This will help us to identify the actual reasons for the occurrences of grievances. A manager with a professional approach would always like to make a systematic analysis of the factors that cause grievances.

Analysis of grievances reveals that they normally fall into certain patterns. The U.S. Department of Labor has listed the types found to occur most frequently among employees, together with the common causes of each.⁴

Type of Grievance	Common Causes
A. Wages	
1. Demand for individual wages adjustment	He is not getting what he is worth.
2. Complaints about job be classification.	He gets less than others doing work requiring the same degree of skill.
3. Complaints about incentive complicated systems.	His job is worth more than it pays and should reclassified.
4. Miscellaneous	The method of figuring his pay is so that he does not know what his rate really is. His piece rates are too low His piece rates are cut when his production increases. Mistakes are made in calculating pay. Methods of paying off are considerate.
B. Supervision	
1. Complaints against discipline.	Foreman dislikes him and picks on him. Company has it in for him because he is active in union.
2. Objection to a particular foreman.	His mistakes are due to inadequate instruction. Foreman is playing favorites. Foreman is trying to undermine union. Foreman ignores complaints.

3. Objection to general method of supervision	There are too many rules & regulations. Rules and regulations are not clearly posted. Supervisors and/or time-study men do too much snooping.
C. Seniority, discharge, etc.	
1. Loss of seniority	He has been unfairly deprived of seniority.
2. Calculation of seniority.	He has not received all the seniority due him.
3. Interpretation of seniority	Clause in contract has been unfairly interpreted by company (clause often vague).
4. Disciplinary discharge or layoff.	He has been penalized unfairly or too severely. Company wanted to get rid of him anyway for union activity or other reasons.
5. Promotions.	Seniority clause has been violated. Company will not promote him because of union activity.
6. Transfers to other departments	He does not have a chance to advance himself. He has had more than his share of dirty work or shifts.or graveyard shifts.
D. General Working Conditions	
1. Safety and health	Toilet facilities are inadequate. Dampness, noise, fumes and other unsafe conditions could be corrected. He does not have enough time for personal needs. He has to lose too much time waiting for materials. Overtime is unnecessary. He is being unfairly denied an employment release (certificate of availability).
2. Miscellaneous	Lunchroom facilities are inadequate.
E. Collective Bargaining	
1. Violations of contract	Company is stalling or putting obstacles in the way of grievance settlements.
2. Interpretation of contract.	Company will not give supervisors authority to grant any concessions.
3. Settlement of grievances	Company has disregarded precedents and agreed upon interpretations. Company fails to discipline supervisors where disciplinary action is necessary and has been promised.

This catalog of grievances and their causes represents an extremely useful guide for organizations interested in a sound program to combat problems in this area. Awareness of the causes makes it relatively simple to take steps to eliminate them. For example, noting the causes for grievances in the area of supervision, the company can provide a program of supervisory training embracing the causes of supervision grievances and indicating how to avoid them. The same is in order for all the causes; sound planning for effective training can do a good deal to reduce antagonisms.

Grievance Handling Practices

Grievances, whether genuine or imaginary, require prompt attention in the form of explanation or redressal, for an unredressed grievance adversely affects an employee's morale, productivity or attitude. Therefore, immediate redressal and settlement of grievances is must. The three cardinal principles of grievance settlement are:-

- (a) settlement at the lowest level.
- (b) settlement as quickly as possible.
- (c) settlement to the satisfaction of the aggrieved.

There are three approaches documented reflecting the attitude of management and employees to handling of grievance. These are:

(1) Legalistic View Approach

Management could take a legalistic view and follow the negotiated contract. The management and the worker follow the provisions therein. Grievances are those defined by the contract, and the process for dealing with the grievances is clear to all concerned and specified with the time span for each stage.

(2) Human Relations Approach

The employee and his specific problem is the major concern. The concern is for understanding and doing something to help overcome the individuals problem, the fundamental assumption being that individuals are more important than production targets.

(3) Open door and Step ladder Approach

Channels of handling grievances should be carefully developed & its information should be disseminated amongst the employees. It is necessary that employees know the channels through which they ventilate their grievance. There are two procedures for the settlement of grievances - open - door policy and step - ladder procedure.

Some companies have an informal and open - door policy for grievances handling and employees are free to go up the top level executives with their grievances for redressal. The common remarks heard from the chief executives of such companies are:

"A formalized procedure will generate grievances, which are not real. We have an open door policy and nothing prevents employees from coming up to us with their grievances for redressal. We have practically eliminated all grievance provoking situations in our country."

In large companies open door policy is not suitable. Consequently, most companies have introduced a step - ladder procedure for the settlement of grievances.

Under step ladder procedure, an aggrieved employee will first present his grievance to the first line supervisor. If he is not satisfied with the decision of the supervisor, he presents his grievance to the second level, namely, the head of department. At the third step, a joint grievance committee reviews the grievance. Grievance still unsettled are referred to the chief executive of the company. In some cases works committees form a step in the procedure.

In all the procedures, the designation of authorities to whom grievances should be presented, the time limit for the disposal of grievances at each step, the manner in which grievances have to be presented - verbally or in writing, or on ordinary paper or on prescribed form etc are laid down, where there is a recognized union, the procedure is introduced with their concern.

Machinery for Handling Grievances

Appropriate machinery must be established to take the steps and to apply the principles of handling grievances. Responsibility must be assigned to given organization units and executives. And the systematic flow of grievances through various stages and units must be encouraged through appropriate procedural designs. Hence, grievance handling requires attention to organizational responsibility and procedures.

1. First - line Supervision:

First – line supervision should be accorded the first opportunity to handle grievances even though the final disposition must await higher authority. Otherwise, supervisors are in danger of losing any importance in the organization and the respect of their subordinates. It should be empowered to pass upon grievances within policies, rules and jurisdictional limits established by the company.

2. Staff and Middle Management Executives:

All grievances cannot be handled at the lowest levels because some involve issues or policies beyond their authority or capacity. Hence, responsibility is placed upon divisional, group, and area managers to handle grievance cases with broader implications. And these may be aided by a staff labour relations unit in three ways:-

- (i) the staff may supply line executives with advice or information on grievance handling;
- (ii) it may help executives in the processing of cases; or
- (iii) it may be given authority actually to settle certain classes of cases.

3. Top Management Levels:

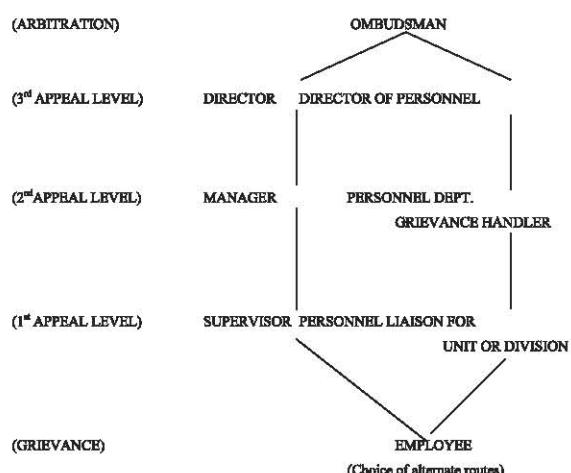
Top management has two large areas of responsibility in grievance handling. First, it must assume jurisdiction of cases which are companywide in nature or significant as precedent makers. Second, top management

must establish the broad policies and rules upon which grievance handling in the company will be based. Here again, top management may utilize the advice of a labour relations department, but the final decisions must be unequivocally accepted as its own.

4. Outside Agencies:

The use of an "ombudsman", or an independent, outside party, is suggested in Fig. 1, as the final step in resolving grievances in non-union companies.

Fig. 1 A Grievance System for the Nonunion Plant



5. Labour Union Representatives:-

And finally, in many companies, labour union representatives interact in the various organizational segments of the company. Shop and office stewards work at supervisory levels; higher level stewards and union agents work with upper management levels; and officials of union locals, business agents of unions, and representatives of national union offices work at key points of grievances cases wherever they develop.

Need for Grievance Procedure

The formal mechanism for dealing with worker's

discontentment and dissatisfaction is called the grievance procedure. The grievance - procedure is a problem solving, dispute settling machinery. It is a device by which grievances are settled, generally to the satisfaction of trade union / employee and management win - win situation instead of win - lose.

According to Mangrulkar," a grievance - procedure is essential because it brings uniformity in the handling of grievances."

A well defined and a proper grievance procedure provides:-

- (1) A channel or avenue by which any aggrieved employee may present his grievances.
- (2) A procedure which ensures that there will be a systematic handling of every grievances.
- (3) A method by which an aggrieved employee can relieve his feelings of dissatisfaction with his job, working condition or with the management, and
- (4) A means of ensuring that there is some measure of promptness in the handling of the grievance.

Grievance Redressal In Indian Industry

In Indian industry, adequate attention has not been paid to the settlement of grievances. Legislative framework only indirectly deals with the redressal of individual grievances. It consists of

1. The Industrial Employment (Standing Orders) Act, 1946: It provides that every establishment employing 100 or more workers should frame standing orders which should contain, among other matters, provision for means of redressing the workers against unfair treatment or wrongful exactions by the employer or his agents or servants.

2. The Factories Act, 1948: It provides for the appointment of welfare officers in every factory wherein 500 or more workers are ordinarily employed. These officers are generally entrusted with the task of dealing with grievances and complaints.

3. The Industrial Disputes Act, 1947: This law provides:

(i). The employer in relation to every industrial establishment in which 50 or more workmen are employed shall provide for a Grievance Settlement Authority for the settlement of industrial disputes connected with an industrial workman employed in the establishment. The provisions of this Authority shall be in accordance with rules made in that behalf.

(ii). Where an industrial dispute connected with an individual workman arises in an establishment referred to above, a workman or any trade union of workmen of which such workman is a member may refer such disputer to the Grievances Settlement Authority for settlement.

(iii). The Grievance Settlement Authority shall follow such procedure and complete its proceedings within such period as may be prescribed.

(iv). No reference shall be made to Boards, Courts or Tribunals of any dispute referred to in this section unless such dispute has been referred to the Grievance Settlement Authority concerned and the decision of the authority is not acceptable to any of the parties to the disputes.

Grievance Procedure In India

1. Grievance Procedure Under The Code Of Discipline

The need for establishing a regular Grievance Procedure in India has been felt since long for promoting peaceful and harmonious industrial relations. In May 1958, at its 16th session, the Indian Labour Conference (ILC) formulated the Code of Discipline which among others suggested a Model Grievance Procedure for speedy disposal of worker's grievances. This was done after consulting the representatives of the worker's and employer's organizations. This Code was later ratified by the central employer's and worker's organizations at this very session. The Code of Discipline, observed that a "Grievance Settlement Machinery" should be set

up in each establishment to administer the "Grievance Procedure".

So far as the scope of the grievance procedure is concerned, it was provided that the points that would constitute grievances are those relating to complaints affecting one or more individual workers regarding: wages, other payments, overtime, leave, transfer, promotion, seniority, work assignment, working conditions and interpretation of service conditions. In case the points at disputes are of general applicability or are of considerable magnitude they will fall outside the scope of the procedure. Also, the procedure will not apply when a grievance relates to discharge or dismissal of any aggrieved worker. In such cases, the worker should have a right to approach the dismissing authority or a senior authority of the management. The MGP as envisaged in the Code of Discipline is essentially time bound. Its scope was limited to complaints of one or a few workers; it did not cover the workers of the establishment as a class.

2. Essence of Model Grievance Procedure

At present, India has only a voluntary grievance procedure called the Model Grievance Procedure which was formulated in pursuance to the Code of Discipline adopted by the 16th Session of the Indian Labour Conference in 1958. Most of the grievance procedures nowadays are built after the Model Grievance Procedure with certain changes to suit individual operations, size and special requirements of an enterprise. The Model Grievance Procedure provides for five successive time-bound steps, each leading to the next in case the aggrieved worker prefers an appeal. These are as under:

(i) An aggrieved worker shall first present his grievance verbally in person to the officer designated by the management for this purpose. An answer shall be given within 48 hours of the presentation of complaint.

(ii) If the worker is not satisfied with the decision of this officer or fails to receive an answer within the stipulated period, he shall, either in person or accompanied by his departmental representative,

present his grievance to the head of the department designated by the management for the purpose of handling grievances. (For this purpose, a fixed time shall be specified during which on any working day, aggrieved worker could meet the departmental head for presentation of grievances). The departmental head shall give his answer within 3 days of the presentation of grievance.

(iii) If the decision of the departmental head is unsatisfactory, the aggrieved worker may request for the forwarding of his grievance to the Grievance Committee which shall make its recommendations to the manager within 7 days of the worker's request. Unanimous recommendations of the Grievance Committee shall be implemented by the management. In the event of difference of opinion among the members of the Grievance Committee, the views of the members, along with the relevant papers, shall be placed before the manager for final decision. In either case, the final decision of the management shall be communicated to the workman concerned by the personnel officer within 3 days from the receipt of the Grievance Committee's recommendations.

(iv) Should the decision from the management be not forthcoming within the stipulated period or should it be unsatisfactory, the worker shall have the right to appeal to management for a revision. In making this appeal, the worker, if he so desires, shall have the right to take a union official along with him to facilitate discussion with management. Management shall communicate its decision within a week of the workmen's revision petition.

(v) If no agreement is still possible the union and the management may refer the grievance to voluntary arbitration within a week of the receipt by the worker of management's decision.

In the case of any grievance arising out of discharge or dismissal of a workman, the above-mentioned procedure shall not apply. Instead, a discharged or dismissed workman shall have the right to appeal either to the dismissing authority or to a senior authority who shall be specified by

the management within a week from the date of dismissal or discharge.

Fig. 2 Model Grievance Procedure.

Procedure	Time Frame
Appeal against within a week	
Manager	3 days
Grievance Committee	7 days unanimous
HOD	3 days
Supervisor	48 hours
Foreman	
Worker	

3. Grievance Procedure And The National Commission On Labour

The National Commission on Labour 1969 (NCL) took stock of the working of the Model Grievance Procedure suggested by the Code of Discipline. The NCL more or less endorsed the broad framework of the MGP, and made certain interesting observations while suggesting its continuance. The Commission pointed out that the grievance procedure should be simple, flexible, less cumbrous, and be on the lines of the Model Grievance Procedure suggested by the Code of Discipline. It was also suggested that the procedure must be time bound and must have a limited number of steps. While illustrating the limited number of steps, the NCL observed that these could be, for example, approach to the supervisor, then to the departmental head, and thereafter a reference to the "Grievance Committee" consisting of management and union representatives. The Commission suggested that the grievance procedure should be made applicable to those establishments which employ more than 100 workers.

The Commission also suggested that the Industrial Employment (Standing Orders) Act 1946 should contain provisions defining a grievance and laying down a procedure for effecting a settlement.

The NCL further suggested that a grievance procedure should normally have three steps :

- (a) approach to the immediate superior;
- (b) appeal to the departmental head/manager and
- (c) appeal to the tripartite grievance committee representing management and the recognized union. And if the grievance is still not settled it should be referred to an arbitrator.

Conclusions and Recommendations

Grievances Procedure involves a set of formal steps through which the aggrieved employee can approach higher levels of management for redressal of his grievances. An effective grievance procedure will reduce the incidence of dissatisfaction amongst employees and may even prevent work interruptions. The best way to "handle" a grievances is to develop a work environment in which grievances don't occur in the first place. Because of this, constructing grievance handling depends first on your ability to recognize, diagnose and correct the causes of potential employee dissatisfaction before they become formal grievances. For this, you will have apply many of the techniques. For example ask: "Am I an active listener?" "Do I let employees express their points of view without interruption?" "Am I sensitive to the needs of the employees as well as the rules of the organisation?" "Do I deal with employees as individuals?" and so forth.

The main function of the grievance procedure should be to maintain the employees' commitment to work and prevent the individual or small group dissatisfaction snowballing into collective Industrial disputes that may involve the total work force. Grievance Procedure should be widely publicized through house magazines, notice board, work shops and personal contacts. The Grievance Procedure should be in a language understood by employees. Grievances should be resolved at the level at which it occurs because often grievances tend to change in character and content and develop various over tones as they move up the step ladder. The companies should vest front line managers with the main

responsibility of handling grievances instead of the influence of unions on the shop - floor workers.

It needs to be stressed that even after settling all grievances, more grievances will come up and call for attention. This is a process arising from the law of nature. Like pain, sorrow or illness, grievance in some form or the other continue to come up as man lives and works in an imperfect society. But the point is that efforts should continue through better management of resources to relieve the employee of his anxiety, distrust and fear in the work setting.

End Notes

1. Beach, Dale S : Personnel Management, p.583
2. Flippo, Edwin B: Personnel Management, p.430
3. Pankal, J.A.: Dynamics of Industrial Relations in India, p.274
4. U.S. Department of Labor, *Settling Plant Grievances*, Division of Labor Standards, Bulletin No. 60 (Washington, D.C.) p.1-8

References

1. Asdhir, Vijay: Management of Industrial Relations, Kalyani Publishers, New Delhi, 1993.
2. Beach, Dale S: Personnel Management, Mac millian Publishing Company, New York, 1985.
3. Chandra, S : Grievance Procedure : A Survey of Practices in Industries in India

(Administrative Staff College of India, Hyderabad, 1968).

5. Choudhary, M.S. : Collective Bargaining in India, Spellbound Publications Pvt. Ltd., Rohtak, 1996.
6. Dessler, Gary : Personnel Management - Modern Concepts and Techniques, Prentice Hall Company, Seventh Edition.
7. Flippo, Edwin B. : Personnel Management , Mc Graw Hill, New York, 1984.
8. Jucius, Michael J. : Personnel Management, Richard D. Irwin, INC, Printed in USA, Seventh Edition, 1971.
9. Mamoria, C.B. & Mamoria, S.: Industrial Relations in India, Himalaya Publishers, New Delhi, 1995.
10. Pankal, J.A. : "Grievance Procedure : Some significant aspects." in Dynamics of Industrial Relations in India, Tata Mc Graw Hill, Delhi, 1974.
11. Prasad, Lallan : Personnel Management and Industrial Relations in the Public Sector, Progressive Corporation Private Ltd. , Bombay, 1973.
12. Rao, VSP : Human Resource Management - Text and Cases, Excel Books, New Delhi, 2001.
13. Saini, Debi S.: "Redressal of Labour Grievances, Claims and Disputes," Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi, 1994.
14. Selekman, Benjamin M. : Labour Relations and Human Relations, Mc Graw - Hill Book Company, New York, 1970.
15. Yoder, Dale & Staudohar, Paul D.: Personnel Management and Industrial Relations, Prentice Hall of India Private Limited, New Delhi, Seventh Edition.

On Property (GR)

Dr Anuradha Gupta

Abstract-In this paper we introduce and study property (GR) for bounded linear operators defined on a Banach space related to Weyl type Theorems.

2010 Mathematics Subject Classification: 47A10, 47A11, 47B47

Keywords: Generalized a -Browder's theorem, Property (GR), property (R) a -polaroid operators, polaroid, property (gb).

1. Introduction

Throughout this paper, X denotes an infinite-dimensional complex Banach space and $B(X)$, the algebra of all bounded linear operators on X . for $T \in B(X)$, let T^* , $N(T)$, $R(T)$, $\sigma(T)$ and $\sigma_a(T)$ denote the adjoint, null space, the range, the spectrum and approximate point spectrum of T , respectively.

If $\alpha(T) := \dim \ker T < \infty$ and $R(T)$ is closed then $T \in B(X)$ is said to be upper semi-Fredholm operator while $T \in B(X)$ is lower semi-Fredholm if $\beta(T) := \text{codim } R(T) < \infty$. The index of semi-Fredholm operator is defined as $\text{ind } T := \alpha(T) - \beta(T)$. An operator $T \in B(X)$ is said to be semi-Fredholm operator if T is either as upper or a lower semi-Fredholm operator. Let $\phi(X)$, $\phi_+(X)$ and $\phi_-(X)$ denote the classes of Fredholm operators, upper semi-Fredholm operators and lower semi-Fredholm operators, respectively.

An operator T is called Weyl if it is a Fredholm operator of index zero. For

$T \in B(X)$, let

$$W_+(X) = \{T \in \phi_+(X) : \text{ind } T \leq 0\},$$

$$W_-(X) = \{T \in \phi_-(X) : \text{ind } T \geq 0\}$$

The class of Weyl operators $W(X) := W_+(X) \cap W_-(X) = \{T \in \phi(X) : \text{ind } T = 0\}$.

These classes of operators generate the following spectra:

The Weyl spectrum

$$\sigma_w(T) := \{\lambda \in \mathbb{C} : T - \lambda I \notin W(X)\},$$

the upper semi-Weyl spectrum (or Weyl essential approximate spectrum)

$$\sigma_{uw}(T) := \{\lambda \in \mathbb{C} : T - \lambda I \notin W_+(X)\},$$

the lower semi-Weyl spectrum (or Weyl essential surjective spectrum)

$$\sigma_{lw}(T) := \{\lambda \in \mathbb{C} : T - \lambda I \notin W_-(X)\},$$

obviously $\sigma_w(T) = \sigma_{uw}(T) \cup \sigma_{lw}(T)$ and from classical Fredholm theory we have

$$\sigma_{uw}(T) := \sigma_{lw}(T^*), \sigma_{lw}(T) = \sigma_{uw}(T^*)$$

For an operator $T \in B(X)$, the ascent is defined as $p := p(T) = \inf\{n \in \mathbb{N} : \ker T^n = \ker T^{n+1}\}$ while the descent is defined as $q := q(T) = \inf\{n \in \mathbb{N} : T^n(X) = T^{n+1}(X)\}$. If $p(T)$ and $q(T)$ are both finite, then

$p(T) = q(T)$. If $0 < p(T - \lambda I) = q(T - \lambda I) < \infty$, then λ is a pole of the resolvent of T . The class of all upper semi-Browder operator is defined as

$B_+(X) := \{T \in \phi_+(X) : p(T) < \infty\}$, the class of lower semi-Browder operator is defined as

$B_-(X) = \{T \in \phi_-(X) : q(T) < \infty\}$. The class of all Browder operators is

$B(X) := B_+(X) \cap B_-(X) = \{T \in \phi(X) : p(T) = q(T) < \infty\}$.

Evidently

Dr. Anuradha Gupta, Associate professor, Delhi college of Arts and commerce (University of Delhi). Her field of specialization is in 'Theory of operators'. She has a teaching experience of 22 years(under graduate and post graduate students). 12 research papers in various international and national journals and 3 books have been published so far.

$B(X) \subseteq W(X)$, $B_+(X) \subseteq W_+(X)$, $B_-(X) \subseteq W_-(X)$.

The definitions lead us to the following spectra:

The Browder spectrum

$$\sigma_b(T) = \{\lambda \in C : T - \lambda I \notin B(X)\};$$

the upper semi-Browder spectrum is defined by

$$\sigma_{ub}(T) = \{\lambda \in C : T - \lambda I \notin B^+(X)\}$$

For $T \in B(X)$ and a non-negative integer n , define T_n to be the restriction of T to $R(T^n)$ viewed as a map from $R(T^n)$ onto $R(T^n)$ (in particular $T_0 = T$). If for some integer n the range space $R(T^n)$ is closed and T_n is an upper (resp., a lower) semi-Fredholm operator, then T is called an upper (resp., a lower) semi-B-Fredholm operator. In this case the index of T is defined as the index of the semi-B-Fredholm operator. Moreover, if T_n is a Fredholm operator, then T is called B-Fredholm operator. An operator $T \in B(X)$ is said to be a B-Weyl operator if it is a B-Fredholm operator of index zero. Let $SBF_{\pm}(X)$ be the class of all upper semi-B-Fredholm operators.

$$SBF_{\pm}(X) = \{T \in SBF_{\pm}(X) : \text{ind}(T) \leq 0\}$$

This generates the following spectra:

The upper B-Weyl spectrum of T

$$\sigma_{SBF_{+}}(T) = \{\lambda \in C : T - \lambda I \notin SBF_{+}(X)\}$$

The B-Weyl spectrum

$$\sigma_{BW}(T) = \{\lambda \in C : T - \lambda I \text{ is not B-Weyl operator}\}.$$

An operator $T \in B(X)$ is called Drazin invertible if it has a finite ascent and descent. The Drazin spectrum $\sigma_D(T)$ of an operator T is defined by

$$\sigma_b(T) := \{\lambda \in C : T - \lambda I \text{ is not Drazin invertible}\}.$$

Define $LD(X) := \{T \in B(X) : p(T) < \infty \text{ and } R(Tp(T)+1) \text{ is closed}\}$ and

$$\sigma LD(T) = \{\lambda \in C : T - \lambda I \in LD(X)\}$$

we say $\lambda \in \sigma_s(T)$ is left pole of T if $T - \lambda I \in LD(X)$ and $\lambda \in \sigma_s(T)$ is a left pole of T of finite rank if λ is a left pole of T and $0 < \alpha(T - \lambda I) < \infty$. Let $\pi^*(T)$ denote the set of all left poles of T and $\pi^{*0}(T)$ denote the set of all left poles of finite rank.

Let $\pi(T)$ be the set of all poles of the resolvent of T and $\pi^0(T)$ be the set of all poles of the resolvent of T of finite rank. It is obvious that λ is a pole of T if and only if λ is both a left and a right pole of T .

In fact, if λ is a pole of T then $\lambda I - T$ is Drazin invertible, so $\lambda I - T$ is both left and right Drazin invertible. Moreover λ is both left and right pole of T , since $0 < p(\lambda I - T) = q(\lambda I - T) < \infty$ entails that $\lambda \in \sigma_s(T)$ as well as $\lambda \in \sigma_s(T)$.

A bounded linear operator $T \in B(X)$ is said to be left polaroid if every isolated point of $\sigma_s(T)$ is a left-pole of the resolvent of T . $T \in B(X)$ is said to be right polaroid if every isolated point of $\sigma_s(T)$ is a right pole of the resolvent of T . $T \in B(X)$ is said to be polaroid if every isolated point of $\sigma(T)$ is a pole of the resolvent of T . A bounded linear operator $T \in B(X)$ is said to be a-polaroid if every $\lambda \in \text{iso } \sigma_s(T)$ is a pole of the resolvent of T [2]. Thus,

T a polaroid $\Rightarrow T$ left polaroid
and

T a polaroid $\Rightarrow T$ polaroid.

If $T \in B(X)$. Define

$$E(T) := \{\lambda \in \text{iso } \sigma(T) : 0 < \alpha(T - \lambda I)\},$$

$$E_0(T) := \{\lambda \in \text{iso } \sigma(T) : 0 < \alpha(T - \lambda I) < \infty\}.$$

Then, for every $T \in B(X)$

$$\pi_0(T) \subset \pi(T) \subset E(T) \subset E^*(T) \text{ and } \pi_0(T) \subset \pi^{*0}(T) \subset E^{*0}(T).$$

We say that Weyl's theorem holds for T if $\sigma(T) \sim \sigma_w(T) = E_0(T)$; generalized Weyl's theorem holds for T if $\sigma(T) \sim \sigma_{BW}(T) = E(T)$; a-Weyl's theorem holds for T if $\sigma_s(T) \sim \sigma_{uw}(T) = E_s 0 (T)$; generalized a-Weyl's theorem holds for T , if $\sigma_s(T) \sim \sigma SBF_{\pm}(T) = E_s(T)$; Browder's theorem holds for T if $\sigma(T) \sim \sigma_w(T) = \pi 0(T)$; a-Browder's theorem holds for T if $\sigma a(T) \sim \sigma_{uw}(T) = \pi_s 0 (T)$; generalized a-Browder's theorem if

$\sigma_s(T) \sim \sigma SBF_{\pm}(T) = \pi a(T)$. Property (w) holds if $\sigma(T) \sim \sigma_{uw}(T) = E_0(T)$ Property (gw) holds if $\sigma a(T) \sim \sigma SBF_{\pm}(T) = E(T)$.

The following property has important role in local spectral theory [1]

Definition 1.1. Let X be a complex Banach space and $T \in B(X)$. The operator T is said to have the

single valued extension property $\lambda_0 \in C$ (abbreviated SVEP at λ_0), if for every open disc D of λ_0 , the only analytic function $f : D \rightarrow X$ which satisfies the equation $(\lambda I - T)f(\lambda) = 0$ for all $\lambda \in D$ is the function $f \equiv 0$.

An operator $T \in B(X)$ is said to have SVEP if T has SVEP at every point $\lambda \in C$. Evidently, $T \in B(X)$ has SVEP at every isolated point of the spectrum. we have

$$p(\lambda I - T) < \infty \Rightarrow T \text{ has SVEP at } \lambda, \quad (1)$$

and

$$q(\lambda I - T) < \infty \Rightarrow T^* \text{ has SVEP at } \lambda. \quad (2)$$

Furthermore,

$$\sigma_a(T) \text{ does not cluster at } \lambda \Rightarrow T \text{ has SVEP at } \lambda, \quad (3)$$

$$\sigma_a(T) \text{ does not cluster at } \lambda \Rightarrow T^* \text{ has SVEP at } \lambda \quad (4)$$

All implication (1)-(4) are equivalent whenever $T - \lambda I$ is a semi B-Fredholmoperator.

In [4] the property (R) is defined and studied for bounded linear operator.

An operator $T \in B(X)$ satis_es property (R) if $\pi_0^*(T) = E_0(T)$. It means T satisfies property (R) if the isolated points of the spectrum $\sigma(T)$ of T which are eigenvalues of finite multiplicity are exactly those points λ of the approximate point spectrum for which $\lambda I - T$ is upper semi-Browder. It is shown left property (R) is strictly related to property (w) introduced by Rakocevic in [13] and more extensively studied in recent papers ([3], [1]). In this paper our aim is to introduce property (GR) which in related to generalized a-Browder's Theorem. We shall study this property using a localized version of the single-valued extension property and in the framework of a-polaroid operators.

2. Property (GR)

We say an operator $T \in B(X)$ satisfies property (GR) if $\pi_a(T) = E(T)$ holds.

The next result shows that property (GR) can be studied as half of the property (gw) in the

following way:

Theorem 2.1. T satisfies property (gw) if and only if generalised a-Browder's theorem holds for T and T has property (GR).

The following example is given in support of Theorem 2.1:

Example 2.2. Let $R \in B(\ell^2(N))$ be the unilateral right shift and U defined by

$$U(x_1, x_2, \dots) := (0, x_2, x_3, \dots), (x_n) \in \ell^2(N).$$

If $T = R \oplus U$ then $\sigma(T) = D(0, 1)$ the closed unit disc in C , iso $\sigma(T) = \phi$, $E(T) = \phi$ and $\sigma_a(T) = C(0, 1) \cup \{0\}$ where $C(0, 1)$ is unit circle in C .

$\sigma_{SBF^-}(T) = C(0, 1)$ Thus, $\sigma_a(T) \sim \sigma_{SBF^-}(T) = \{0\} \neq E(T)$. Property (gw) and property (GR) are not satisfied, but T satisfies generalised a-Browder's Theorem.

Theorem 2.3. If T satisfies property (GR) and $N(T - \lambda I) < \infty$ for all $\lambda \in \text{iso } \sigma(T)$, Then T satisfies property (R).

The following example shows that property (R) is weaker than property (GR).

Example 2.4. Let $T \in B(\ell^2(N))$ be the weighted right shift operator defined by

$$T(x_1, x_2, \dots) := (0, x_{1/2}, x_{2/3}, \dots), \text{ for all } x = (x_1, x_2, \dots) \in \ell^2(N)$$

Then $\sigma_a(T) = \{0\}$, $\pi_a^*(T) = \phi$, $E_0(T) = \{0\}$.

Then T does not satisfy property (R). But $\pi_a(T) = \{0\} = E(T)$. So T satisfies property (GR).

Theorem 2.5. If $T \in B(X)$, then

(i) T satisfies property (GR) if and only if $E(T)$ coincides with the set of left poles of T .

(ii) T^* satisfies property (GR) iff $E(T_-)$ coincides with the set of right poles of T .

(iii) T satisfies property (GR) then $E(T) = \pi(T)$

Proof. (i) and (ii) follow from the definitions

(iii) we know $\pi(T) \subset E(T)$ for all $T \in B(X)$. To show the opposite inclusion, suppose that T satisfies property (GR) and let $\lambda \in E(T) = \pi_a(T)$ then $p(T - \lambda I) < \infty$. Since $\lambda \in \text{iso } \sigma(T)$, then T^* has SVEP at λ [1, Theorem 2.47] and $\lambda I - T$ is upper semi-Browder and $q(\lambda I - T) < \infty$. Thus, λ is a pole of the resolvent of T . Thus, $\lambda \in \pi(T)$. Hence $E(T) = \pi(T)$.

$=\pi(T)$. The quasi nilpotent part $H_0(T - \lambda I)$ of $(T - \lambda I)$ of $(T - \lambda I)$ is defined by

$$H_0(T - \lambda I) = \{x \in X : \lim_{n \rightarrow \infty} \|(T - \lambda I)^n x\|^{1/n} = 0\}$$

Theorem 2.6. An operator $T \in B(X)$ satisfies property (GR) if and only if the following two conditions hold:

$$(i) \pi_a(T) \subseteq \text{iso } \sigma(T)$$

$$(ii) \dim H_0(T - \lambda I) < \infty \text{ for all } \lambda \in E(T).$$

Proof. Let T satisfies property (GR) them $E(T) = \pi_a(T) \subseteq \text{iso } \sigma(T)$ and by Theorem 2.5 $E(T) = \pi(T)$. Let $\lambda \in \pi^*(T) \Rightarrow \lambda \in \text{iso } \sigma_a(T)$ then using [1, Theorem 2.47], $T - \lambda I \in \phi_+(X)$ and hence by [13, Theorem 6], $\dim H_0(T - \lambda I) < \infty$.

Conversely, Let $\lambda \in \pi^*(T) \subset \text{iso } \sigma(T) \subset \text{iso } \sigma_a(T)$, $0 < \alpha(T - \lambda I)$, then $\pi^*(T) \subset E(T)$. Let $\lambda \in E(T)$ T has SVEP at λ and using (ii) and [1, Theorem 2.47] λ is a left pole of T . Thus $\lambda \in \pi^*(T)$. Thus, $E(T) \subset \pi^*(T)$.

The following example shows that Weyl's theorem and property (GR) are independent.

Example 2.7. Let L and R be left shift and right shift operators on $\ell^2(\mathbb{N})$ respectively. Define $T = L \oplus R$, then $\alpha(T) = \beta(T) = 1$ and $p(T) = \infty$. Therefore, $0 \notin \sigma_w(T)$ but $0 \in \sigma_b(T)$. So Weyl's theorem and Browder's theorem do not hold for T . On the other hand $\sigma(T) = D(0, 1)$ so $E(T) = \emptyset$ and $\sigma_a(T) = \sigma_u(T) = C(0, 1)$, the unit circle. Thus $\pi^*(T) = \emptyset = \pi_b^*(T)$. Hence, $E(T) = \pi^*(T)$ and $E_0(T) = \pi_b^*(T)$. The property (R) and (GR) hold for T .

The following result shows that generalized a-Browder's theorem with property (GR) entails generalized a-Weyl's theorem.

Theorem 2.8. If $T \in B(X)$ satisfies both generalized a-Browder's theorem and property (GR), then T satisfies generalized a-Weyl's theorem.

Proof. Since T satisfies generalized a-Browder's theorem and property (GR), therefore,

$$\sigma_a(T) \sim \sigma_{\text{SBF}_+}(T) = \pi^*(T) = E(T) = \pi(T)$$

Let $\lambda \notin \sigma_{\text{SBF}_+}(T)$ and $\lambda \in E^*(T)$ then $\lambda \in \text{iso } \sigma_a(T)$ and $T - \lambda I \in \phi_+(X)$, and T^* has SVEP at λ . Thus $\sigma_a(T) = \sigma(T)$. Thus $E^*(T) = E(T)$. Thus, $E^*(T) = \pi^*(T)$. By [7] generalized a-Weyl's Theorem holds for T .

An operator T is said to have property (gb) if

$$\sigma_a(T) \sim \sigma_{\text{SBF}_+}(T) = \pi(T)$$

introduced and studied in [11]. The following examples are given in support of Theorem 2.8. The following examples show that property (gb) and (GR) are independent.

Example 2.9. Let $T \in B(\ell^2(\mathbb{N}))$ be the weighted right shift defined by $T(x_1, x_2, \dots) = (0, x_{1/2}, x_{2/3}, \dots)$ for all $\{x_n\} \in \ell^2(\mathbb{N})$, $\sigma_a(T) = \sigma_{\text{SBF}_+}(T) = \{0\}$, $\pi(T) = \emptyset$. Therefore, $\sigma_a(T) \sim \sigma_{\text{SBF}_+}(T) = \emptyset$, $\pi^*(T) = \{0\} = E(T)$. Then T satisfies property (gb) and property (GR) but not generalized a-Browders theorem.

Example 2.10. Let $R \in B(\ell^2(\mathbb{N}))$ be the unilateral shift and

$$U(x_1, x_2, \dots) = (0, x_2, x_3, \dots)$$

for all $(x_n) \in \ell^2(\mathbb{N})$. If $T = R \oplus U$, then $\sigma(T) = D(0, 1)$ so $\text{iso } \sigma(T) = E(T) = \emptyset$. T is polaroid. Moreover, $\sigma_a(T) = C(0, 1) \cup \{0\}$ where $C(0, 1)$ is the unit circle. $\sigma_u(T) = C(0, 1)$. Therefore, $\sigma_a(T) \sim \sigma_u(T) = \{0\} = \pi^*(T)$. But $\pi_a(T) \neq E(T)$. Thus T satisfies neither property (gb) nor (GR).

The following result shows if T^* has SVEP at every $\lambda \notin \sigma_{\text{SBF}_+}(T)$. Then the property (GR), generalized a Browder Theorem, property (gw) and property (gab) are all equivalent.

Theorem 2.11. Let $T \in B(X)$ has SVEP at every $\lambda \notin \sigma_{\text{SBF}_+}(T)$. Then the following statements are equivalent:

$$(i) E(T) = \pi(T)$$

$$(ii) E^*(T) = \pi^*(T)$$

$$(iii) E(T) = \pi^*(T)$$

Consequently property (GR), property (gw),

generalized a-Browder's theorem, generalized a-Weyl's theorem are equivalent for T .

Proof. By [10, Theorem 2.4] we get

$$\sigma(T) = \sigma_a(T), \sigma_{\text{BW}}(T) = \sigma_{\text{SBF}_+}(T)$$

and

$$\pi^*(T) = \sigma_a(T) \sim \sigma_{\text{SBF}_+}(T)$$

$$= \sigma_a(T) \sim \sigma_{\text{BW}}(T)$$

$$= \pi(T)$$

$$(i) \Rightarrow (ii) E(T) = \pi(T) = \pi^*(T) \text{ and } E(T) = E^*(T).$$

$$\text{Thus } E^*(T) = \pi^*(T).$$

$$(ii) \Rightarrow (iii) E(T) = E^*(T) = \pi^*(T) = \pi(T)$$

$$(iii) \Rightarrow (i) E(T) = E^*(T) = \pi^*(T).$$

Dually, we have

Theorem 2.12. Suppose that T has SVEP at $\lambda \notin \sigma_{\text{SBF}_+}(T)$. Then the following statements are equivalent.

$$(i) E(T^*) = \pi(T^*);$$

$$(ii) E^*(T^*) = \pi^*(T^*);$$

$$(iii) E(T^*) = \pi^*(T^*);$$

Consequently, property (GR), property (gw), generalized a-Browder's theorem, generalized a-Weyl's theorem. are equivalent for T^*

3. Property (GR) for Polaroid Operators

This section is devoted to the classes of operators for which the isolated points of the spectrum are poles of the resolvent. We know that if T^* has SVEP, then $\sigma(T) = \sigma_a(T)$

Therefore,

T a polaroid $\Leftrightarrow T^*$ polaroid.

If T has SVEP, then

T^* a polaroid $\Leftrightarrow T^*$ polaroid $\Leftrightarrow T$ polaroid.

Theorem 3.1. If $T \in B(X)$ is a-polaroid, then T satisfies property (GR).

Proof. Let $\lambda \in \pi^*(T)$ then $\lambda \in \text{iso } \sigma_a(T)$. Since T is a-polaroid, therefore λ is a pole of the resolvent and hence an isolated point of $\sigma(T)$. Also $0 < \alpha(T - \lambda)$

I). Then, $\lambda \in E(T)$. Conversely, let $\lambda \in E(T)$ then $\lambda \in \text{iso } \sigma(T) \subset \text{iso } \sigma_a(T)$. Thus, λ is a pole of the resolvent of T . Hence $\lambda \in \pi^*(T)$. Hence $E(T) = \pi^*(T)$.

The Theorem 3.1 does not hold in case of weaker condition of being T polaroid. This is shown in the following example.

Example 3.2. Let $R \in B(\ell^2(N))$ be the unilateral right shift defined as

$R(x_1, x_2, \dots) := (0, x_1, x_2, \dots)$ for all $(x_n) \in \ell^2(N)$, and

$U(x_1, x_2, \dots) := (0, x_2, x_3, \dots)$ for all $(x_n) \in \ell^2(N)$.

If $T := R \oplus U$ then $\sigma(T) = D(0, 1)$, so $\text{iso } \sigma(T) = \emptyset$.

Moreover, $\sigma_a(T) = C(0, 1) \cup \{0\}$, $C(0, 1)$ is the unit circle, so $\text{iso } \sigma_a(T) = \{0\}$. $p(T) = P(R) + P(U) = 1$. 0 is a left pole. But $q(T) = q(R) + q(U) = \infty$.

So T is not a-polaroid, T is polaroid.

$E(T) = \emptyset$, $\pi^*(T) = \{0\}$. Thus property(GR) is not satisfied.

Let $T \in B(X)$ and let $f \in H(\sigma(T))$, where if $H(\sigma(T))$ is the space of functions analytic in an open neighborhood of $\sigma(T)$, Such that f is non-constant on each of the components of its domain. Define by the classical functional calculus, $f(T)$ for every $f \in H(\sigma(T))$

Theorem 3.3. Suppose that $T \in B(X)$ is polaroid and $f \in H(\sigma(T))$.

(i) If T^* has SVEP, the property (GR) holds for $f(T)$, or equivalently property (gw), generalized a-Weyl's theorem, generalized a-browner's theorem hold for $f(T)$.

(ii) If T has SVEP, then property (GR) holds for $f(T^*)$, or equivalently property (gw), generalized a-Weyl's theorem, generalized a-Browder's theorem hold for $f(T^*)$.

Proof. (i) By [2, Theorem 3.11], $f(T)$ is polaroid and $f(T^*)$ has SVEP [1, Theorem 2.40]. Hence, $f(T)$ is a-polaroid. By Theorem 3.1 $f(T)$ has property(GR). Using Theorem 2.11, property (gw), generalized a-Weyl's theorem, generalized a-Browder's theorem hold for $f(T)$.

(ii) We know T^* is polaroid and hence $f(T^*)$ is polaroid [2, Lemma 3.11],
 $f(T)$ has SVEP [1, Theorem 2.40] and $f(T^*)$ is a polaroid, By Theorem 3.1,
 $f(T^*)$ has property (GR). Thus by Theorem 2.12, property (gw), generalized
a-Weyl's theorem, generalized a-Browder's theorem hold for $f(T^*)$.

References

- [1] P. Aiena, Fredholm and Local Spectral Theory with Applications to Multipliers, Kluwer Acad. Pub., 2004.
- [2] P. Aiena, E. Aponte and E. Bazan, Weyl Type theorems for left and right polaroid operator, *Int. Equa. Oper. Theory*, 66(2010), 1-20.
- [3] P. Aiena, J. Guillen and P. Pena, Property (w) for perturbations of polaroid operators, *Linear Algebra and its Appl.*, 428(2008), 1791-1802.
- [4] P. Aiena, J. R. Guillen and P. Pena, Property (R) for bounded linear operators, *Mediterr J. Math.* (2011), preprint.
- [5] P. Aiena and P. Pena, A variation on Weyl's theorem, *J. Math. Anal. Appl.*, 324(2006), 566-579.
- [6] P. Aiena and F. Villfane, Weyl's theorem for some classes of operators, *Int. Equa. Oper. Theory*, 53(2005), 453-466.
- [7] P. Aiena and T. L. Miller, On generalised a-Browder's theorem, *Studia Math.*, 180 (3)(2007), 285-300.
- [8] M. Amouch, Polaroid operators with SVEP and perturbations of property (gw), *Mediterr. J. Math.*, 6(2009), 461-470.
- [9] M. Amouch and M. Berkani, On the property (gw), *Mediterr. J. Math.*, 5(2008), 371-378.
- [10] M. Berkani, M. Sarih and H. Zariouh, Browder type theorems and SVEP, *Mediterr. J. Math.*, (2010), 399-409.
- [11] M. Berkani and H. Zariouh, New extended Weyl type theorems, *Math. Vesnik*, 62(2010), 145-154.
- [12] K.B. Laursen and M.M. Neumann, *Introduction to local spectral theory*, Clarendon Press, Oxford, 2000.
- [13] V. Rekocevic, On a class of operators, *Math. Vesnik*, 37(1985), 423-426.
- [14] C. Schmoeger, On isolated Points of the spectrum of bounded linear operators, *Proc Amer. Math. Soc.*, 117(3)(1993).

Media Convergence and its impact on Media Environment

Dr. Rabindranath Manukonda

Abstract-The new technologies are changing the way we perceive people, cultures, countries and companies and our expectations of them and also our expectations of ourselves. The roots of network convergence can be traced to the advent of digital communications, which reduced information into discrete, identifiable and thus, more easily transferable pieces of information. With blurring of geographical boundaries, thanks to the distance insensitive Internet, majority of business and individual are becoming part of a high-speed networking fabric which will enable secure digital communication of voice, data, and video to or from anyone, anywhere and anytime. Convergence is the key today. We can think about convergence in several different ways. Technology convergence signifies the move towards common networking technologies that satisfy both LAN and WAN requirements. Convergence of media platforms and services is now a feature of all established media, as well as being a core feature of new media. The globalisation of media platforms, content and services is also a critical feature of the convergent media environment. The convergence in India has arrived faster than expected. The rise of social media and the shift in the nature of audiences towards a more participatory media culture is associated with greater user control over their individual media environment. The increasingly competitive environment in the multimedia industry promises tremendous user benefits through increased savings in time, greater choice, and an explosion of innovative media services and products. This paper discusses in detail about Media Convergence and it reflects the impact of convergence on media environment.

The Gutenberg era is over and a new digital communications technology has emerged. An electronic superhighway is beginning to girdle the globe as voice, video and data converge, bringing in their wake a new basket of digital, multimedia and interactive communication technologies. It is not only the technology it is the social change that accompanies the technologies that must be our prime concern. They are changing the way we live-the way we work, relax, manage our money, trade and communicate with each other. The new technologies are changing the way we perceive people, cultures, countries and companies and our expectations of them and also our expectations of ourselves.

Convergence has been defined as- the

interlinking of computing and ICTs, communication networks, and media content that has occurred with the development and popularisation of the Internet, and the convergent products, services and activities that have emerged in the digital media space. Many see this as simply the tip of the iceberg, since all aspects of institutional activity and social life-from art to business, government to journalism, health and education, and beyond-are increasingly conducted in this interactive digital media environment, across a plethora of networked ICT devices.

Graham Meikle and Sherman Young observe that convergence can be understood in four dimensions:

Dr. Rabindranath Manukonda: MSc; LLM; MJMC; PhD- Journalism& Mass Communication. NET- Journalism and Mass Communication-1999 SLET- Journalism and Mass Communication-1997 SLET-LAW-1999 Post Graduate Diploma in Human Rights and Social Development. Post Graduate Diploma in Industrial Relations and Personnel Management. Positions Held: Coordinator - Department of Communication and Journalism, Yogi Vemana University, Kadapa, Andhra Pradesh. Convenor-Board of Studies-Department of Communication and Journalism, Yogi Vemana University, Kadapa, Andhra Pradesh. Specialization: Advertising, Public Relations & News Reporting

- Technological-the combination of computing, communications and content around networked digital media platforms;
- Industrial-the engagement of established media institutions in the digital media space, and the rise of digitally-based companies such as Google, Apple, Microsoft and others as significant media content providers;
- Social-the rise of social network media such as Facebook, Twitter and YouTube, and the growth of user-created content; and
- Textual-the re-use and remixing of media into what has been termed a 'transmedia' model, where stories and media content (for example, sounds, images, written text) are dispersed across multiple media platforms.

The roots of network convergence can be traced to the advent of digital communications, which reduced information into discrete, identifiable and thus, more easily transferable pieces of information. Network convergence utilizes this attribute of digital communication to efficiently and effectively distribute different types of information- voice, video and data on the same communication network.

The New Paradigm

With blurring of geographical boundaries, thanks to the distance insensitive Internet, majority of business and individual are becoming part of a high-speed networking fabric which will enable secure digital communication of voice, data, and video to or from anyone, anywhere and anytime. Customers now want to pick and chose from narrowcast and broadcast. They want a fusion of voice, data, and video in all possible mixes. In other words, this means the availability of multiple technology choices to fulfil the customer's desire for anytime access to people, information, and commerce. In fact, it leaves enough room for many technologies to co-exist and one will not replace the other outright. This is because no one technology can meet all the requirements of the market-place. Hence, each technology will find its niche and redefine new and old classes of service and user terminals.

Convergence is the key today. We can think about

convergence in several different ways. One is in terms of the actual industries converging, such as communication, entertainment, and computing. Another is converging voice, video, and data over a common infrastructure or within a common computing platform. The PC today is a collaborative communication and media tool. Another factor driving convergence is the cost of maintaining three separate networks for voice, video, and data.

Payload convergence is that aspect of converged networking wherein different data types are carried in the same communication format. Protocol convergence is the movement away from multi-protocol to single protocol (typically IP) networks. Physical convergence occurs when payloads travel over the same physical network equipment regardless of their service requirements. Device convergence means the trend in network device architecture to support different networking paradigms in single system. Application convergence represents the appearance of applications that integrate formerly separate functions. For example: Web browsers allow the incorporation of plug-in applications that allow web pages to carry multimedia content such as audio, video, high-resolution graphics, virtual reality graphics and interactive voices. Technology convergence signifies the move towards common networking technologies that satisfy both LAN and WAN requirements. For example, ATM can be used to provide both LAN and WAN services. At the technical level, digital transmission has the potential to deliver integrated interactive text, video, voice and data to a mass audience what we might call 'real multimedia'. However, historically each part of the spectrum and mode of transmission became associated with a different form of communication: point-to-point communication became the province of the telephone, and wireless transmission became associated with broadcast news and entertainment. Digital compression allows point-to point communication to be conducted increasingly by advanced forms of radio transmission.

Digitisation of media products and services

Associated with rapidly increasing internet usage by consumers and business is the digitisation of all media products and services. It is estimated that 48 hours of video are uploaded every minute onto YouTube, and three billion videos are viewed every day worldwide from that site alone. The Apple iTunes store now sells almost 10 million songs a day, making it by far the major music retailer worldwide. People were directly employed in occupations related to the internet, ranging from internet hardware and software industries to online information services, IT software and consulting, online advertising, government and e-commerce activities.

Convergence of media platforms and services
Convergence of media platforms and services is now a feature of all established media, as well as being a core feature of new media. All the media organisations, their digital content services are now very much at the heart of their news operations, and these patterns are intensifying.

- Media policy needs to be premised upon content abundance and increased media competition, rather than upon distribution scarcity and monopolistic or oligopolistic media markets;
- Technological changes generate new challenges for maintaining technology-neutral or network-neutral media regulations;

Globalisation of media platforms, content and services The globalisation of media platforms, content and services is also a critical feature of the convergent media environment. At the same time, local audiences have frequently displayed a preference for culturally relevant local media content where it is available. What has changed has been the extent to which digital media content can be sourced, distributed and accessed from any point in the world to any other point in the world. This has led to the rise of media platforms and content distributors such as YouTube, Facebook, Twitter and Apple iTunes that sit across national jurisdictions.

The convergence in India has arrived faster than expected. The convergence would help in web

casting, video on demand and internet via cable. The optical fibre cable carries more bandwidth resulting in more signals being carried with superior clarity, the cable companies are expected to rule the roost due to investments made by them in the cable networks. The up gradation of cable network (optical fibre) and the cable operators deliver the cable and satellite channels to the consumers. With more and more channels going pay to air, would open up subscription revenue for the broadcasters. In future it will emerge a major source of revenue and much larger than the advertisement revenue stream. The channel will be carried on two platforms - Direct to Operator (DTO) and Direct to Home (DTH). Both the services have user addressability in ear of convergence.

Direct To Home (DTH) It offers an alternative to the DTO service addressing superior reception with advance level of multi channel subscription revenue for broadcaster. The digitized channels are broadcast using the Ku. The consumers have the option to receive more than one signal which are down linked by the consumer directly by using dish antenna at their home. DTH can broadcast more than 600 channels using IRD, which ensures conditional access on payment of subscription. The growth of Cable and Satellite has opened a new vista for the Indian media sector after drastic changes in media convergence.

Content is Key Content has emerged as king in the fierce battle of television channels. The success of channel is dependent on the quality of content, which attracts the attention of an audience. The content would drive the success of the channel. Content has high recyclable value, no storage cost and can be exported. A successful and good quality content has high recyclable value and can also be delivered through various delivery mechanisms such as Compact Disc, and Web Casting. The availability of intellect and low manpower cost has made the Indian content popular world over and an export of content has opened a new revenue stream for the content provider. The merger between telecommunications, computer and broadcasting is going to change the way people will work, play

and live. The 'convergence' of these technologies has given birth to the prospect of multimedia services which will offer interactive computer based applications that will combine text, graphics, audio and animation features into a media experience for users.

Rise of user-created content An important shift in the media ecology associated with convergence is the rise of user-created content, and a shift in the nature of media users from audiences to participants. User-created content is already an important economic phenomenon despite it originally being largely non-commercial. The spread of [user-created content] and the amount of attention devoted to it by users appears to be a significant disruptive force for how content is created and consumed and for traditional content suppliers. This disruption creates both opportunities and challenges for established market participants and their strategies. The more immediate economic impacts in terms of growth, entry of new firms and employment are currently with ICT goods and services providers and newly forming [user-created content] platforms. New digital content innovations seem to be more based on decentralised creativity, organisational innovation and new value-added models, which favour new entrants, and less on traditional scale advantages and large start-up investments. The Internet as a new creative outlet has altered the economics of information production, increased the democratisation of media production and led to changes in the nature of communication and social relationships. Changes in the way users produce, distribute, access and re-use information; knowledge and entertainment potentially give rise to increased user autonomy, increased participation and increased diversity.

Greater media user empowerment The rise of social media and the shift in the nature of audiences towards a more participatory media culture is associated with greater user control over their individual media environment. This is partly related to a greater diversity of choices of media content and platforms, but also in the ability to achieve greater personalisation of the media content that one chooses to access.

Convergence requires media companies to rethink old assumptions about what it means to consume media, assumptions that shape both programming and marketing decisions. If old consumers were assumed to be passive, the new consumers are active. If old consumers were predictable and stayed where you told them to stay, then new consumers are migratory, showing a declining loyalty to networks or media. If old consumers were isolated individuals, the new consumers are more socially connected.

Conclusion

The increasingly competitive environment in the multimedia industry promises tremendous user benefits through increased savings in time, greater choice, and an explosion of innovative media services and products. This is the promise, to date, truly interactive services allowing the viewer to descend through a series of levels of information. The development of multimedia services will not replace judgment value that is provided by the traditional media. The traditional media will also have a large role to play in the new multimedia world. Multimedia has the potential to vastly increase the range of services available, and offer its users a larger choice of applications but new technology alone will not ensure success; it is the people who use it who will decide the future of multimedia. The users' wants and needs; how they will manage the flood of options; and, above all, whether or not they will pay for the freedom of choice are what counts.

Because of the Media Convergence the media environment has drastically changed and the Social media has been at the forefront on numerous occasions during 2011. What was considered primarily as a platform to market, promote or connect was in the news for serving a totally different purpose. Social media activism and online activism came into the fore in 2011 and 2012 and generated a lot of debate. It made indelible changes in the worlds geopolitical and socio political structure, which even a year back seemed impossible and change which no political commentator could have predicted.

The largest and most vibrant democracy in the world, India, had its own tryst with social media activism and this is because of media convergence. The anti corruption movement and the call for a strong Lokpal built up steam on traditional media, but made a real impact when thousands of Indians took to social media platforms like Facebook and Twitter to voice their opinions and generate support for a civic society movement against the parliament. Terms like 'Anna Hazare', 'Lokpal' , 'Ramlila Maidan' and Delhi Gang Rape Case were trending on Social Net working sites for a number of days. Every citizen can use Twitter to broadcast". It can democratize journalism and news and become the preferred medium to seek news updates. Media convergence played a significant role on media environment.

References

1. Bruns A Blogs, Wikipedia, Second Life, and Beyond: From Production to Produsage (2008).
2. Castells M, The Rise of the Network Society: The Information Age-Economy, Society and Culture Volume 1. (1996)
3. Crawford K and Lumby C, The Adaptive Moment: A Fresh Approach to Convergent Media in Australia. (2011)
4. David P and Foray D, 'An Introduction to the Economics of the Knowledge Society', (2002) 54(171) International Social Science Journal 9, 9-23.
5. Flew, T, New Media: An Introduction (3rd ed.), (2008)
6. Jenkins H, Convergence Culture: Where Old and New Media Collide, (2006), 18-19.
7. Meikle G and Young S, Media Convergence: Networked Digital Media in Everyday Life., (2011)
8. Organisation for Economic Co-operation and Development, Communiqué on Principles for Internet Policy-making, (2011) OECD High Level Meeting on The Internet Economy: Generating Innovation and Growth, Paris, 29-30 June.
9. Organisation for Economic Co-operation and Development, (2007), Participative We and User-Created Content: Web 2.0, Wikis and Social Networking 11.
10. Perez C, 'Technological Revolutions and Techno-Economic Paradigms' 34 Cambridge Journal of Economics , (2010)

Locating Derridean supplementary in Don DeLillo's *The Names*

Dr. Adrene Feeda Dcruz

Abstract- The essay titled "Locating Derridean Suplementarity in Don DeLillo's *The Names*" draws on Jacques Derrida's concept of supplement to offer a postmodern version of quest narrative. Instead of verifiable facts and authorial intention, what Don DeLillo's quest narrative projects is a series of linguistic non-referential signs which rely on the principle of supplementation. Significantly, the novel in emphasizing the significance of language as a rhetorical non-referential medium explicitly promotes antifoundationalist perspectives. Playfully deploying the theme of quest as a metaphor for the self-referential function of language, *The Names* clearly reveals DeLillo's affiliation with

In *The Names* (1982), the American novelist Don DeLillo draws attention to the function of Derridean suplementarity which foregrounds the instability inherent in signifying systems. According to the French philosopher Jacques Derrida, supplement operates by offering a necessary substitute for the absence prevailing within a signifying system. For replacement, absence is the necessary other, therefore, substitution is possible only by evoking its double, that is, absence. Distinctly, the double meanings-replacement and addition-inherent in supplement exposes the function of alterity. In supplanting the absence through the substitution of signs, suplementarity employs the similar logic of play, of trace, and of iteration which is intrinsic to the functioning of language. Exploring the interface between philosophical investigation into language and its fictional representation, this essay looks into how the notion of supplement as an attribute of language informs *The Names*.

For Derrida, the logic of suplementarity underlies his summation of 'difference.' The Swiss linguist Ferdinand de Saussure's concept of 'difference' is a prerequisite for comprehending Derridean 'differance.' Repudiating the reductionism in finding a one to one correspondence between "a thing and a

name" (66),¹ Saussurean linguistics explains how the bond between the signifier and the signified creates meaning through arbitrary connections. Instead of language being reduced to the naming process in which a list of words corresponds to the thing it names, Saussure claims that a linguistic sign brings together "a concept [the signified] and a sound pattern [the signifier]" (66).¹ Saussure's synchronic study establishes that "any given linguistic state is always the product of historical forces, and these are the factors which explain why the linguistic sign is invariable, that is to say why it is immune from arbitrary alteration" (72).¹ Language constitutes a system which is self-referential in nature in which the meaning of each term arises not from its referential relation to a thing outside the linguistic system, but from the term's 'difference' from other terms available within the system of language. Saussure rightly notes: "They [languages] form a product, a combination of interdependent elements, their value deriving solely from their mutual contributions within a higher unit" (126).¹ So language is a self-contained, non-referential system which is incapable of reflecting any reality outside. The Derridean proposition of 'differance' is itself an example of supplement. To the Saussurean differential nature of linguistic sign, Derrida supplements 'a' instead of 'e,' thus replacing

Dr. Adrene Freeda Dcruz teaches English language and literature at the Department of Humanities and Social Sciences, IISER Mohali. She obtained her PhD degree from Indian Institute of Technology Kanpur. Her area of research is postwar American fiction with specific focus on the contemporary author Don DeLillo. She has published a range of articles dealing with American fiction, postmodernism, and film.

'difference' with 'differance.' For Derrida, 'difference' is a portmanteau word which brings together two aspects of the signifier: 'differing' from other signifiers and 'deferring' the ultimate meaning: "The verb 'to differ' [differer] seems to differ from itself. On the one hand, it indicates difference as distinction, inequality, or discernability; on the other, it expresses the interposition of delay, the interval of a spacing and temporalizing that puts off until 'later' what is presently denied, the possible that is presently impossible" (129).²

Here, Derrida disapproves of the Saussurean phonocentric paradigm which privileges speech over writing. In *Of Grammatology*, Derrida contests Jean-Jacques Rousseau's claim that writing serves only as a supplement to speech.³ For Rousseau, writing holds a secondary status to speech because if speech signifies the verifiable presence of the speaker, writing symbolizes the absence of any verifiable authority. Contesting Rousseau's view, Derrida affirms that the thought of the speaker can never appear outside the realm of writing because the speaker thinks and articulates in language. Intriguingly, language serves as a supplement to thought. For instance, the speaker, during his speech, feeds on words already available within the linguistic system to strengthen the authenticity of his presence. But if the words pre-exist the speaker, words act as differential signs, and the words carry the trace of other signs, then the speaker's signifying intention will be deferred indefinitely because speech obeys the logic of language. Thus speech, Derrida claims, is always already a form of writing which has a relational and iterative character and functions according to the logic of supplementing and supplanting signs. So, the differential and deferential functions of language expose the presential fallacy of the speaker. Thus, supplement is a potential agent of subversion, particularly in disconcerting the metaphysics of presence which privileges speech over writing. Contesting the supposedly unassailable exactitude that characterizes different representational systems, *The Names* presents itself as a textual space or a realm for exploring supplementary structures. DeLillo's novel exposes the way signs carry the trace of the

alterity and defer meanings indefinitely.

As a postmodern detective fiction, *The Names* punctures the causality associated with murder mysteries by revealing the heterogenous narrative structures replete with irreconcilable solutions. In the novel, the protagonist James Axton is a risk analyst who works for the Northeast Group, an American firm that trades in political risk insurance. The efforts of Owen Brademas, the director of archaeological studies, at finding out a pattern to explicate the series of cult murders arouse curiosity in James. Keen on striking a cause and effect sequence, Kathryn, the estranged wife of James and a scholar working under Owen, seeks to establish an order by examining the data she collects from the geological space. Simultaneously, their son Thomas Arthur Axton, mostly referred to as Tap, codifies his experiences into small linguistic units by lettering "a nonfiction novel" (33).⁴ Kathryn's archaeological survey, James's and Owen's uncovering of cult, and Tap's novelistic endeavors constitute different forms of "writing" or "scribbling" (8).⁴ The investigation into the murder mysteries inscribes a pattern into the murder, that is, in every murder the initial letters of the victim's name exactly coincide with the first letters of the name of the place where the murder took place. For example, if the name of victim is Michaelis Kalliambestos, the name of the place will be Mikro Kamini. Thus, there is an underlying connection between the initials of victim's name and the initials of the location of murder. While Owen's archaeological knowledge analyzes, codifies and eventually orders the available data into "painterly forms" (19),⁴ the intervention of language transforms Owen's innumerable archaeological information into "a vast cataloguing of fragments" (148).⁴ However, when the cult murderer's abstruse and "esoteric" (36)⁴ associations with language come to spotlight, Owen's riddle-solving efforts to find finitude through geographical explorations fracture from within.

Like 'excavation' in *The Names*, 'digging' in DeLillo's Ratner's Star is a metaphor for an investigation into infinitude and its affinity with

language. Fascinatingly, the life of Endor in Ratner's Star parallels the operation of language as a set of interrelated words. Defying realistic portrayal, DeLillo describes Endor as a character who lives in a hole and survives on plants and worms. Not only is the hole the place of habitation but it is also a metaphor for language. If language is a system of interconnected words, the hole is a circuit of labyrinthine maze: "There seemed to be another hole inside the first, a tunnel gouged out of the dirt at one corner of the original hole, the hole proper" (83).⁵ In so doing, DeLillo brings out a chain of signifying links and its association with the logic of supplementarity. The critic Thomas LeClair labels such signifying links as 'looping' "systems among systems" (229).⁶ Likewise, in *The Names*, 'looping' functions through a continuous link between characters, a concern that the critic Matthew J. Morris terms as the "interchangeability of characters" (125).⁷ For instance, Owen directs James to Dr. Malik at the Department of Antiquities in Amman who redirects James to the Armenian Vosdanik who in turn takes references about the cult from a Frenchman named Texier. Like floating signifiers in language, the place names as well as the questors "escape accountability" (43)⁴ by traveling across languages, customs, and beliefs. For Owen and James, the murder weapons, the site of murders and *the names* of frail victims are details with which they arrive at a definitive conclusion: "The old man, Michaeli, may have been a victim of some ordering instinct. They may have felt they were moving toward a static perfection of some kind. Cults tend to be closed-in, of course. Inwardness is very much the point. One mind, one madness. To be part of some unified vision. Clustered, dense. Safe from chaos and life" (115-116).⁴ Even so, Owen and James who are pursuers of the crime literally fall prey to the 'ordering instinct' which they in turn attribute to the pursued. With such an ordering instinct the pursuers classify murders into apparently intelligible patterns. In due course of time, moreover, the function of the victim and victimizer turns complimentary. Such interchangeability between the role of victim and victimizer is forcefully felt in the underlying conspiracies that surround James's occupation.

As a risk analyst, James works in the Middle East for the American firm named the Northeast Group which *prima facie* sells political risk insurance. Later on, however, James learns from his friend Charles Maitland that the American firm maintains a furtive relationship with the US Central Intelligence Agency, the CIA. Ironically, James relentlessly searches for a pattern to explicate the victim and the victimizer divide, but this division is too hazy in his life given that the American organization and its surreptitious bind with the CIA make James a victim of the "bureaucracies of silence [by indulging] in conspiracies and doublings and brilliant betrayals" (317).⁴ Also, if an excavation into the nature of James's work is carried out, one finds that the conspiracy ridden network of the CIA masks its identity under the Northeast Group. And George Rowser, who made James a political risk analyst, manipulates James's work conducted in the North East to lend secret information to the CIA. Traveling under false names, Rowser divulges his interest in "the cost-effectiveness of terror," (46)⁴ in particular, he employs his "alternate self" (47)⁴ as well as the study of Middle East political situations by James to obtain more information regarding terrorist activities. Much like the murders, a supplementary hidden pattern unveils in the case of James and eventually the pattern gives way to "complex systems [and] endless connections" (313)⁴ which is a characteristic feature of language itself. Both the murder series and the CIA connections with the insurance company closely tag along a chain of associations which makes them akin to the function of language as a set of floating signifiers.

'*The Names*', as the title suggests, deals with the process of naming and the inherent instability in language, a concern which DeLillo articulates in his latest short story, "*Midnight in Dostoevsky*" (2009) too. In the story, the process of naming begins when two college students, Todd and Robby, encounter an old man on the road. Since the details of the old man are unknown to the students, they are curious enough to construct a supposedly credible story in language concerning the mysterious life of the elderly man. Like a novelist, they have an eye for detail in

selecting an 'appropriate' name and defining each aspect of the man's existence in accordance with the things that surround the old man. DeLillo's story has many a parallel with Derrida's explication of the paradoxes of naming in on the Name:

Suppose that X, something or someone (a trace, a work, an institution, a child), bears your name, that is to say, your title. The naive rendering or common illusion is that you have given your name to X, thus all that returns to X, in a direct or indirect way, in a straight or oblique line, returns to you, as a profit for your narcissism. But as you are not your name, nor your title, and given that, as the name or title, X does very well without you or your life, that is, without the place toward which something could return-just as that is the definition and the very possibility of every trace, and of all names and all titles, so your narcissism is frustrated a priori by that from which it profits or hopes to profit. (12)⁸

In the story, naming happens right from the point of defining the old man's apparel, that is, the students seek to select the accurate word that will exactly define the man's attire. They hold a debate as to whether the man wore a loden coat, an anorak, an Inuit or a parka. Although all the terms refer to a garment with a hood, Todd and Robby lay much emphasis on their distinction based on cultural grounds. Such cultural divergences might in turn reveal the old man's homeland. Besides, Todd and Robby conjecture that the old man is the father of Ilgauskas who teaches them Logic at college. Since Ilgauskas was a voracious reader of Dostoevsky in original, Todd and Robby comes to the conclusion that he might be a Russian: "This was my [Robby's] crystalline link; the old man to Ilgauskas to Dostoevsky to Russian.... I would spend my life in a thought bubble, purifying the link" (76).⁹ Such arbitrary links about his 'origin,' metaphorically implicated in the old man's birth place, inform the fabricated story of the man which, as Robby argues, would come to an end once they try to meet the old man: "We [Robby and Todd] do that [meet the old man], we kill the idea, we kill everything we've done. We can't talk to him" (77).⁹ At this point, Robby and Todd

indulge themselves in a play and they derive a lot of narcissistic fervor in the course of their creative endeavors of constructing a non-realistic account of events in language. Here, DeLillo affirms his belief both in the Derridean notion of 'differance' and also in Roland Barthes's concept of 'the death of the author.' In fabricating a story about the old man, Todd and Robby construct the story of the old man in language; their selection of appropriate words that differ and defer the possibility of ultimate meaning offers the man a linguistic existence. Also, defying authorial claims over the work of art, DeLillo turns "Midnight in Dostoevsky" as the story written by the characters, Todd and Robby, whose story holds, as Paul de Man notes, the "vertiginous possibilities of referential aberration" (30).¹⁰ Besides, DeLillo gives his story a metafictional twist by revealing the art of composition itself and also by establishing that a work of art, through constant associations, supplements and supplants absences in the text. While Fyodor Dostoevsky's novels often instill puissant expectancy in the readers, the lingering dubiosity of Todd's and Robby's perplex narratives in "Midnight in Dostoevsky" lends the story exciting twists at regular intervals.

Much like "Midnight in Dostoevsky," *The Names* deploys linguistic markers to underscore the element of play and to resist a totalized narrative framework. Owen's explanation about the polyphonic implications of the word 'character,' for instance, inaugurates the operations of the differential nature of linguistic sign. Etymologically the word 'character' derives meaning from its Greek root, kharakter, which means "to brand or to sharpen" (10).⁴ The word also trails with it a host of supplementary meanings, namely "pointed stake," "an engraving instrument or branding instrument," "somebody in a story," "a mark or symbol" (10).⁴ Unravelling a word that harbors its opposite meaning is a preferred strategy in deconstruction. For instance, J. Hillis Miller, a critic of the Yale school of deconstruction, deconstructs M. H. Abrams's statement that deconstructionist reading of a work is 'parasitical' by focusing on the several renderings of the very word 'parasite' itself. According to Miller, the word parasite has

an "'uncanny' double antithetical prefix" (441)¹¹ which is 'para.' Interestingly, this prefix contains a host of meanings, some of them are: "proximity and distance, similarity and difference, interiority and exteriority, something at once inside a domestic economy and outside it, something simultaneously this side of the boundary line, threshold, or margin, and at the same time beyond it, equivalent in status and the same time secondary or subsidiary, submissive, as of guest to host, slave to master" (441).¹¹ Further, the antithetical relation exists between "pairs of words in this system, host and parasite and host and guest" (443).¹¹ Since deconstruction is "a rhetorical discipline" (443),¹¹ Miller notes, it uncovers a ". . . strange sort of chain without beginning or end in which no commanding element (origin, goal, or underlying principle) may be identified" (444).¹¹

In *The Names*, the act of naming functions in different ways. Firstly, operating as linguistic markers, names encapsulate history by naming the place after a prominent personality. For instance, in the first section of the novel titled 'The Island,' the narrator James muses over the name after which the island 'Kouros' is named: "It was Tap who'd told me [James] the name of the island derived from a colossal statue found toppled near an ancient gravesite about a hundred years ago. It was a traditional kouros, a sturdy young man with braided hair who stood with his arms close to his nude body, his left foot forward, an archaic smile on his face" (36-37).⁴ Secondly, the evolution of language reveals how the archaic sense of the word is substituted with new meanings. In the penultimate part of the novel titled 'The Desert,' the narrator muses over the derivations of the word 'book':

The Sanskrit word for knot . . . eventually took on the meaning of 'book.' Grantha. This is because of the manuscripts. The birch-bark and palm-leaf manuscripts were bound by a cord drawn through two holes and knotted. . . . It's [A book] is a box that you open. . . . The Greek word puxos. Box-tree. This suggests wood, of course, and it's interesting that the word 'book' in English can be traced to the Middle Dutch boek, or beech, and to the Germanic boko, a beech staff on which runes

*were carved. (291)*⁴

Thirdly, from the etymological significance of words, DeLillo moves toward exposing how alterity, that is, the presence of the 'other' in every word, threatens the alleged inherent stability of language. For instance, traveling far and wide, Owen reaches India and finds out that in Hindi language "the word for yesterday [khal] was the same as the word for tomorrow [khal]" (279).⁴ Here, Owen comes across the uncertainty inherent within the linguistic system; the word 'khal' encapsulates the meaning and its opposite within the same word 'khal.'

Such a playful logic underlies the Derridean re-reading of Plato's *Phaedrus* as well. In *Phaedrus*, the debate between Socrates and Phaedrus revolves around the binary distinction between living speech and dead writing, with the former as the privileged term. To affirm his arguments about writing as a poor supplement to speech, Socrates draws on the Egyptian mythology about writing. According to the myth, Theuth presents before the Egyptian king Thamus, also known as Ammon, the art of writing as one of Theuth's greatest discoveries. Thamus, who privileges speech over writing, outrightly denounces writing by alleging that it is detrimental to memory and that writing lacks referential quality. Socrates argues:

*Writing has one great fault in common with painting; for the creations of the painter have the attitude of life, and yet if you ask them a question they preserve a solemn silence. And the same may be said of books. . . . And when they have been once written down they are tumbled about anywhere, all alike, among those whose understand them and among strangers, and do not know to whom they should or should not reply: and, if they are maltreated or abused, they have no parent to protect them; for book cannot protect or defend itself. (185)*¹²

Derrida undermines the Platonic binary distinction between speech and writing by deconstructing pharmakon, a word Plato uses in *Phaedrus*. At the beginning of the dialogue, Plato introduces the myth of Boreas and Orithiya, in which Orithiya was led astray while playing with

her friend Pharmacia. This brief evocation of the myth by Plato, Derrida claims, is not an accident but a necessary element woven into the dialogue. In the Platonic dialogue, Socrates compares the written text that Phaedrus conceals from him to pharmakon, a drug that leads one astray. Socrates gave a one-dimensional touch to the word pharmakon meaning poison. Conversely, Derrida invokes the inherent opposite meaning of the word, which is medicine. Significantly, Derrida argues that Pharmacia is not only a mythological figure but also a word that signifies "the administration of the pharmakon, the drug: the medicine and/or poison" (75).¹³ Both the myths, the Boreas Orithiya myth and the Egyptian Theuth myth, help Plato accord a secondary status to writing. But for Derrida, the relationship between Thamus and Theuth is similar to the relationship between the presence of an authoritative father, signifying the primacy of speech, and that of the surrogate son, symbolizing the ancillary position of writing. Furthermore, Derrida employs the concept of supplement to destabilize Plato's binary postulation between speech and writing. Derrida notes that reading itself is a form of writing or rewriting which makes meaning possible through a number of associations with other signifiers. So the act of reading or writing is informed by the "the necessities of a game, by the logic of play" (70).¹³ To explain a subversive tendency inherent in the art (teckne) of writing, Derrida takes recourse to the myth of Thoth which is a variation of the Egyptian Theuth myth. According to mythological sources, Thoth, the eldest son of the god-king Ammon-Ra, also known as 'the sun,' is the executor of thoughts through language. In other words, Thoth was not the originator of creative act but only an executor in language. Thoth can become the god of the creative word "only by metonymic substitution, by historical displacement, and sometimes by violent subversion" (93).¹³ While he participates in the plot lead by Seth, Thoth, the moon, substitutes for Ra, the sun. This act of supplementation leads to the violent subversion since, like the king Ra, Thoth adorns the role of "god-doctor-pharmacist-magician" (94).¹³ Now, the god of writing substitutes for the king who represents presence through his speech: "As a substitute capable of

doubling for the king, the father, the sun, and the word, distinguished from these only by dint of representing, repeating, and masquerading, Thoth was naturally also capable of totally supplanting them and appropriating all their attributes" (94).¹³ So here Thoth, the pharmakeus or the god of writing effectively supplies a drug rather than a poison, which in turn helps characters like Horus and Osiris back to their life and potency, respectively. In the character of Thoth, Derrida discerns the subversive moment of replacement which is a dangerous supplement: "He [Thoth] cannot be assigned a fixed spot in the play of differences. Sly, slippery, and masked, an intriguer and a card . . . he is neither the king nor jack, but rather a sort of joker, a floating signifier, a wild card, one who puts play into play" (96-7).¹³ Thus with this mythological example Derrida drives home two important points. Firstly, Plato employs a mythological reference to legitimize speech, therefore, the mythos undercuts the logos from within. Secondly, the word pharmakon which Socrates makes use of so frequently harbors within itself the "complicity of contrary values" (128)¹³ which "presenting itself as a poison, may turn out to be cure" (128).¹³ On these accounts, Plato's text contains the seeds of its own destruction which considerably weakens the logocentric claims in the text.

Derrida uses the word pharmakon to deconstruct the logocentric claims in Plato's *Phaedrus* and DeLillo employs '*The Names*' to bring out its polyphonic associations that are capable enough to undermine the unity of the text. To begin with, the investigation into the murder cult leads to the revelation that the name of the cult itself is '*The Names*.' Although James's teleological mission endeavors to uncover the intentions of the victimizer, he is surrounded by an excess of data which signals how the cult acquires meaning rather than what the cult means. Since the cult is named '*The Names*', it is a self-reflexive label which calls attention to its own position as a construct. Also, if for Kathryn the archaeological excavation "preserves the finds [and] puts the pieces together" (73),⁴ for James finding a pattern was part of his craving to reach a solution: "I [James] found myself trying to match the name of

the victim with the name of the place where the crime was committed. Initials. . . I don't know why I did this, I wasn't looking for the cult, I wasn't even looking for murder victims especially. Any crime would do, any act that tended to isolate a person in particular place, just so the letters matched" (250).⁴ Curiously enough, James in his discussions with Del Nearing, the filmmaker Frank Volterra's girlfriend, comes across a different set of information about Volterra, who desperately discovers "some closed-in horrible logic" (199)⁴ about the cult. The archaeologist and the questor closely follow the cult murder to expose its 'truth.' Similarly, Volterra in his film about the cult focuses on the 'surveillance' mechanism that is part of the twentieth century visual culture. At this point, DeLillo ruptures the boundary between fact and fiction exposing the way the murder itself forms part of a filmic reality:

The life they [cult murders] lead out here, what they do, seems so close to something on film, so natural to film, that I [Volterra] believe once I talked to them they'll see it's an idea they might have thought of themselves, an idea involving languages, patterns, extreme forms, extreme ways of seeing. Film is more than the twentieth-century art. It's another part of the twentieth century mind. It's the world seen from inside. . . . The twentieth century is on film. It's filmed century. You have to ask yourself if there's anything about us more important than the fact that we're constantly on film, constantly watching ourselves. The world is on film, all the time. Spy satellites, microscopic scanners, pictures of the uterus, embryos, sex, war, assassinations, everything. (200)⁴

Owen and James unmask the reality behind the cult murders, whereas, Volterra attempts to represent the esoteric function of the cult through films. Both the investigators of the cult and Volterra equally partake of surveillance when they try to name and fix the reality about the '*The Names*.' But functioning exactly like a set of deferral signifiers, the cult named '*The Names*' defies referentiality. Consequently, '*The Names*' is not only the name of the cult, but also a reference to the cuneiform inscriptions on the

Behistun rock, the stone bound recitation of Vedas, the Hindi graffiti's relating the scenes from Lord Krishna's life, stone pillar inscriptions in Brahmi script, the edicts of Ashoka, and the glossalalia of Tap.

Out of these, Tap's unique way of writing an 'autobiographical non-fiction novel,' a label which problematizes the distinction between fictional and realistic representation, elicits special mention. The last part of *The Names* titled 'The Prairie' deals with Tap's novel featuring the escapades of a young boy named Orville Benton. Tap's inscription defies the laws of referentiality partly because his novel builds on an alternate system of language, namely, "glossylalya [or] to speak with tongues" (336).⁴ Alluding to the Biblical event of Jesus's disciples speaking in tongues to the congregation and also to the confusion of tongues that arose out of the Tower of Babel event, Tap perhaps discovers a language about language replete with unconventionality. In his non-fiction novel, Tap experiments with the deliberate use of misspellings-'conveiniently,' 'Yeeld,' 'terrour,' 'enormas,' 'interpret,' 'multy,' 'incomprehenshun.' Commenting on Tap's unconventional use of spellings, the critic Paul Maltby states that the child's experimentation touches at "a deeper, primal level which is the ground of visionary experience" (266).¹⁴ If observed closely, the words are written as they are pronounced; written words imitate speech. In this fashion, Tap's novel is a discourse on language about language, metalanguage. Much like Thomas Pynchon, DeLillo plays with anagrammatic place names such as 'Zarqa and Azraq,' and groups together words with similar letters in the initial positions, like, 'Jebel Amman' and 'James Axton.' In doing so, readers are seemingly driven toward constructing a unified meaning, but eventually the text undermines its own sense of unity by exposing them as mere word play. Also, the investigators seek to find a connection between the initials of the name of the victims and the place of murder, but the novel on the whole finds associations between the coded Greek language (Ob) that Tap spoke to his friend Anand, the first letters in the name Owen Bradmens (OB) and the character in Tap's novel Orville Benton (OB)

playful in nature. In Tap's novel, Benton is unable to comprehend the arbitrary language of adults and loses himself in a treeless grass filled prairie: "Even in his creeping desire despair, the boy marveled a little at how these people spoke. . . . All his words were poor clattery English like a stuttermere at the front of the class. He didn't know how to begin, where was the whurl of his ignorant tongue. A spidery despair loomed over him" (337). 4 Dennis A. Foster observes that "language is a kind of risk insurance, offering a sort of currency in exchange for a child's lost home. As part of the reality principle, it defers and displaces desires to safer times and situations" (166).15 Perhaps, Benton's forfeiture of 'the prairie,' the title of the last part of the novel, signals the loss of childhood days itself. Therefore, Tap's non-fiction novel which experiments with language possibly refers to the attempts made by a child to restore his childhood language, metaphorically named "the fallen wonder of the world" (339).4 If seen from this angle, the non-referential language refers to Tap's intriguing creation of a world with words inside his autobiographical non-fiction novel. So Tap's act of writing a novel, Kathryn's archaeological survey, Volterra's art of filming, and Owen's and James's role of inquiry are supplementary structures that help DeLillo advocate the novel's protean nature.

Briefly stated, *The Names* privileges the subversive aspect of the Derridean concept of supplement. *The Names* problematizes the process of naming by focusing exclusively on the polyphonic implications of the very title, '*The Names*.' The operation of language, therefore, undermines the narratives of quest for an orderly investigative modus operandi in *The Names*.

References

- 1 Saussure, Ferdinand de. Course in General Linguistics. 1916. Trans. Roy Harris. La Salle: Open Court, 1986.
- 2 Derrida, Jacques. 'Differance.' *Speech and Phenomenon and Other Essays in Husserl's Theory of Signs*. 1967. Trans. David B. Allison. Evanston: Northwestern University Press, 1973. 129-160.
- 3 Derrida, Jacques. *Of Grammatology*. 1967. Trans. Gayatri Chakravorty Spivak. Baltimore: John Hopkins University Press, 1976.
- 4 DeLillo, Don. *The Names*. 1982. London: Vintage, 1989.
- 5 DeLillo, Don. *Ratner's Star*. 1976. London: Vintage, 1991.
- 6 LeClair, Thomas. *In the Loop: Don DeLillo and the System Novel*. Urbana: University of Illinois Press, 1987.
- 7 Morris, Matthew J. 'Murdering Words: Language in Action in Don DeLillo's *The Names*.' *Contemporary Literature* 30.1 (1989): 113-127.
- 8 Derrida, Jacques. *On the Name*. 1993. Trans. David Wood, John P. Leavey Jr. and Ian McLeod. Stanford: Stanford University Press, 1995.
- 9 DeLillo, Don. 'Midnight in Dostoevsky.' *The New Yorker* 30 Nov. 2009: 68-77.
- 10 De Man, Paul. 'Semiology and Rhetoric.' *Diacritics* 3.3 (1973): 27-33.
- 11 Miller, Hillis J. 'The Critic as Host.' *Critical Inquiry* 3.3 (1977): 439-447.
- 12 Plato. 'Phaedrus.' *The Dialogues of Plato*. Vol. III. Trans. Benjamin Jowett. Oxford: Clarendon Press, 1953. 107-189.
- 13 Derrida, Jacques. 'Plato's Pharmacy.' *Dissemination*. 1972. Trans. Barbara Johnson. Chicago: University of Chicago Press, 1981. 63-155.
- 14 Maltby, Paul. 'The Romantic Metaphysics of Don DeLillo.' *Contemporary Literature* 37.2 (1996): 258-277.
- 15 Foster, Dennis A. 'Alphabetic Pleasures: The Names.' *Introducing Don DeLillo*. Ed. Frank Lentricchia. Durham: Duke University Press, 1991. 157-173.

Reforms and Growth of Indian Capital Markets-An Empirical Assessment

Rajiv Goel

Abstract-*The capital market is the barometer of any country's economy and provides a mechanism for capital formation. Across the globe there was a transformation in the financial system from a credit based financial system to a capital market based system. There was a shift in financial policies from financial repression and credit controls to financial liberalization. The significance of capital markets in the allocation of financial resources was well recognized by the Indian government and therefore, the development of capital market was made an integral part of the restructuring strategy. The reform measures like opening up of the Indian capital markets for the foreign institutional investors, trading mechanism based on advanced technology and strong regulatory framework to protect the interest of the investors through establishment of Securities Exchange board of India created necessary stimulus for the growth of the Indian stock market and the economy. The market has witnessed its worst time with the recent global financial crisis that originated from the US sub-prime mortgage market and spread over to the entire world as a contagion. The performance of the Indian capital market has been sluggish. This study makes an attempt to conduct an empirical analysis to review the performance of Indian capital market with the key market parameters such as market size, market liquidity and market volatility.*

Keywords: *Capital Formation, Market Size, Market Liquidity, Market Volatility, SEBI, Market Capitalisation Ratio.*

I. Introduction

An efficient capital market is an essential prerequisite for the economic development of a country. A capital market is a network of financial institutions that brings together the suppliers and users of funds. It provides a platform for the corporate houses to mobilize the funds and thereby plays a dominant role in the capital formation. A vibrant capital market, where the financial assets are efficiently priced based on risk and return attributes provide correct signals to the economy for investment decisions in the real sector.

At the time of independence in 1947, India inherited one of the world's poorest economies where the manufacturing sector accounted for only one tenth of the national product. India emphasized a socialist pattern featured by culture of licensing, protectionism, nationalization of banks and all kinds of state control. The government had a complete dominance on the

functioning of the financial markets. The pricing and quantity of new public offerings controlled by the Controller of Capital Issues, interest rates administered by the Reserve Bank of India (RBI), entry barriers throughout the financial sector and parking of insurance funds and pension funds to Government bonds and bank deposits were some of the noticeable features of the financial sector. Thus, serious flaws existed in the structure of capital market in India.

Prior to 1991 reforms, the largest Indian stock exchange was the then members owned Bombay Stock Exchange, which traded only for two hours with an open outcry system. The settlement process was physical delivery based posing significant risk to the participants in the stock market. In 1991 the only institutional investor with significant participation in the market was the government-owned Unit Trust of India (UTI) with total assets of Rs.357,370 million (nearly US\$ 14.5 billion) representing over 90 percent of

Rajiv Goel is an Associate Professor at Department of Commerce at Delhi College of Arts & Commerce, University of Delhi. His qualifications include M.Com., M.Phil., ACMA, A.C.S

total mutual fund assets in India. Harshad Mehta scam, the first of the several stock market scandals stimulated the urgency of a strong regulator and the significant market reforms.

International and Indian capital market has witnessed a plethora of significant changes since 1991. India, facing a crisis in the foreign currency reserves, started the process of liberalization of the economy. The Indian economy was opened up for foreign capital flows, realizing that the public sector resources were inadequate to meet India's developmental needs. The last two decades, have witnessed substantial regulatory, structural, institutional and operational changes in the securities market of India. These changes have been brought forth with the objective of improving market efficiency, enhancing transparency and bringing the Indian market up to the international standards. The following section tries to explain some of the important reform measures taken by the Indian government.

Objectives of the study

The basic objective of the study is to find out the impact of the stock market reforms on the performance of Indian Capital Market since 1991. The particular objectives of the study are-

1. To study the different financial sector reforms relating to the securities market.
2. To examine empirically, the impact of reform measures on the trends in the growth of the Indian stock market in terms of selected indicators.
3. To analyse the impact of stock market reforms on the size, liquidity and volatility in the stock market over the different sub periods 1991-97, 1997-2007 and 2007-12.

Data Collection and Methodology

The study is primarily based on the secondary data collected from the different publications of RBI and SEBI, internet websites of National Stock Exchange, Bombay Stock Exchange and

SEBI and various books and articles. The data has been analysed using the correlation and other statistical tools with the help of SPSS software package.

The sample period of the study spans from 1991 to 2012 which has been divided into three sub periods on the basis of first set of reforms (1991-97), second set of reforms (1997-2007) and the post global financial crisis period (2007-12).

This study has been organized in three parts. Section I reviews the significant reforms relating to the stock market. Section II focuses on the growth of the Indian stock market reflected by the different market indicators. In Section III, the impact of the capital market reforms on the growth of the economy is tested statistically. The concluding observations are made in the last section of the study.

I. Indian Stock Market - Main Reforms

Prior to 1992, if Indian firms had to raise capital, they were required to obtain approval from the office of Controller of Capital Issues (CCI). New companies were allowed to issue shares only at a price based on historical earnings, a practice which often resulted in under-pricing of public offerings of equity shares. The Capital Issues (Control) Act was revoked in May 1992. As a result firms could now price their issues without any intervention from authorities. It led to a sharp increase in capital mobilized through equity related instruments in the post 1992 phase. In the interest of investors, SEBI issued the Disclosure and Investor Protection (DIP) guidelines under which the issuers were required to give full disclosure of relevant information about the management and nature of the securities to be issued so that investors could take informed decision. The companies have to fulfil minimum eligibility norms in terms of their track record of distributable profits and net worth, before they enter into the capital market.

A key element of the reform strategy was building a strong independent market regulator. Securities Exchange Board of India (SEBI), an autonomous body came into existence on

January 30, 1992 with the main objectives and responsibilities of (a) protecting the interest of investors in securities, (b) promoting the development of the securities market, and (c) regulating the securities market. SEBI was empowered to control entry to the market; monitor market participants; issue regulations and guidelines to establish market standards; prohibit fraudulent and unfair trade practices and to regulate substantial acquisitions of shares and takeovers. Another market scandal in 2001 in which the prices of several securities had been manipulated prompted a strong regulatory and market response and therefore, the SEBI Act was amended. These amendments gave the authority for search and seizure and the ability to impose meaningful penalties.

Technological innovation was largely propelled by the National Stock Exchange (NSE), a demutualized electronic exchange incorporated in November 1992 by major public sector financial institutions. The NSE began trading in June 1994, effectively utilizing the most advanced market technology at that time. It introduced a modern market infrastructure with fully-automated, screen-based trading systems and settlement systems equal to anyone in the world. The NSE became the first stock exchange in the world to use satellite communications to enable trading across the country and was a big step ahead in the reform process. The new system improved the market's depth and liquidity, enhanced the transparency level of the transactions and minimized the inefficiencies resulting from the vagaries of the open-outcry system. The improved liquidity due to compulsory dematerialization of shares allowed the reduction in transaction cost for the market participants. Computerization allowed easy accessibility of record of each transaction and a better surveillance by the authorities.

Another important step on reforms front was The Depositories Act, 1996 which ensured free transferability of securities with greater speed and higher degree of accuracy. In order to promote dematerialization, the SEBI has been promoting settlement in demat form in phased manner in an ever increasing number of

securities. This act established the rights and obligations of depositories, participants, issuers, and beneficial owners. The act allowed the market to move from a slow, risky, paper-based settlement to electronic dematerialized securities that eliminated many of the pre-existing impediments to swift and safe settlement. There are two depositories in India viz. NSDL and CDSL. They have been set to provide instantaneous electronic transfer of securities. A depository, in effect, functions as an electronic bank with accounts that hold an investor's securities. Once the securities are registered with the depository, investors no longer need physical certificates. Registration process is 'dematerialized' implying that transfer of ownership is registered through entries into the investors' electronic accounts and no manual transfer of share certificates is needed.

By the end of June 2001, dematerialized settlement accounted for more than 99 per cent of turnover settled by delivery. India's rapid conversion to dematerialized trading through a depository is a remarkable success by international standards.

In 1996, the NSE established the National Securities Clearing Corporation Limited (NSCC) as a wholly owned subsidiary in an effort to manage the counter-party risk at the time of settlement. The NSCC introduced clearing and risk management principles that were being widely used outside India. It eliminated counter-party risk by becoming the legal counter-party to the obligations taken on by each party of a transaction. The NSCC made payments to the seller and then took payments from the buyer. Shares were delivered to buyers and delivery from the seller was taken by NSCC. It then managed this risk by building up a substantial Settlement Guarantee Fund from the contributions of brokers as well as by imposing a rigorous system of margins enforced by an innovative system of on-line position monitoring and automatic disablement.

Another reform executed was gradually moving India from its account period settlement to rolling settlement. Rolling settlements fix the net position of all traders after the daily trading

session and require them to settle each daily position after a fixed period. Under a T+5 rolling settlement, a net position at the end of any day (T) must be settled on the fifth working day after T. Reducing the period for netting to a day greatly limits the scope for intra-settlement speculation. It is believed that by distinguishing the market for delivery from speculation, rolling settlement promotes greater transparency and improves price discovery. On 15 January 1998 SEBI initiated a T+5 rolling settlement on an optional basis for eight stocks with dematerialized trading. On 15 September, 1999, SEBI released a list of 45 stocks to be moved to rolling settlement. By August 2000, SEBI had placed 153 additional scripts under rolling settlement. All remaining stocks were switched to rolling settlement on 31 December, 2001. On 1 April, 2002, the Indian markets moved from rolling settlement on a T+5 basis to a T+3 basis. The settlement cycle was accelerated to T+2 on 1 April, 2003. The capital markets are very rapidly moving towards one day settlement of transactions which is popularly known as T+1.

Another milestone in the history of Indian Capital Markets was the *introduction of derivatives trading* which has propelled the market to new levels of sophistication and maturity. Derivatives assist market participants to manage risk effectively through hedging, speculation and arbitrage, Securities Contract (Regulation) Act was amended in 1995 to lift ban on trading in options. Trading was introduced in four steps: In June 2000, Stock-index futures contracts begin trading on the BSE's BSE-30 (Sensex) and the NSE's S&P CNX Nifty Index. In June 2001, Stock index options on these indices were introduced on the BSE and the NSE and on July 2001, Single-stock options on the 31 most actively traded stocks regardless of where listed began trading on both the BSE and the NSE. Finally in September 2001, Single-stock futures trading on the same 31 most actively traded stocks was approved by SEBI, and trading in them began shortly thereafter. Until 2007, the NSE became the largest exchange in single stock futures in the world, and by June 2007, it ranked fourth globally in trading index futures. This is a clear sign of an evolving and maturing market.

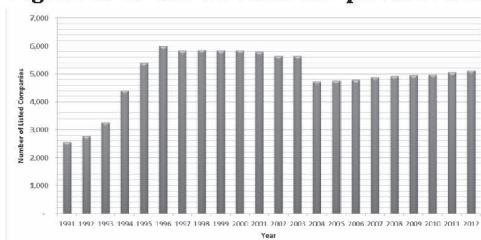
Other important reform measures include permission for book building process which assists the corporates in pricing and availability of funds, minimum disclosure requirements for floating the private placement, electronic clearing service (ECS) facility for public issue refunds, proportionate allotment to Qualified Institutional Buyers (QIBs), the introduction of green shoe option and guidelines for delisting of securities were the big reliefs for the listed companies. The secondary market also witnessed many reforms such as margin trading, regulations regarding corporate governance and listing requirements under clause 49. The central Government has established a fund called Investor Education and Protection Fund (IEPF) in October 2001 for the promotion of awareness amongst investors and protection of interest of investors.

II. Growth of Indian Stock Market

The liberalization process got deepened and widened in 1991 as development of capital market was made an integral part of the financial restructuring strategy of the country. The impact of reform measures and liberalization on the growth of capital market through different selected indicators is being studied.

Listed Companies: The initiatives taken by the government has a direct impact on the growth of the market in terms of number of listed firms. It is worth mentioning that India ranks first in the world in terms of listed companies. USA with 5,295 companies occupies the second place. However it ranks at 17th and 16th place in terms of market capitalization and trading value respectively.

Figure 1: Number of Listed Companies in India

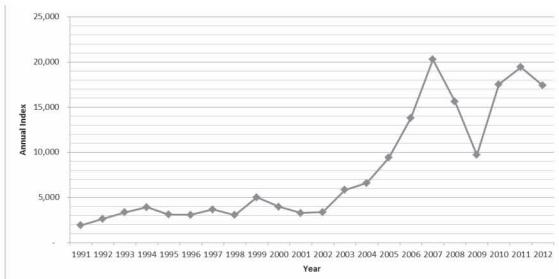


Source: Indian Securities Market- A Review (NSE), various issues compiled.

Abolition of Capital Issues Control Act, 1947 and the free pricing of the issues attracted a large number of firms to the capital market for their funds requirement. The number of listed firms increased from 2556 in year 1991 to 5843 in the year 1997. However, during the second sub period 1997-2007 the number of listed firms declined due to scams and the other irregularities in the market. The number of listed firms again started increasing post global financial crisis. The number of listed companies at BSE has risen steadily since 2005 from 4765 to 5133 till March 2012.

Sensex Movement: The financial liberalisation and active government support for the development of the stock market in the early 1990s led to a vibrant stock market in India backed by the foreign institutional investments.

Figure 2: BSE Sensex



Source: www.bseindia.com

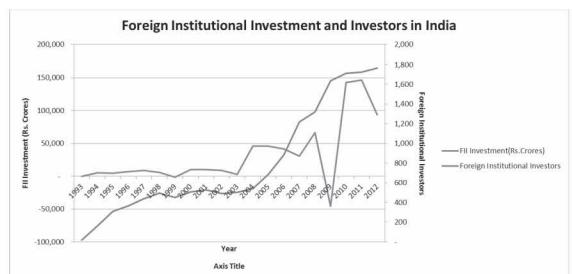
As a result, BSE Sensex rose from 1909 in 1991 to 3659 in the year 1997. During the second sub period 1997-2007, the index rose from 3659 to 20289. However thereafter, the index fell steeply due to global concerns arising due to subprime crisis. But stabilizing global financial environment led to the upward movement of index to 17404 as on March, 2012.

The trend of the Indian stock market is up as reflected in this figure. Apart from financial crisis in advanced economies and surge in the international crude oil prices, the benchmark indices in India crossed several landmarks during the last decade.

FII's Impact: FII investments have been an

important force driving markets to their unprecedented highs. Emerging markets in general and India in particular, have attracted huge portfolio flows in recent years showing their confidence in India's growth story. The interest of the FIIs in India can be judged in terms of increase in the number of Foreign Institutional Investors and the amount of funds committed.

Figure 3: Foreign Institutional Investors and Investment in India



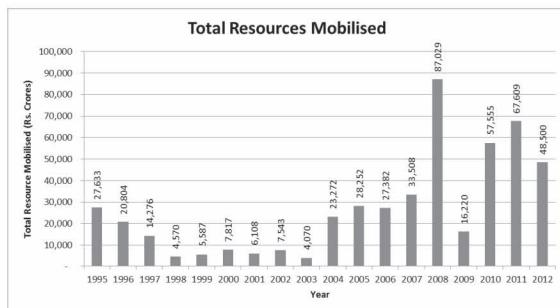
Source: Handbook of Statistics on Indian Economy, SEBI and Reserve Bank of India, compilation from various issues.

The number of Foreign Institutional investors soared from 18 in 1993 to 439 in the year 1997 and the amount of investment increased from 13 crores to 8575 crores during the same period. The number of investors further increased to 1219 and the investments to 30,845 crores by the year 2007. The number further improved to 1765 and the funds invested in the year 2012 reached to the level of 93,725 crores. It is worth mentioning that 2008-09 saw the highest FII outflow of Rs.45,811 crore in any financial year since inception. This could be attributed to the global financial meltdown and the home bias of FIIs in the crisis.

Resource mobilization: A number of companies have started floating their shares in the global market and getting finances through the Global Depositories (GDR) route as well as getting their scripts listed on NASDAQ. Data reveals that the Indian stock market experienced a significant growth in activity since 1990s. Indian primary markets picked up in the early 1990s backed by the financial reforms and mobilized huge funds from banks, private placements, non-

government public limited companies and PSU bonds.

Figure 4: Total Resources Mobilised from Primary Market



Source: Handbook of Statistics on Indian Economy, SEBI, compilation from various issues.

Resources mobilised from primary markets were quite substantial till 1994-95. However, the period of 1997-2003 was not at all encouraging due to poor market sentiments. The trend reversed after that and during the year 2011-12, 71 companies accessed the primary market and raised 48,468 crore through 55 public and 16 rights issues.

Dematerialization of shares: Two depositories in India, viz., National Securities Depository Limited (NSDL) and Central Depository Services Limited (CDSL) have set up nationwide network with proper infrastructure that handles the securities held and settled in dematerialized mode in the Indian stock markets.

Table 1: Quantity and Value of Shares in NSDL and CDSL

At the end of Year	NSDL (Crores)		CDSL (Crores)	
	Mkt. cap (Rs.)	Demat shares (quantity)	Mkt. cap (Rs.)	Demat shares (quantity)
1996-97	90818	2	-----	-----
2007-08	5219700	23690	5162637	4982
2011-12	6265157	57980	6310530	13357

Source: NSDL and CDSL

III. Statistical Analysis

This section of the paper embarks upon the empirical study of the development of Indian capital market taking into account the indicators - size, liquidity and volatility. The size is calculated on the basis of Market Capitalisation Ratio (MCR), liquidity is calculated on the basis of Value Traded Ratio (VTR) and Turnover Ratio (TR) and the volatility is calculated through Volatility Ratio (VR).

Table 2: Development Indicators of Indian Stock Market for the different sub periods (%)²

Sub-Periods	MCR	VTR	TR	VR*
Sub Period I (1991-1997)	34.84	8.43	29.29	2.39
Sub Period II (1997-2007)	46.88	23.01	53.58	2.22
Sub Period III (2007-12)	83.5	20.22	23.76	2.41

Source: Handbook of Statistics, SEBI, compilation from various issues.

*Volatility is calculated as the standard deviation of the natural log of returns in indices for the respective period.

Market Size

The size of the stock market expands as more and more firms issue the securities in the primary market. As the size of the market increases, it is easier for the corporates to raise funds and reduce risk. Therefore, market capitalization as a proxy for market size is positively correlated to the ability to mobilise capital and diversify risk. Therefore, a two way causal relationship exists between stock market size and primary market activities.

Market Capitalization Ratio (MCR) as a proxy of the stock market size is defined as the market capitalization divided by GDP. To get the value of market capitalization, the stock market price per share is multiplied by the number of equity shares that are outstanding.

Figure 5: Market Capitalisation Ratio of Indian Stock Market



Source: Handbook of Statistics on Indian Economy, RBI, compilation of various issues.

As a result of market reforms initiated in the 1990s, the ratio has risen from 13.59% to 37.18% in the year 1997. The ratio further improved to 94.28% in the year 2007. In the subsequent period, though the ratio has slightly declined, it still remains quite high at around 70% in the year 2012. The growth in size of Indian Stock Market resembles that of other leading developing economies and is indeed very impressive. The growth in MCR during the three sub periods has been tested using paired sample t-test.

Table 3: Paired Sample t-test of Market Capitalisation Ratio for different Sub-Periods

Sub-Periods	(Difference) Mean	Standard Deviation	t value	Sig. (2-tailed)
I-II	-61143	17.4244	-0.093	.929
II-III	-46.39167	16.16477	-7.030	.001

There is no significant difference in the MCR between sub period I and sub period II. However, there is a significant difference in the mean of the MCR of the sub period II and sub period III and the ratio has significantly changed post global financial crisis. Year 2007 onwards, the size of the market has substantially increased due to improvement in the market prices of the securities led by increased foreign institutional fund flows.

Market Liquidity

A liquid market always provide an ease of exit for the initial investors enabling them to divert their funds to the more profitable projects, thereby

improving the allocation of capital and enhancing prospects for long term growth. A liquid stock market facilitates better resource mobilization and more stock market development.

The Value Traded Ratio is total value of traded share in the stock market divided by GDP. This ratio measures the value of equity transactions relative to the size of the economy and reflects liquidity on an economy-wide basis. The value traded ratio complements the market capitalisation. Although a market may be large in size, there may be little trading. Thus MCR and VTR taken together provide more information about a stock market than if one uses only a single indicator.

Figure 6: Value Traded Ratio of Indian Stock Market

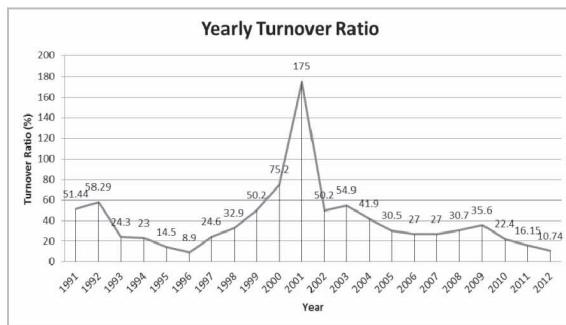


Source: Handbook of Statistics, SEBI, compilation from various issues.

Value Traded Ratio increased from 6.99% in 1990-91 to 9.96% in 1997. The ratio further improved 25.47% in the year 2007 after touching a high of 52.57% in the year 2000-01. But the ratio has considerably declined to 7.51% in the year 2011-12. The reason behind this decline may be the uncertainty in the global financial environment and the shift in FIIs' focus from delivery based trading to derivatives trading which provides more hedging opportunities.

Turnover ratio (TR) is defined as the ratio of the value of total shares traded and market capitalization. It measures the activity of the stock market relative to its size. High turnover ratio implies low transaction cost and consequently high level of efficiency.

Figure 7: Turnover Ratio of Indian Stock Market



Source: Handbook of Statistics on Indian Economy, RBI, compilation from various issues.

The turnover ratio declined from 51.44% in 1991 to 26.79% in the year 1997. The ratio further declined to 26.97% in the year 2007 after touching a high of 175% in the year 2000-01. The ratio has substantially fallen to 10.74% in the year 2012. There are multiple reasons behind this decline such as uncertain economic environment, pathetic attitude of the government towards economic reforms, diversion of focus to the derivatives market.

Table 4: Paired Sample t-test of VTR and TR for different Sub-Periods

Sub-Periods	Value Traded Ratio		Turnover Ratio	
	(Difference) Mean	Sig. (2-tailed)	(Difference) Mean	Sig. (2-tailed)
I-II	-16.48714	.022	-40.31000	.099
II-III	8.91600	.401	55.76400	.107

The results of the VTR show that there was a significant improvement in the liquidity in sub period II over the sub period I. However, the liquidity position has not changed much post the global financial crisis. The results of TR show that there is no significant difference in the mean values of turnover ratio of the different sub periods.

Market Volatility

Volatility as a barometer of the vulnerability of financial markets can be defined as changeability or randomness of asset prices. The widely accepted concept of rates of return is the

logarithmic difference of prices of two successive periods. This concept is also followed in the present study. Symbolically, the rate of return (r) may be stated as follows:

$$r_t = \ln(p_t/p_{t-1}), t=1, 2, \dots, n$$

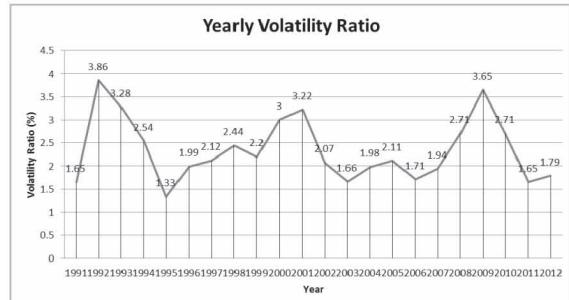
where r_t is the rate of return for the period t , and p_{t-1} and p_t are the prices for two successive periods ($t-1$) and t . Volatility has been measured by the standard deviation of rates of return (r), which is a simple but widely used method.

The standard deviation of return (r) from a sample of n observations is the square root of the average squared deviation of returns from the average in the sample. Thus,

$$\sigma = \left[\frac{1}{n} \sum_{t=1}^n (r_t - \bar{r})^2 \right]^{\frac{1}{2}}; \text{ Where } r_t = \ln(p_t/p_{t-1})$$

The logarithmic standard deviation is expressed in percentage terms after multiplying it by 100. In this section, the volatility of the Indian stock market during 1991-2012 has been analysed. The monthly closing prices of the BSE100 are sourced primarily from a firm level micro database PROWEES, administered by the Centre for Monitoring the Indian Economy (CMIE) to arrive at the yearly data.

Figure 8: Turnover Ratio of Indian Stock Market



An increase in the number of traders mainly FIIs in the market may reduce the variation in the stock price. Opening of Indian Stock market may also simultaneously trigger an increase in the stock return volatility. This volatility is being

tested using the paired sample t-test for the different sub periods

Table 5: Paired Sample t-test of Volatility Ratio for different Sub-Periods

Sub-Periods	(Difference) Mean	Standard Deviation	t value	Sig. (2-tailed)
I-II	.02857	.87473	.086	.934
II-III	.08400	1.09173	.172	.872

There has been no significant change in the volatility of the market over the different sub periods even in the period of post global financial crisis.

Correlation: The Correlation coefficient among the different indicators of stock market development of India are calculated to see whether there is similarity in movement for all the selected ratios over the period under study. The following Table 6 shows the coefficient of correlation among the stock market development indicators.

Table 6: Correlation Coefficient among the Indian Stock Market Development Indicators

	MCR	VTR	TR	VR
MCR	earson Correlation g. (2-tailed)	1	.266 .232	-.389 .074
N		22	22	.533 .22
VTR	earson Correlation ig. (2-tailed)	.266 .232	1	.738** .000
N		22	22	.103 .22
TR	earson Correlation ig. (2-tailed)	-.389 .074	.738** .000	1
N		22	22	.068 .22
VR	earson Correlation ig. (2-tailed)	-.140 .533	.357 .103	.397 .068
N		22	22	.22 .22

There is a very poor correlation between Market capitalization ratio and Value Traded ratio. This shows that Size and liquidity of the market are positively related but degree of relationship is very poor. The coefficient of correlation between Turnover ratio and Value Traded Ratio is showing very high degree of positive relationship and is significant also. Liquidity and volatility are showing some positive relationship and the size of the market and its volatility are negatively correlated to some extent but the results are not statistically significant.

IV. Conclusion

Some of the Reform initiatives taken by the government since 1991 brought the structural changes in the Indian capital markets. Abolition of Capital Issues Control Act, Establishment of SEBI, 'open outcry' system replaced by screen-based electronic order-book systems, introduction of rolling settlement were a few reforms which brought India up to par with the global standards.

The primary capital market has grown significantly since the beginning of capital market reforms as is reflected in the increased number of listed companies, funds mobilized from the primary market and the growth of depositories over the last two decades. The secondary capital market is also found have grown in terms of its size and liquidity which is the signal for strong potential of the market to mobilise capital for the economic development of the country. The size of the market and its volatility are negatively correlated to some extent but the results are not statistically significant. It can be concluded that the reforms in the stock market do not have any direct implications for the volatility in the returns of the market. In the post global financial crisis period, the size of the market has further expanded due to higher stock prices backed by strong foreign fund flows. However, during the same period, the liquidity and volatility have not significantly changed.

End Notes

1. Indian Securities Market – A Review (NSE) 2006
2. The values are the means of the different ratios of the corresponding years of the sub periods.

References

Books

1. Agarwal, R.N., Financial liberalization in India, Delhi, BR Publishing. 1996
2. Balasubramanian, N.: Corporate Financial Policies and Financial Returns-The Indian Experience Himalaya Publishing House.

Bombay, 1993

3. B.B.Tondon & A.K.Vashisht, Financial Sector Reforms-An Unfinished Agenda for Economic Development, Deep & Deep Publications Pvt. Ltd.
4. Chakrabarti, R., The Financial Sector in India - Emerging Issues, Oxford University Press, New Delhi, 2006.
5. Kesava Rao G., Financial Sector Reforms & Indian Securities Market, The Associated Publishers, 2012.

Articles

1. Ahuja Juhi. Indian Capital Market : An Overview with Its Growth, VSRD-International Journal of Business Management & Research, Vol. 2 (7), 2012, 387-399.
2. Capasso S., "Stock Market Development and Economic Growth", WIDER Research Paper, 2006
3. Chandrasekhar, C.P. and Pal P., "Financial Liberalisation in India-An Assessment of its Nature and Outcomes", Economic and Political Weekly, March 18, 2006.
4. Dr. Rakesh Mohan, Financial Sector Reforms in India, The Chartered Accountant, February 2005.
5. Gupta, L. C. (1992). Stock Exchange Trading in India: Agenda for Reforms. Society for Capital Market Research and Development, New Delhi, 123.

6. Gupta, R. (1992). Development of the Capital Market in India: A Regulatory Perspective. Working Paper No.997, IIM, Ahamadabad, Jan- March.
7. Henry, P.B., "Do Stock Market Liberalizations Cause Investment Booms?", Working Paper, Stanford University, Stanford, 2000
8. Jayanth R Verma. , "Indian Financial Sector Reforms: A Corporate Perspective" Vikalpa, The Journal of the Indian Institute of Management, Ahmedabad, (January-March) 1998, 23(1), pp27-38.

9. Pal, P., "Stock Market Development and its Impact on the Financing Pattern of the Indian Corporate Sector", NSE Research Initiative, Working Paper No. 004. Mumbai, India, 2001
10. Sayuri S., "Impact of Financial and Capital Market Reforms on Corporate Finance in India", Asia Pacific Development Journal, Vol. II, No. 2, December 2004.
11. Vijay Kelkar, Moving Ahead with Exchange Reforms, NSE WORKING PAPER, November 2011.

Websites

- www.bseindia.com
www.nseindia.com
www.sebi.gov.in
www.rbi.gov.in

An Investigation Into Parent-adolescent Relations And Substance Use

Dr. Garima Malik

Abstract-This paper uses the Economics of Incentives framework to develop and estimate a model of the effects of parenting styles on substance use by young children aged 10-14. The NLSY-79 Child dataset from the Bureau of Labour Statistics in the U.S. is used and the expected utility theory in the standard economic model is supplemented with psychological variables in order to provide a testable model of behavior. There is a section on switching parenting styles which reveals that parenting styles don't stay constant and change over time. There is also a section on substance use in India and Asia which goes into details of the patterns of substance use and their likely effects for children and young adults. The paper finds that it is critical to break the vicious cycle of poverty and ill-health through economic growth and better development outcomes particularly targeted at vulnerable sections like street children.

"If current trends continue, 250 million children alive today will be killed by tobacco." -W.H.O.

Key Words- Substance use, Parent addlement relation.

1 Introduction

If current trends continue there will be few children left in the world due to widespread and raging substance use. This is now a global health concern not just in developed countries like the U.S. but also developing countries like India and China. The Millennium Development Goals chartered by the U.N. will scarce be achieved if substance use keeps spreading at its current rate. Children are the most affected population due to being the most vulnerable. While parents, teachers and the wider community are all responsible for controlling and correcting this phenomenon the current research has a special focus on parents. Using an incentive model used popularly in the economic literature to examine household interactions this paper examines the interactions between parents and children and attempts to make predictions about the importance of parenting styles for substance use in households. Thus the study aims to understand what is the role of parent-child interactions in behaviour and substance use by young children

focusing on different child outcomes such as cigarettes and alcohol consumption. The study shows that family background factors including parental substance use are significant in influencing substance use by young children.

2 Literature Review

There are four basic areas of literature which motivated this research. This research draws upon them and expands their scope to identify new relationships in the role of parenting style and child outcomes. These four areas of research include: (1) Parenting Styles/Parent-Adolescent Relations; (2) Family Economics (3) Economic Psychology and Behavioural Economics. The discussion below will identify important previous contributions in each of these areas and will indicate where the present research expands and contributes to the existing knowledge.

2.1 Parenting Style/Parent-Adolescent Relations

2.1.1 Psychological Models

Dr. Garima Malik is currently appointed as an Assistant Professor in Delhi College of Arts and Commerce. Previously she was an Economist in the Government Reforms and Infrastructure Development department of PricewaterhouseCoopers Pvt. Ltd. from 2009 to 2012. She holds a Ph.D. in Economics from The Ohio State University and a M.A. in Economics from the Delhi School of Economics. Her areas of specialization are Macroeconomics and Econometrics.

This strain of research developed from the seminal paper by Baumrind (1966). In this work Baumrind predicts that authoritative parents are more likely to be able to protect their children from substance use. Baumrind's early research created the parenting typologies of authoritative, authoritarian, permissive and disengaged parents along the multiple dimensions of demandingness and responsiveness. Demandingness denotes the expectation of parents for mature behavior from their adolescent, setting and consistently enforcing reasonable rules and standards for behavior. Responsiveness refers to warmth and demonstration of physical affection towards the child. Authoritarian parents attempt to shape, control and evaluate the behavior and attitudes of children based on absolute sets of standards, respect for authority and obedience. These parents are more likely to use harsher forms of punishment and are less responsive to the children. Authoritative parents encouraged verbal give and take, explained the reasons behind demands and discipline, and expected the child to be independent and self-directing. Thus authoritative parents are both demanding and responsive. Permissive parents- were more likely to give way to the child's impulses, desires and actions. Few household demands of rules are established and little punishment is used and they had children who were not independent and lacked social responsibility. These parents are less demanding and more responsive and could be indulgent while disengaged parents are neither demanding nor responsive and could be termed as neglectful parents.

2.1.2 Ecological Factors

There have been other various studies in development psychology where parenting styles are classified differently or along different dimensions of support, attachment and learning theories. Bronfenbrenner's (1979) Model of the Ecology of Human Development captures the parent-child association where the child is at the centre of the system and is surrounded by the Microsystem, which includes parenting factors, and the neighbourhood factors, which constitute the Mesosystem. The ecological paradigm began with Lewin's Behavior = f(Person, Environment)

model where humans are active and shape the environments in which they live. In the context of adolescent psychological development there are individual factors such as the child's own propensity to consume substances and then the microsystem and then the mesosystem and these are the factors influencing the child's behaviour. Thus the adolescent while growing up in the household has a core behaviour and then a peripheral component which is constantly adapting to the environment. Maccoby (1980) explored the aspects of parental control stressing on the sub-classifications such as Consistent Enforcement of Demands and Rules, High Expectations and Training, Restrictive Parenting, Arbitrary Power Assertion or Authoritarian Parenting, Open communication patterns and Parental warmth and affection. Steinberg (1982) is the next study in this line of literature which focuses on these dimensions of Acceptance/Involvement, Strictness/Supervision, Psychology Autonomy Granting, Parental involvement in schooling, Parental encouragement to succeed, School Performance and School Engagement. The parent-child interaction is characterized by two major parenting dimensions: nurturance (warmth and support) and control (supervision and discipline). Inadequate parenting which is characterized by lack of affection and high levels of criticism and hostility, inconsistent discipline and supervision, general lack of involvement, provides the foundation for the development of the aggressive, antisocial behaviour pattern. In addition to parental drinking there are a broad range of family influences associated with alcohol problems and externalizing behaviours (antisocial behaviour and aggression). The family background of alcohol and other drug use are mostly characterized by marital instability, lack of support, poor discipline and family conflict.

2.2 Family Economics

2.2.1 Intergenerational Human Capital Models

Akabayashi (1998) uses the NLSY-Child dataset and links the parent and child in an intergenerational human capital framework endogenizing parental incentives while

examining the cognitive and behavioural indicators for children. This dataset has extensive information on parental substance use as well as family background variables along with the data on the children collected through self-administered questionnaires. There is another study (Brook, 1990) which is of a longitudinal nature and has focused on parenting variables as the major psychosocial influence in the child's development of abuse patterns.

2.2.2 Household Economics

Studies of these individual effects have included the role of parent modeling and alcohol expectancies in determining the behavior of children of alcoholics. Dyadic effects come from the interactions of two family members focusing on the parents' marital relationship and the child's relationship with the siblings. Hao, Hotz and Jin (2003) consists of a game-theoretic model between parents and daughters. This model of parenting is further tested on different family formation structures. In families which typically have more older siblings the reputation is established for the older children using daughter and family-specific fixed effects. The impact of families on juvenile substance use is examined in Mach (2001) who examines the impact of families on juvenile substance use using the NLSY97 dataset and finds that family formation can be an important factor explaining juvenile crime. This approach looks at the influence of parents as well as siblings in explaining consumption of substances by youth using county crime rates. Among the various dyads, the parent-child relationship has got the maximum attention in the study of alcohol-specific family influences. These dyads are divided along the lines of father-daughter, father-son, mother-son and mother-daughter relationships. In the parenting effects on alcohol strong associations exist between child conduct disorder, adolescent delinquency, adult antisocial behaviour and adult alcoholism. Almost 20% of these alcoholics meet the criteria for antisocial personality disorder which is characterized by a disregard for and violation of the rights of others. The associations between antisocial personality disorder and alcoholism indicates that parent-child interaction

that promotes aggressive, antisocial behaviour plays a role in the alcoholism of both children of alcoholics and non-children of alcoholics. The family has been recognized as the primary support system and socializing institution for children; the better the family operates, the more likely that a child will develop. Fundamental to positive family dynamics are the relationships that parents develop with their children. Parental support is significantly related to child and adolescent development and wellbeing and to less deviant behavior.

The relationship among adolescents reckless behaviors, parenting practices, adolescents employment and adolescents opportunities for risk-taking and the idea of context affecting people's decisions is not new to psychology and economics. A full understanding of adolescence requires consideration of the rapidly changing individual in a developmental context. There is an extensive literature that seeks to explain the relationship between key background variables impacting children's cognitive and behavioural development. These variables include such influences as children's and parent's background factors, poverty status, parent's cognitive support and key parenting measures. These risk factors exist and it is essential to understand what supports or protective measures can help children overcome these risk factors. Mothers cognitive ability represented by a mother's low intelligence quotient can have detrimental effects on her children. Research has shown that lower academic levels result in adverse outcomes such as poor parenting. There are links between poverty, economic resources and child outcomes especially and children face persistent poverty face substantial developmental deficits. Low-income families may not be able to afford adequate food, shelter and other material goods - nor to provide a warm and stimulating home environment - that fosters healthy cognitive and social development of children.

2.2.3 Health Economics/Health Capital

In the case of alcohol and smoking linear regression models could have been used in the case of continuous measures for alcohol and

smoking consumption. When the decision is taken as a decision to smoke or not to smoke, or in the case of alcohol consumption to consume or not consume alcohol then the model is of a discrete nature with a probabilistic outcome being regressed on all the explanatory variables. There are studies in Health Economics literature by Hill (1987), Seo (1998), Yin (2000), Lane, Gerstein, Huang & Wright (1997).

2.3 Economic Psychology and Behavioural Economics

The literature in the area of economic psychology and behavioural economics deals with these kinds of self-control and addiction behaviours. This includes the part on rationality of decision making processes and the cognitive influences. Economic and psychological views of the transmission of family background and how families are perceived as endogenous processes and why existing inter-generational human capital models have to be modified in that framework. Psychological views of parent-child relationships may be useful to modify inter-generational human capital models by including the effects of parental behaviour. Intergenerational human capital formation is distinct from "self" investment in human capital. There are only certain kinds of behaviours which are considered appropriate in these situations in the process called "socialization". Personality is a set of characteristics which emerge determining how individuals respond to experiences and how they get along with others, and themselves. A competent child is created who is independent, self-reliant, self-controlled, explorative, and self assertive, high linguistic, analytic and logical abilities. Psychology is concerned with the structure and components of family influence on several dimensions of children's development-cognitive, emotional and psychological. They are exploring the relationship among the adolescents' reckless behaviours (i.e. alcohol use and nonnormative behaviour), parenting practices, adolescents' employment, and adolescents' opportunities for risk-taking. The propensity event theory examines the opportunity variables which can mediate the effects of other explanatory variables on the

adolescent's participation in these reckless behaviours. The model of risk-taking behaviour is adapted from Irwin & Millstein (1986) and the definition of risk-taking inherent in psychosocial development is that risk-taking is a result of an interaction between the biopsychosocial processes of adolescence and the environment. The development psychology literature does indicate that some risk-taking is necessary in the natural developmental process, but extreme forms of risk-taking have severe consequences. The underlying strand of thinking indicates that young children do not have an adequate understanding of the long-term consequences of their actions and therefore may take actions that are potentially destructive in nature. A long tradition of research in development psychology has emphasized the role of mothers in the lives of their children. From psychoanalytic theorists of the early 1900's to attachment theorists in the 1960's the emphasis on the mother-child relationship was almost exclusive.

3 Theoretical Model

This section develops a theoretical framework based on the assumption of optimizing behaviour and equilibrium using the tools of microeconomic theory to model this relationship. I am relying primarily on the principal-agent framework to model this interaction and its true that these principal-agent contracts which emerge in families closely resemble those in the workplace, between the employer and the firm. In my work I am using the informational asymmetry which arises in these relations to both motivate the model and generate the results. The child in this case takes an unobservable action that affects the utility of both the parent and the child. The principal who is the parent sees only the outcome which is imperfectly correlated with the action. The reason for using agency theory in this application is that one person, the child who is the agent is being induced by the parent, the principal to do something that the child does not want to do. It is hard and expensive for the parent to monitor the child and the parent and the child have different attitudes towards risk.

The agent has different interests or preferences

from the principal. The principal who is the parent has responsibilities to ensure that the children produce a socially observable outcome and the output in the model could be higher grades in school or good behaviour or not engaging in drinking and smoking. The child who is the agent exerts a certain level of effort which is working hard at school or doing household chores or exercising self-control and abstaining from high-risk behaviours. In certain scenarios the child has incentives to shirk or to exert low effort, so the parent is offering incentives to ensure the child exerts the effort. The parents are altruistic and the children are assumed to provide utility to the parents. In the case of intra-family interactions there are large asymmetries of information and there are also high costs which arise to get information in the case of young children.

3.1 Basic Assumptions

I have used the following assumptions to both motivate and set up the theoretical model in a framework which would also lend empirically testable predictions. This would enable us to cover all the behavioral patterns and predict the direction of the incentive action choices in the process of building a formal model. The model is a single period static model, with 1 parent and one child. The parent is the principal and the child is the agent. The child's output $Y_j \in \{Y_b, Y_h\}$ i.e. Y_j belongs to a discrete set and is observed by the parent and the child may be performing well in school or being well behaved at home and not throwing temper tantrums. Also the child exerts an effort level where $e \in \{e_b, e_h\}$, where e_h denotes the high effort level of the agent. Effort is unobserved by the parent. Higher effort level could be working hard and spending more time on homework and schoolwork, helping around at home, not partying late night and smoking, drinking. The parent takes actions, both positive and negative during the life-cycle of the child, observed by the child where $a \in \{a_b, a_h\}$ where $a(y_b) = a_b$ and $a(y_h) = a_h$ where a high action is being more responsive i.e. talking and a low action is being more demanding. Thus for the parent a high action is displaying positive affection

towards the child, talking to the child, helping child with schoolwork, taking child to the museum, playground, parks. A low action is harsher, more punitive measures like spanking the child, grounding, taking away TV and other privileges, putting the child in a time out. These actions are determined exogenously and the parent is of a certain type and therefore is predisposed to take a certain action. There are different probabilities $p(y_h) = p$ if e_h and $p(y_b) = q$ where $p > q$. There is a cost of the effort indicated by $c(e)$. We normalize $c(e) = 0$ and denote $c(e_h) = c$. The parents cannot directly observe the child's effort. Thus the incentive-action taken by the parent cannot depend on e but depends only on the observable output (behavior). If effort has a direct correlation with output i.e. e_k results in y_k for $k = H, L$ that is $p=1$ then $q=0$ then the effort can be deduced from the output once the output (behavior) is realized. The parents are risk neutral while the children are risk averse agents. Parent's utility is $U_p = U_p(y)$ for Authoritarian Parent and Disengaged Parent. Let the parent's utility be $V_p = V_p[U_p(y), U_c(e, a)]$ for Authoritative and Permissive Parent, who are altruistic and care about the Child's utility. The preference ordering on Child's utility is as follows: $U_c(e_b; a_b) > U_c(e_h; a_b)$ i.e. the child does not like to exert effort. In the case of the parent $U_p(y_h) > U_p(y_b)$ i.e. the higher output gives greater utility to the parent. The assumption on the observability of effort is changed in the later section, to examine the comparative static's. The subscript c denotes child's utility and p stands for parent's utility

3.2 Benchmark Model

This benchmark model investigates the basic choices made during the interactions between the parent and the child. The principal in this framework is the parent and the child is the agent. The principal starts by offering an incentive, a to the agent, the child where a could be financial transfers or physical affection or giving the child some pecuniary incentive or it could be emotional responsibility or taking away the child's allowance or grounding or spanking the child. This induces the agent, the child to exert an effort, e which could be working hard at school or

abstaining from risky behaviours. The signal, y which is observed by the parent could be high grades in school or good behaviour at home. If the effort is not observable then to find the optimal contract the principal would try to solve the constrained optimization problem. The participation constraint requires the agent prefers the contract to any alternative and the parent ensures the child atleast a reservation level of utility. Additionally the incentive compatibility constraint must give the agent an "incentive to choose the desired effort". This takes account of the fact that the agent moves second and picks the desired effort. Thus in general the result holds that given a contract $\{a(y_h), a(y_l)\}$, agent (child) chooses effort

$$p u(a_h) + (1-p) u(a_l) - c > q u(a_h) + (1-q) u(a_l) \text{ IC-Constraint}$$

and

$$p u(a_h) + (1-p) u(a_l) - c > \bar{u} \quad \text{Participation Constraint}$$

3.3 A Model of Incentive-Action (with fully observable effort)

We start by isolating the effects in different environments. In the first and most favorable environment where effort is fully observable the parent can contract on effort since effort is directly observable. In the case where the Principal (Parent) is Risk Neutral and the Agent (Child) is Risk Averse the utility function of the child $u(a)$ is an increasing and convex function of a i.e. $u'(a) > 0$ and $u''(a) > 0$. y_l gives utility 0 and y_h gives utility v .

Thus if the effort of the child is perfectly observable and the parent (principal) wants to induce effort then for a given value of v (the parent's utility from high effort), the parent's optimization problem becomes:

$$\text{Max } p(v - a_h) - (1-p)a_l \quad (1)$$

s.t.

$$p u(a_h) + (1-p) u(a_l) - c > \bar{u} \quad (2)$$

Thus the parent aims to maximize 1 subject to equation 2. Only the participation constraint is relevant in this case as then the agent can be forced to exert a positive level of effort.

Since the child is risk averse the incentive

compatibility constraint is always satisfied.

λ is the Lagrange multiplier associated with the participation constraint.

$$\ell = p(v - a_h) - (1-p)a_l + \lambda [p u(a_h) + (1-p) u(a_l) - c - \bar{u}]$$

The first order condition gives

$$-p + \lambda p u'(a_h) = 0 \quad (3)$$

$$(1-p) + \lambda (1-p) u'(a_l) = 0 \quad (4)$$

where a_h^* and a_l^* are the first-best optimal transfers.

Therefore from equation (3) and (4) we obtain for a given value of λ :

$$\lambda = 1/u'(a_h^*) = 1/u'(a_l^*) > 0$$

which implies that $u'(a_h^*) = u'(a_l^*)$ and since additionally $u(a)$ is convex i.e. $u''(a) < 0$ then for 4 to hold true it must also be true that the incentive offered by the parent is constant across states.

$$\text{Therefore } a^* = a_h^* = a_l^*$$

Thus, when effort is perfectly observable, the agent obtains full insurance from the risk-neutral principal, and the transfer a^* the child (agent) receives is the same whatever the state of nature. Thus the intuition behind this result is that if the effort is contractible the optimal incentive is independent of action.

Because the participation constraint 2 is binding, we can also obtain the value of this transfer, which is enough to cover the disutility of effort. So a^* must solve equation 2.

$$u(a^*) = \bar{u} + c$$

$$\text{or } a_{pi}^* = u^{-1}(\bar{u} + c) \quad (5)$$

where the subscript pi stands for perfect information.

Thus note that the action of the parent is equal to the inverse of the utility which is a constant plus cost of the child. This way the person i.e. the parent is influenced taking the reservation utility as given.

Now we can compare the utility or the gain in utility terms to the parent from the child's action. There are two situations where the utility of the child could be examined differently due to the effort being exerted, v here is the net gain in utility terms to the parent from the child's effort. This could be the parent having a greater sense of satisfaction from the child's grades in school or

positive impact of the child's behaviour on the parent.

In this case for the principal inducing high effort e_h yields an expected payoff equal to

$$V_1 = p v - a^*$$

If the principal decided to let the agent exert low effort e_l he would make the payment wL to the agent that solves the following equation:

Therefore a_l would have to satisfy the linear additive combination of the following equation for some value of the probabilities, q

$$\text{or } a_l = u^{-1}(\bar{u}) \quad (5)$$

Thus the principal will get $V_0 = qv - a_l$

Inducing effort is thus optimal from the principal's point of view when $V_1 > V_0$ or

$$pv - a^* \geq qa - a_l$$

which gives the result that the expected gain on effort is higher than the first-best cost of inducing effort. This can also be seen in the inequality given below.

Expected gain of effort First-best cost of inducing effort

$$(p-q)v \geq u^{-1}(\bar{u}+c) - u^{-1}(\bar{u})$$

3.4 A Model of Incentive-Action (with unobservable effort)

If the effort is non observable but the agent as well as the principal are risk neutral then the contract has to be self-enforcing and the parent has to obey the child's incentive constraint. The utility function can be written as

$$u(a) = a$$

Thus the principal who wants to induce effort must choose the contract that solves the following problem given in equation 6 subject to the two constraints given in 7 and 8:

$$\text{Max } p(v - a_h) - (1-p)a_l \quad (6)$$

$$\text{s.t. } pa_h + (1-p)a_l - c > qa_h + (1-q)a_l \quad (7)$$

$$\text{and } pa_h + (1-p)a_l - c > \bar{u} \quad (8)$$

In the case of risk-neutrality the principal can choose incentive compatible transfers a_h and a_l that make the agent's participation constraint 8 binding. Thus if effort is not contractible and the child is risk neutral the

optimal contract is slightly increasing.

Finally we get $a_h^* = \bar{u} + c[(1-p)/(p-q)]$ by rearranging 8 and solving for a^*

3.4 A Model of Incentive-Action (with unobservable effort)

If the effort is non observable but the agent as well as the principal are risk neutral then the contract has to be self-enforcing and the parent has to obey the child's incentive constraint.

The utility function can be written as

$$u(a) = a$$

Thus the principal who wants to induce effort must choose the contract that solves the following problem given in equation 6 subject to the two constraints given in 7 and 8:

$$\text{Max } p(v - ah) - (1-p)al \quad (6)$$

$$\text{s.t. } pa_h + (1-p)al - c > qa_h + (1-q)al \quad (7)$$

$$\text{and } pa_h + (1-p)al - c > \bar{u} \quad (8)$$

In the case of risk-neutrality the principal can choose incentive compatible transfers ah and al that make the agent's participation constraint 8 binding. Thus if effort is not contractible and the child is risk neutral the optimal contract is slightly increasing.

Finally we get $ah^* = \bar{u} + c[(1-p)/(p-q)]$ by rearranging 8 and solving for a^*

4 Switching Parenting Styles

4.1 Motivation for Switching

Are parenting styles hardwired? The switching results are displayed in the tables [see Figures 2 and 3]. The dataset used is the Children of NLSY-79 collected by the Bureau of Labour Statistics in the U.S. The HOME questions in the Mother Supplement questionnaire do not directly ask the mother what action she would take if the child engages in substance abuse. [See Appendix] The question in the Mother Supplement only asks what the mother would do if the child misbehaves or throws a tantrum. The behavioural problem index is based on responses from the mother to 28 questions in the Mother Supplement which deal with specific behaviours that children age four and over may exhibit in the previous three

months. The standard score used in this paper sums across the subscores created according to the following domains: (1) antisocial behaviour, (2) anxiousness/depression, (3) headstrongness, (4) hyperactivity, (5) immature, (6) dependency and (7) peer conflict/social withdrawal. The standard score of BPI is scaled from 70-140 and the paper uses the measure of lifetime substance use i.e. if the child smoked or drank alcohol in his entire life.

The switching results are shown for different children in the same year and for different years for the same child. There is a tendency to be consistent as well as to switch to different parenting styles. In the dataset there were 17 Permissive parents who stayed the same and 37 Disengaged parents who stayed the same. The tendency to switch was highest among the Disengaged parents, and 40 switched to Authoritative, 18 switched to Authoritarian and 19 switched to Permissive. These numbers are out of the total of 116 parents in year 1. In the case of different children in the same year the tendency was more towards stability. There were only 6 switches among the disengaged parents, only 4 switches in the Permissive parents.

To From \	Authoritative	Authoritarian	Permissive	Disengaged	Total for year 1
Authoritative	0	0	0	0	0
Authoritarian	0	0	0	2	2
Permissive	6	1	17	6	30
Disengaged	40	18	19	39	116
Total for year 2	46	19	36	47	148

Figure 1: Switching Parenting styles across different years for the same child

To From \	Authoritative	Authoritarian	Permissive	Disengaged	Total for child 1
Authoritative	17	1	3	1	22
Authoritarian	0	8	0	2	10
Permissive	1	0	33	3	37
Disengaged	1	2	3	70	76
Total for child 2	21	12	41	76	152

Figure 2: Switching Parenting Styles across different children in the same year

despite having personal distress and problems related to its use. The problem of substance use has to a large extent stabilized in developed

countries which have been exposed to substance use for decades, in contrast to many developing countries where the problem is on the rise. Research on the causal factors is pointing towards urbanization, poverty, migration, technological change and educational deficits.

The situation will become worse as multinational alcohol manufacturers are now aggressively targeting the developing countries particularly in South-East Asia. In India, Sri Lanka, Thailand and Malaysia drinking patterns illustrate how the per capita consumption figures of a country do not necessarily give the true picture of consumption patterns of Asian countries. Parallel with the international and more expensive alcoholic beverages there exist the local, cheap, potent brews, both legal and illicit which are not computed into the national statistics.

National Sample Survey of India (1993-1994) show the rural-urban divide for males and females respectively for bidis and cigarettes and tobacco consumption in other forms such as snuff, chewing tobacco and burnt tobacco powder.

The most common drugs in India are smoking (cigarettes, beedis) & chewing tobacco (gutkha, pan masala), alcohol, cannabis (ganja, bhang, charas), opioids (heroin, opium, injection Buprenorphine, capsule Spasmoproxyvon, cough syrups), Sedative-Hypnotics (sleeping pills, Alprazolam, Diazepam) and Inhalants (typewriter correction fluid). Smoking & chewing tobacco and alcohol are licit (legal) drugs in most states in India. All other drugs are illicit (illegal), hence possession, use, etc. are punishable offences. Narcotic pharmacological product use without appropriate physician's prescription is considered illicit. Different age limits exist for use of alcohol / tobacco products in various states of India. The pattern of use of licit drugs differs from that of illicit drugs. Licit drug use is prevalent between the ages of 16 to 60 years in all economic strata, more so in young adults. Illicit drugs are mainly used in lower & lower middle economic groups. Cocaine & Amphetamine use is rare and seen in some young adults from higher economic backgrounds.

Youngsters between the ages of 16 and 21 years are most prone to initiating alcohol & drug use. Many adolescents experiment with smoking & alcohol in their late teens. This usually occurs at parties. Some also try cannabis and rarely illicit drugs. Some may continue with regular use of a single drug, e.g. cigarette smoking, or use drugs occasionally, e.g. alcohol.

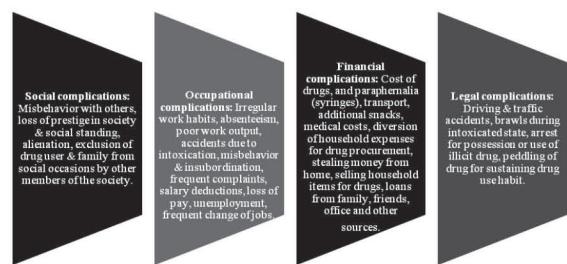
The only nation-wide survey covering a large part of the child population was conducted by a Delhi based NGO called Prayas Institute of Juvenile Justice. Spread across 13 states of India including Delhi, Rajasthan, Madhya Pradesh, West Bengal, Mizoram, Kerala, Andhra Pradesh, Gujarat, Bihar, Uttar Pradesh, Assam, Maharashtra and Goa the study covered 12,447 children from different socio-economic strata and nearly 2342 young adults and 23,494 adults in both rural and urban areas. The results revealed that 32.1% of children, below the age of 18, have tasted alcohol, bhang, ganja, heroin or other form of narcotics. It also brought out disturbing facts like 70.3% of those children have been first exposed to one or the other form of drugs by their friends and relatives and 11.7% by their parents (Prayas, 2007).

Regular drug use results in several adverse consequences in the personal, social, occupational spheres of users in the 20s, 30s & 40s. Some quit intermittently and some quit for long durations. Most users usually quit drug use in their late 40s. Some may continue lifelong. The medical harm of drug use depends on type, amount, duration of drugs use, and certain protective factors.

Figure 3: Medical harm of Substances

Protective factors include good nutrition, drug use restricted to social occasions (e.g. alcohol) and regular contact with treatment facility. Some of the problems related to drug use occur in the context of family, society, workplace, finances & the law.

Figure 4: Complications related to drug use



Medications & counseling are the main modalities of treatment of Drug Abuse. Minor levels of drug use are dealt with counseling alone. For higher grades of drug use a combination of medications & counseling is used. The role of family members should be to detect drug use, to encourage to initiate & maintain in treatment and to look out for signs of re-use (relapse). Family members need to understand that drug abuse is currently considered as a Medical disorder. There is a need for Increasing awareness of the common drugs of abuse, their medical, smcial & occupational costs, in youngsters, parents and teachers.

6 Conclusion & Way Forward

Thus this analysis is a step towards a better understanding of the interaction effects between parenting styles and substance use. The importance of Parenting style is highlighted and Parenting style is constructed as an index from several questionnaires responses. Therefore this brings out the importance of Parent-Child interactions from the Sociology and Psychology literature and uses the methodology and framework of Economics to model these relationships. Parenting style is an independent variable influencing child outcomes, focusing here on substance use. While exploring this relationship there is a need to control for all other influences which are simultaneously impacting

Tobacco use is related to lung cancer (smoking) oral cancer (chewing), heart disease, chronic obstructive pulmonary disease (COPD), dental problems, chronic bronchitis, impotence in males & fetal defects in unborn children (in pregnant women)

Chronic alcohol use may lead to hepatitis or cirrhosis of liver, gastritis, pancreatitis, depression, impotence in males, cardiomyopathy, high blood pressure, neuropathy, obesity, predispose to some cancers (mouth, gallbladder, liver, colon and breast) and accidents – automobiles, domestic & workplace (injury, fire, drowning).

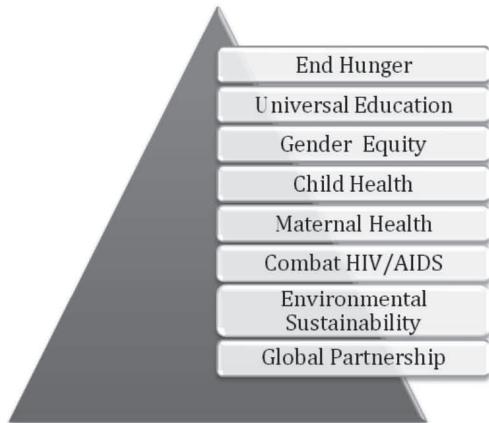
All drugs produce harm according to the route of intake. Those drugs which are inhaled cause respiratory tract infections and may predispose to tuberculosis of lungs. Those viruses which are injected can cause infections of the veins, infections in the blood, abscesses in various internal organs & muscles, and spread blood-borne infections (e.g. Hepatitis B & C) if needles are shared between users. Opioids & sedatives may be dangerous if overdosed. Inhalants may produce burns in mouth, nostrils, abnormal heart rhythms & sudden death.

the child outcomes. Parenting style is also distant from parenting practices which are the actions parents can take. Parenting style is a broader and comprehensive term which consists of various parenting practices and additionally a broader spectrum of parental behaviours which define the parenting style in these households.

In the switching results the pattern of results turned out this way because Disengaged is pulling out from every other category and there is a very high percentage of disengaged parents. Across years its highly consistent.

This study enables us to understand the importance of all explanatory factors in substance use by young children. These results and studies are important in determining how policy makers could influence these juvenile delinquent behaviours. These behaviours are potentially risky both for the individual and also put the society at risk in general due to their impact through various criminal activities. The problem of child substance use pose serious challenges to the achievement of the United Nations Millennium Development goals.

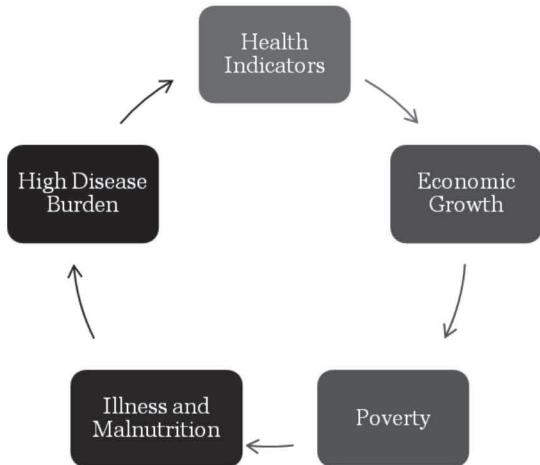
Figure 5: United Nations Millennium Development Goals



Thus the dynamics of intra-familial interactions is one more area which is being exploited to get a better view of a healthy society which has healthy children as well from the perspective of

maintaining peace and order which needs the youth to function in an orderly manner. There is a substantial interest in trying to find all the possible causal mechanisms which can explain these behaviours and in the case of very young children the parental control is much higher than parenting style can be explored as a logical explanation for substance use in households. Its partially an explanation or an interest to model comparative statics where current phenomenon of substance use can be explained. Moreover its also to predict and forecast these behaviours and how such families could be identified as possible homes for juvenile delinquency. This is important especially in the current age group which is young enough to be identified and if possible corrected to prevent the onset of substance use in later adolescent years. There are several studies which examine the high school population and there are surveys such as Monitoring the Future Surveys and High School and Beyond Surveys which concentrate on older adolescents.

Figure 6: Vicious cycle of poverty and ill-health



It's also important to break the vicious cycle of poverty and ill-health through economic growth and better development outcomes particularly targeted at vulnerable sections like street children who are at great risk of high substance use and subsequent death.

References

- [1] Adams, Michelle Janssen Youth in Crisis: An Examination of Adverse Risk Factors Affecting Childrens Cognitive and Behavioral/Emotional Development, Children Ages 10-16, Ph.D. Dissertation, The University of Texas at Dallas, (1995)
- [2] Akabayashi, Hideo On the role of incentives in the formation of human capital in the family Ph.D. Dissertation, University of Chicago, (1996)
- [3] Albanese, Paul J. Psychological Foundations of Economic Behavior edited with a foreword by Tibor Scitovsky, (1988)
- [4] Armsden, Gay C. and Mark T. Greenberg The Inventory of Parent and Peer Attachment: Individual Differences and Their Relationship to Psychological Well-Being in Adolescence , Journal of Youth and Adolescence, Vol. 16, No. 5, (1987) 427-455
- [5] Baumrind, Diana The influence of parenting style on adolescent competence and substance abuse, Journal of Early Adolescence, 11(1), (1989) 56-95
- [6] Becker, Gary S. A Treatise on the Family, Enlarged edition, Cambridge, MA: Harvard University Press, (1991)
- [7] Brandstatter, Hermann and Werner Guth Essays on Economic Psychology, (1994)
- [8] Bronfenbrenner, Urie Ecology of the Family as a Context for Human Development: Research Perspectives Development Psychology, Vol. 22, No.6, (1986) 723-42
- [9] Carlson, Marcia Jeanne Family Structure, Father Involvement and Adolescent Behavioral Outcomes, Ph.D. University of Michigan, (1999)
- [10] Courts, Frederick A. Psychological Statistics: An Introduction, (1966)
- [11] Feldman, S. Shirley and Glen R. Elliot At the Threshold: The Developing Adolescent, (1990)
- [12] Finken, Laura Lei A Developmental Extension of the Propensity-Event Theory to Adolescents Reckless Behavior, Ph.D. University of Nebraska-Lincoln, (1996)
- [13] Gardner, Robert C. (2001) Psychological Statistics using SPSS for Windows
- [14] Green, Leonard and John H. Kagel Advances in Behavioral Economics, Volume 1, (1987)
- [15] Hao, Linxin, V. Joseph Hotz and Ginger Zhe Jin Games Daughters and Parents Play: Teenage Childbearing, Parental Reputation and Strategic Transfers NBER Working paper 7670 (2000)
- [16] Hill, J.P.. Research on adolescents and their families: Past and Prospect, In C.E. Irwin (Ed.) New Directions for Child Development, Vol.37, (1987) 13-31
- [17] Hernstein, Richard J. and Charles Murray The Bell Curve: Intelligence and Class Structure in American Life, (1994)
- [18] Hirschi, Travis and Michael J. Hindelang Intelligence and Delinquency: A Revisionist Review, American Economic Review, Vol. 42 (August): (1977) 571-87
- [19] Hoffman, Martin L. and Lois W. Hoffman Review of Child Development Research, Volume 1 (1964)
- [20] Jessor, S.L., and Jessor, R. Maternal Ideology and Adolescent Problem Behavior Development Psychology, 10, (1974) 246-54
- [21] Kung, M.S. and Albert D. Farrell The Role of Parents and Peers in Early Adolescent Substance Use: An Examination of Mediation and Moderating Effects Journal of Child and Family Studies, Vol. 9 No. 4, (2000) 509-528
- [22] Lane, J., Dean Gerstein, Lynn Huang and Douglas Wright Risk and Protective Factors for Adolescent Drug Use: Findings from the 1997 National Household Survey on Drug Abuse Department of Health and Human Services, Substance Abuse and Mental Health Services Administration (1997)
- [23] Lambert, Richard Long-term contracts and moral hazard The Bell Journal of Economics, 1983, (1983) 441-452
- [24] Larson, Reed W., Suzanne Wilson, B. Bradford Brown, Frank F. Furstenberg, Jr. and Suman Verma (2002) Changes in Adolescents Interpersonal Experiences: Are they being Prepared for Adult Relationships in the Twenty-First Century , Journal of Research on Adolescence, 12(1), 31-68

- [25] Lipstick, Lewis P. and Leonard L. Mitnick Self-Regulatory Behavior and Risk Taking: Causes and Consequence, (1991)
- [26] Lea, Stephen E.G., Paul Webley and Brian M. Young New Directions in Economic Psychology: Theory, Experiment and Application, (1992)
- [27] Maccoby, Eleanor E, and John A. Martin. Socialization in the context of the family: Parent-Child Interaction in Handbook of Child Psychology, Vol. 4 edited by E. M. Hetherington, (1983)
- [28] Mach, Traci and Catalina Amuedo-Dorantes The Impact of Families on Juvenile Substance Use, Working Paper, April 2001
- [29] NLSY-79 Handbook Columbus. Centre for Human Resource Research, The Ohio State University, (2001)
- [30] Rogerson, Richard Repeated moral hazard Econometrica, Vol. 53(1), (1985) 69-76
- [31] Santrock, John Adolescence, 3rd edition (1998)
- [32] Seo, Gye Soon Kong The Impact of Maternal Problem Drinking on Childrens Developmental Outcomes: Focus on Parenting as mediator Ph.D. Paper, The Ohio State University, (1998)
- [33] Steinberg, Laurence, Nina S. Mounts and Susie D. Lamborn and Sanford M. Dornbusch (1991) Authoritative Parenting and Adolescent Adjustment Across Varied Ecological Niches Journal of Research on Adolescence, 1(1), 19-36
- [34] Steinberg, Laurence Adolescence, 2 n d edition [35] Steinberg, Laurence, Sanford M. Dornbusch, B. Bradford Brown (1992) Ethnic Differences in Adolescent Achievement, American Psychologist, Vol. 47, No. 6, (1989) 723-729
- [35] Weinberg, Bruce An Incentive Model of the effect of parental income on children Journal of Political Economy, 109(2), (2000) 266-80
- [36] Yin, Tao The Relationship between Mother s Alcohol Use and Childs Well-Being, Ph.D. Paper, University of Maryland, (2000)

Appendix

The Parenting Style classification uses the following 3 questions from the HOME (D) section in the Mother Supplement Questionnaire of the NLSY-79 Mother-Child dataset for 10-14 year old children

Question:

- 20. "Sometimes children get so angry at their parents that they say things like "I hate you" or swear in a temper tantrum please check which action(s) you would take if this happened"
 - Grounding
 - Spanking
 - Talk with child
 - Give him or her household chore
 - Ignore it
 - Send to room for more than 1 hour
 - Take away his/her allowance
 - Take away TV, phone, or other privileges
 - Other Put child in a short "time out"
- 21. If your child brought home a report card with grades lower than expected, how likely would you be to...very likely
 - Somewhat likely
 - not sure how likely not at all likely contact his or her teacher or principal?
 - Lecture the child?
 - keep a closer eye on child's activities?
 - Punish the child?
 - talk with the child?
 - wait and see if child improves on his/her own?
 - tell child to spend more time on schoolwork?
 - spend more time helping child with schoolwork?
 - limit or reduce child's non-school activities (play, sports, clubs, etc.)
- 22. Sometimes kids mind pretty well and sometimes they don't. Sometimes they do things that make you feel good. How many times in the past week have you had to spank your child?
 - grounded him/her?
 - taken away TV or other privileges?

praised child for doing something worthwhile?
taken away his/her allowance?
shown child physical affection (kiss, hug, stroke hair, etc)?
sent child to his/her room?
told another adult (spouse, friend, co-worker, visitor, relative) something positive about child?

The substance use questions use the following questions on smoking and alcohol consumption from the Child Self-Administered Supplement Questionnaire of the NLSY-79 for 10-14 year old children

50. In your lifetime, on how many different occasions have you smoked cigarettes?
100 times or more
50 to 99 times
11 to 49 times
6 to 10 times
3 to 5 times
1 or 2 times
Never smoked cigarettes in my life

55. Have you ever drunk alcohol, other than just a sip or two?
Yes
No

Managing Business Innovation with Green Marketing

Ruchika Singh Malyan and Dr. Lokesh Jindal

Abstract *Green marketing is a phenomenon which has developed particular importance in the modern marketing era. While company adopting green marketing, at the same time there are a number of problems that must overcome. One of the main problems is that firms using green marketing must ensure that their activities are not misleading to consumers or industry and do not breach any of the regulations or laws dealing with environmental marketing.*

Green Marketing has emerged as an important concept in India as in other parts of the developing and developed world, and is seen as an important strategy of facilitating sustainable development. It has opened the door of opportunity for companies to co-brand their products into separate line. This has become all the more vital when our planet is in threat and everybody is keen to protect it. The consumers through their concern are interested in integrating environmental issues into their purchasing decisions. Many governments around the world have become so concerned about green marketing activities that they have attempted to regulate them. That is why, 'Going Green' is in the minds of the business owners and executives now more than ever. As a result of this businesses have increased their rate of targeting consumers who are concerned about the environment.

Key Words: *Green Marketing, Business Innovation, Environmentalism, Sustainable Development*

1. Introduction:

Green Marketing Concepts is an opportunity for the business to do the right thing and be rewarded for it. Trends suggest that businesses that don't identify as ecologically friendly or local in the next decade will risk being labeled as low-rent or hopelessly out of date. Real and substantial economic rewards await those who approach ecological and sustainable niches with a sincere concern and good ideas.

Businesses have begun to adapt their behavior in an attempt to address these "new" concerns. Some businesses have been quick to accept concepts like environmental management systems and waste minimization, and have integrated environmental issues into all organizational activities. Some companies have dedicated environment friendly product lines.

Adding to the evidence is the development of journals such as "Business Strategy and the Environment" and "Greener Management International," which are specifically designed to disseminate research relating to business' environmental behavior. Terms like "Green Marketing" and "Environmental Marketing" are frequently appearing in the popular press. Many governments around the world have become so concerned about green marketing activities that they have attempted to regulate them.

The first to include the green marketing in the marketing mix was Bradley in 1989. He was the first to use the term green marketing mix. He included the green marketing inside the marketing mix and developed some studies to measure how green is a company and explained some rules to insert into the marketing strategy.

Pride and Ferrell (1993) Green marketing, also alternatively known as environmental marketing and sustainable marketing, refers to an organization's efforts at designing, promoting, pricing and distributing products that will not harm the environment Polonsky (1994) defines green marketing as all activities designed to generate and facilitate any exchanges intended to satisfy human needs or wants, such that the satisfaction of these needs and wants occurs, with minimal detrimental impact on the natural environment.

Aseem Prakash (2002) author of "Business Strategy and the Environment", approaches green marketing from the marketing- mix point of view. According to him green marketing subsumes greening products as well as greening firms, in addition to manipulating the 4Ps of the traditional marketing mix.

Prof. Sanjit Kumar Dash (2010); author of Green Marketing: Opportunities & Challenges; has mentioned that all activities designed to generate and facilitate any exchange intended to satisfy human needs or wants such that satisfying of these needs and wants occur with minimal detrimental input on the national environment.

Jacquelyn A. Ottman (2011); the author of Green Marketing: Opportunity for Innovation, has explained green marketing from an organizational standpoint, environmental considerations should be integrated into all aspects of marketing new product development and communications and all points in between. According to the author environment should be balanced with primary customer needs. The so-called "green consumer" movements in the U.S. and other countries have struggled to reach critical mass and to remain in the forefront of shoppers' minds. The lack of consensus by consumers, marketers, activists, regulators, and influential people has slowed the growth of green products.

2. Fundamental issues for discussion:

This paper discusses how businesses have increased their rate of targeting green consumers,

those who are concerned about the environment and allow it to affect their purchasing decisions. The paper explores the challenges and opportunities businesses have with green marketing. The paper also examines the present trends of green marketing in India and describes the reason why companies are adopting it and future of green marketing and it conclude with the thought that green marketing is something that would grow continuously and would always be in demand.

3. Discussion:

3.1 What is Green Marketing?

Sometimes called "green marketing" or "natural branding," among other things, the whole concept is based upon the notion that being environmentally friendly might be part of the successful marketing strategy of a product, service or anything. Most consumers are savvy enough now to realize they have a "vote" with everything they purchase. Though still a minority, there is a sizeable and ever-growing segment of the population that bases much of their consumption decisions on their perceptions of how a product will affect the environment and themselves. Environmental niche marketing is also about creating that niche where it may not have existed before. There was no modern \$4 coffee market until Starbucks created it. There were no Organics until farmers who have always practiced sustainable agriculture decided to market their produce as such. No one cared what sort of light bulbs they had when energy was cheap and plentiful - it took the modification of technology made for RVs and space flight to even bring low power consumption products such as compact fluorescent light bulbs to market. In the end, the idea is to let sound environmental practices be your guide to creating a new audience for your product or service--one that is willing to pay a premium to let you help them do the right thing.

Lastly, it's all about actually backing up any claims you might make as to the environmentally benign nature of your business. In fact, not only do you have to live up to your claims, but you

need to market yourself in such a way that people will assume you're being truthful. People who are already looking for "green" products will avoid yours if it smells like a hypocritical rat. This is your chance to practice what you preach. For once, those who play by the rules will be rewarded. It is perhaps useful to note here that the environment extends beyond plants, animals, air and water. People are part of the environment as well, since we all live in this world - a very large system but closed for all intents and purposes. People who are taken advantage of and suffer dire economic consequences become desperate. Desperate people will resort to any means just to stay alive. Poaching, deforestation and pollution are very often the ultimate consequences of violating human dignity. Therefore, eco-marketing necessarily extends to human rights.

3.2 Importance of Green Marketing

Today's consumers are becoming more and more conscious about the environment and are also becoming socially responsible. Therefore more companies are responsible to consumer's aspirations for environmentally less damaging or neutral products. Also, many companies want to have an early-mover advantage as they have to eventually work towards becoming green.

Companies that develop virgin and improved products and services with environment inputs in mind give themselves access to new markets, increase their profit and enjoy competitive advantage over the companies which are not concerned for the environment.

When looking through the literature there are several suggested reasons for firms increased use of Green Marketing. The possible reasons are as follows:

1. Green marketing saves money in the long run, though initially the cost is more.
2. It helps in accessing the new market and enjoying competitive advantage.
3. Green marketing ensures sustained long term growth along with profitability.
4. As resources are limited and human wants are unlimited, it is important for the

marketers to utilize the resources efficiently without waste and to achieve organization's objectives.

5. Organizations believe that they have a moral obligation to be more socially responsible.
6. Governmental bodies are now forcing firms to become more responsible.
7. Competitor's environmental activities pressure firms to change their environmental marketing activities.
8. Cost factors associated with waste disposal, or reduction in material usage forces firms to modify their behavior.
9. The consumer is going green and is accepting products that are environment friendly.

Green Marketing is driving a lot of corporate social responsibilities (CSR) themes today. Some firms are going green for short term benefits while others are looking at it as a long term responsibility and incorporating green as a part of their corporate DNA. This involves developing and marketing environment friendly products that use sustainable methods and include green packaging and labels. Consumers worldwide are showing more concern about the environment by preferring environment friendly products.

3.3 Green Products and its characteristics

The products those are manufactured through green technology and that caused no environmental hazards are called green products. Promotion of green technology and green products is necessary for conservation of natural resources and sustainable development. We can define green products by following measures:

- Products those are originally grown,
- Products those are recyclable, reusable and biodegradable,
- Products that save energy
- Products with natural ingredients,
- Products containing recycled contents, non-toxic chemical,
- Products contents under approved chemical,
- Products that do not harm or pollute the environment,
- Products that will not be tested on animals,
- Products that have eco-friendly packaging

i.e. reusable, refillable containers etc.

3.4 The Seven P's of Green Marketing

Like conventional marketers, green marketers must address the 4 P's in innovative ways.

3.4.1 Product

Entrepreneurs wanting to exploit emerging green market either:

- Identify customers' environmental needs and develop products to address these needs; or
- Develop environmentally responsible products to have less impact than competitors.

The increasingly wide variety of products on the market that support sustainable development and are good for the triple bottom line include:

- Products made from recycled goods
- Products that can be recycled or reused.
- Efficient products, which save water, energy or gasoline, save money and reduce environmental impact. Queensland's only waterless printer, Printpoint, reduces operating costs by using less water than conventional printers and is able to pass the savings on to customers.
- Products with environmentally responsible packaging. McDonalds, for example, changed their packaging from polystyrene clamshells to paper.
- Products with green labels, as long as they offer substantiation.
- Organic products - many consumers are prepared to pay a premium for organic products, which offer promise of quality. Organic butchers, for example, promote the added qualities such as taste and tenderness.

- A service that rents or loans products - such as toy libraries.
- Certified products, which meet or exceed environmentally responsible criteria.

Whatever the product or service, it is vital to ensure that products meet or exceed the quality expectations of customers and are thoroughly tested.

3.4.2 Price

Pricing is a critical element of the marketing mix. Most customers are prepared to pay a premium if there is a perception of additional product value.

This value may be improved performance, function, design, visual appeal or taste. Environmental benefits are usually an added bonus but will often be the deciding factor between products of equal value and quality.

Environmentally responsible products, however, are often less expensive when product life cycle costs are taken into consideration. For example - fuel-efficient vehicles, water-efficient printing and non-hazardous products.

3.4.3 Place

The choice of where and when to make a product available has a significant impact on the customers being attracted. Very few customers go out of their way to buy green products merely for the sake of it. Marketers looking to successfully introduce new green products should, in most cases, position them broadly in the market place so they are not just appealing to a small green niche market.

The location must also be consistent with the image which a company wants to project. The location must differentiate a company from its competitors. This can be achieved by in-store promotions and visually appealing displays or using recycled materials to emphasize the environmental and other benefits.

3.4.4. Promotion

Promoting products and services to target markets includes paid advertising, public relations, sales promotions, direct marketing and on-site promotions. Smart green marketers will be able to reinforce environmental credibility by using sustainable marketing and communications tools and practices. For example, many companies in the financial industry are providing electronic statements by email, e-marketing is rapidly replacing more traditional marketing methods, and printed materials can be produced using recycled materials and efficient processes, such as waterless printing.

Retailers, for example, are recognizing the value of alliances with other companies, environmental groups and research organizations when promoting their environmental commitment. To reduce the use of plastic bags and promote their green commitment, some retailers sell shopping bags, under the banner of the Go Green Environment Fund. The key to successful green marketing is credibility. Never overstate environmental claims or establish unrealistic expectations, and communicate simply and through sources that people trust. Promote your green credentials and achievements. Publicize stories of the company's and employees' green initiatives. Enter environmental awards programs to profile environmental credentials to customers and stakeholders.

3.4.5 People:

"People" is one of the very important elements of service marketing mix. Here people refer to those who are involved in providing the green services. The most important criterion for the provider of the green services is that the people must be green in the mindsets and in their activities otherwise the performance of green services will be at stake.

3.4.6 Process:

Process is another very important element of service marketing mix. Here, process refers to the methodology with the help of which green services

will be provided. It is also very important that the process should be executed in such a way so that the main objective of green marketing can be achieved. The process of green marketing must be executed keeping in mind the greenness of the entire system.

3.4.7: Physical Evidence

As services are basically intangible in nature so for increasing the credibility and reliability of the service, we need to give some tangible touches to the intangible and that can best be done by giving some physical evidence. In case of Green Marketing, the physical evidence must be given from a very much hostile point of view so that the purpose of keeping the entire system is safely protected.

3.5 Problems with going green

One of the main problems is that firms using green marketing must ensure that their activities are not misleading to consumers or industry, and do not breach any of the regulations or laws dealing with environmental marketing. Another problem firms face is that those who modify their products due to increased consumer concern must contend with the fact that consumers' perceptions are sometimes not correct like in McDonald's case where it has replaced its clam shells with plastic coated paper. When firms attempt to become socially responsible, they may face the risk that the environmentally responsible action of today will be found to be harmful in the future. This may explain why some firms, like Coca-Cola and Walt Disney World, are becoming socially responsible without publicizing the point. They may be protecting themselves from potential future negative backlash; if it is determined they made the wrong decision in the past.

Governments want to modify consumer behavior thus they need to establish a different set of regulations and sometimes may result in a proliferation of regulations and guidelines, with no one central controlling body.

Reacting to competitive pressures can cause all "followers" to make the same mistake as the

"leader." A costly example of this was the Mobil Corporation who followed the competition and introduced "biodegradable" plastic garbage bags. While technically these bags were biodegradable, the conditions under which they were disposed did not allow biodegradation to occur. Mobil was sued by several US states for using misleading advertising claims. Thus blindly following the competition can have costly ramifications.

End-of-pipe solutions may not actually reduce the waste but rather shift it around, though it may minimize its short term affects. Ultimately most waste produced will enter the waste stream, therefore to be environmentally responsible organizations should attempt to minimize their waste, rather than find "appropriate" uses for it.

3.6 Golden Rules of Green Marketing

1. Know you're Customer: Make sure that the consumer is aware of and concerned about the issues that your product attempts to address, (Whirlpool learned the hard way that consumers wouldn't pay a premium for a CFC-free refrigerator because consumers didn't know what CFCs were).

2. Educating your customers: isn't just a matter of letting people know you're doing whatever you're doing to protect the environment, but also a matter of letting them know why it matters. Otherwise, for a significant portion of your target market, it's a case of "So what?" and your green marketing campaign goes nowhere.

3. Being Genuine & Transparent: means that:

a. You are actually doing what you claim to be doing in your green marketing campaign and

b. The rest of your business policies are consistent with whatever you are doing that's environmentally friendly.

Both these conditions have to be met for your business to establish the kind of environmental credentials that will allow a green marketing

campaign to succeed.

4. Reassure the Buyer: Consumers must be made believe that the product performs the job it's supposed to do-they won't forego product quality in the name of the environment.

5. Consider Your Pricing: If you're charging a premium for your product-and many environmentally preferable products cost more due to economies of scale and use of higher-quality ingredients-make sure those consumers can afford the premium and feel it's worth it.

6. Giving your customers an opportunity to participate: means personalizing the benefits of your environmentally friendly actions, normally through letting the customer take part in positive environmental action.

7. Thus leading brands should recognize that consumer expectations have changed: It is not enough for a company to green its products; consumers expect the products that they purchase pocket friendly and also to help reduce the environmental impact in their own lives too.

3.7 Business Innovation with green marketing

Green marketing has been widely adopted by the firms worldwide for business innovation and the following are the possible reasons cited for this wide adoption:

1) Opportunities:

As demands change, many firms see these changes as an opportunity to be exploited and have a competitive advantage over firms marketing non-environmentally responsible alternatives. Some examples of firms who have strived to become more environmentally responsible, in an attempt to better satisfy their consumer needs are:

- McDonald's replaced its clam shell packaging with waxed paper because of increased consumer concern relating to polystyrene production and Ozone depletion.
- Tuna manufacturers modified their fishing

techniques because of the increased concern over driftnet fishing, and the resulting death of dolphins.

- Xerox introduced a "high quality" recycled photocopier paper in an attempt to satisfy the demands of firms for less environmentally harmful products.

2) Social Responsibility

Many firms are beginning to realize that they are members of the wider community and therefore must behave in an environmentally responsible fashion thus resulting in environmental issues being integrated into the firm's corporate culture.

An example of a firm that does not promote its environmental initiatives is Coca-Cola which invested large sums of money in various recycling activities, as well as having modified their packaging to minimize its environmental impact. Another firm who is very environmentally responsible but does not promote this fact, at least outside the organization, is Walt Disney World (WDW) with an extensive waste management program and infrastructure.

3) Governmental Pressure

Governmental regulations relating to environmental marketing are designed to protect consumers through regulations designed to control the amount of hazardous wastes produced by firms by issuing of various environmental licenses, thus modifying organizational behavior. In some cases governments try to "induce" final consumers to become more responsible by taxing individuals who act in an irresponsible fashion. For example in Australia there is a higher gas tax associated with leaded petrol.

4) Competitive pressure

Another major force in the environmental marketing area has been firms' desire to maintain their competitive position. In many cases firms observe competitors promoting their environmental behaviors and attempt to emulate

this behavior. In some instances this competitive pressure has caused an entire industry to modify and thus reduce its detrimental environmental behavior. For example, it could be argued that Xerox's "Revive 100% Recycled paper" was introduced a few years ago in an attempt to address the introduction of recycled photocopier paper by other manufacturers. In another example when one tuna manufacture stopped using driftnets the others followed suit.

5) Cost or profit issues

Disposing of environmentally harmful by-products, such as polychlorinated biphenyl (PCB) contaminated oil are becoming increasingly costly and in some cases difficult. In minimizing wastes firms often develop more effective production processes that reduce the need for some raw materials thus serving as a double cost savings. In other cases firms attempt to find end-of-pipe solutions, instead of minimizing waste by trying to find markets or uses for their waste materials, where one firm's waste becomes another firm's input of production.

3.8 Following the Green Code

Generalise with care. Consumer behavior will not necessarily be consistent across different product types, and particular market segments may respond to certain issues on the green agenda but not others.

Remember, the validity of a piece of market research is not related to the degree to which it supports your preferred option.

Explore the context from which market research data comes. Be clear on the nature of the sample used, the questions asked, the way in which responses were recorded and the time and place from which the responses come.

Ensure that where market research is crossing international borderlines, that the terminology and interpretation remains consistent. Terms like 'environment', 'green' and 'conservation' do not always translate precisely between languages.

Neutrality is important. Ensure that when you pose questions to consumers, that they can make any response without being made to feel guilty or uncomfortable, and ensure that your own preconceptions about the green agenda (such as an assumption that green products will cost extra) are not encoded within the questions.

3.9 Choosing the right Green marketing strategy

Green marketing has not lived up to the hopes and dreams of many managers and activists. Although public opinion polls consistently show that consumers would prefer to choose a green product over one that is less friendly to the environment when all other things are equal, those "other things" are rarely equal in the minds of consumers. And hopes for green products also have been hurt by the perception that such products are of lower quality or don't really deliver on their environmental promises. Yet the news isn't all bad, as the growing number of people willing to pay a premium for green products - from organic foods to energy-efficient appliances - attests.

How, then, should companies handle the dilemmas associated with green marketing? They must always keep in mind that consumers are unlikely to compromise on traditional product attributes, such as convenience, availability, price, quality and performance. Since there is no single green-marketing strategy that is right for every company experts suggest that companies should follow one of four strategies, depending on market and competitive conditions, from the relatively passive and silent "lean green" approach to the more aggressive and visible "extreme green" approach - with "defensive green" and "shaded green" in between. Managers who understand these strategies and the underlying reasoning behind them will be better prepared to help their companies benefit from an environmentally friendly approach to marketing.

3.10 Some Cases

Interestingly, green marketing continues to be an issue of global interest. In fact, Google Trends reports that, on a relative basis, more searches for

"green marketing" originated from India than from any other country.

Rank Country

1. India
2. UK
3. US
4. Thailand
5. Australia
6. Canada
7. China

Example 1: Best Green IT Project: State Bank of India: Green IT@SBI

By using eco and power friendly equipment in its 10,000 new ATMs, the banking giant has not only saved power costs and earned carbon credits, but also set the right example for others to follow.

SBI is also entered into green service known as "Green Channel Counter". SBI is providing many services like; paper less banking, no deposit slip, no withdrawal form, no checks, no money transactions form all these transaction are done through SBI shopping & ATM cards. State Bank of India turns to wind energy to reduce emissions: The State Bank of India became the first Indian bank to harness wind energy through a 15-megawatt wind farm developed by Suzlon Energy. The wind farm located in Coimbatore uses 10 Suzlon wind turbines, each with a capacity of 1.5 MW. The wind farm is spread across three states - Tamil Nadu, with 4.5 MW of wind capacity; Maharashtra, with 9 MW; and Gujarat, with 1.5 MW. The wind project is the first step in the State Bank of India's green banking program dedicated to the reduction of its carbon footprint and promotion of energy efficient processes, especially among the bank's clients.

Example 2: Lead Free Paints from Kansai Nerolac

Kansai Nerolac Paints Ltd. has always been committed to the welfare of society and environment and as a responsible corporate has always taken initiatives in the areas of health, education, community development and environment preservation. Kansai Nerolac has worked on removing hazardous heavy metals

from their paints. The hazardous heavy metals like lead, mercury, chromium, arsenic and antimony can have adverse effects on humans. Lead in paints especially poses danger to human health where it can cause damage to Central Nervous System, kidney and reproductive system. Children are more prone to lead poisoning leading to lower intelligence levels and memory loss.

Example 3: Indian Oil's Green Agenda Green Initiatives

- Indian Oil is fully geared to meet the target of reaching EURO-III compliant fuels to all parts of the country by the year 2010; major cities will upgrade to Euro-IV compliant fuels by that time.
- o Indian Oil has invested about Rs. 7,000 crore so far in green fuel projects at its refineries; ongoing projects account for a further Rs. 5,000 crore.
- Motor Spirit Quality Improvement Unit commissioned at Mathura Refinery; similar units are coming up at three more refineries.
- Diesel quality improvement facilities in place at all seven Indian Oil refineries, several more green fuel projects are under implementation or on the anvil.
- o The R&D Centre of Indian Oil is engaged in the formulations of eco-friendly biodegradable lube formulations.
- The Centre has been certified under ISO-14000:1996 for environment management systems.

Green Fuel Alternatives

In the country's pursuit of alternative sources of energy, Indian Oil is focusing on CNG (compressed natural gas), Auto gas (LPG), ethanol blended petrol, bio-diesel, and Hydrogen energy.

Example 4: India's 1st Green Stadium

The Thyagaraja Stadium stands tall in the quiet residential colony behind the Capital's famous

INA Market. It was jointly dedicated by Union Sports Minister MS Gill and Chief Minister Sheila Dikshit on Friday. Dikshit said that the stadium is going to be the first green stadium in India, which has taken a series of steps to ensure energy conservation and this stadium has been constructed as per the green building concept with eco-friendly materials.

Example 5: Eco-friendly Rickshaws before CWG

Chief minister Shiela Dikshit launched on Tuesday a batteryoperated rickshaw, "E-rick", sponsored by a cellular services provider, to promote eco-friendly transportation in the city ahead of the Commonwealth Games.

Example 6: Wipro Green It.

Wipro can do for you in your quest for a sustainable tomorrow reduce costs, reduce your carbon footprints and become more efficient - all while saving the environment.

Wipro's Green Machines (In India Only) : Wipro Infotech was India's first company to launch environment friendly computer peripherals. For the Indian market, Wipro has launched a new range of desktops and laptops called Wipro Greenware. These products are RoHS (Restriction of Hazardous Substances) compliant thus reducing e-waste in the environment.

Example 7: Agartala to be India's first Green City

Tripura Sunday announced plans to make all public and private vehicles in Agartala run on compressed natural gas (CNG) by 2013, thus making the capital "India's first green city".

Tripura Natural Gas Co Ltd (TNGCL), a joint venture of the Gas Authority of India Ltd (GAIL) and the Tripura and Assam governments, has undertaken a project to supply CNG to all private and government vehicles.CNG will also be available to those now using electricity, petrol and diesel to run various machineries. TNGCL chairman Pabitra Kar told reporters. He

said: "The company will soon provide PNG connections to 10,000 new domestic consumers in the city and outskirts. Agartala will be the first city in India within the next three years to become a green city.

Example 8 : Going Green: Tata's new mantra

The ideal global benchmark though is 1.5. Tata Motors is setting up an eco-friendly showroom using natural building material for its flooring and energy efficient lights. Tata Motors said the project is at a preliminary stage. The Indian Hotels Company, which runs the Taj chain, is in the process of creating eco rooms which will have energy efficient mini bars, organic bed linen and napkins made from recycled paper. But there won't be any carpets since chemicals are used to clean those. And when it comes to illumination, the rooms will have CFLs or LEDs. About 5% of the total rooms at a Taj hotel would sport a chic eco-room design.

One of the most interesting innovations has come in the form of a biogas-based power plant at Taj Green Cove in Kovalam, which uses the waste generated at the hotel to meet its cooking requirements. Another eco-friendly consumer product that is in the works is Indica EV, an electric car that will run on polymer lithium ion batteries.

3.11 Present Trends in Green Marketing in India

Organizations are Perceive Environmental marketing as an Opportunity to achieve its objectives. Firms have realized that consumers prefer products that do not harm the natural environment as also the human health. Firms marketing such green products are preferred over the others not doing so and thus develop a competitive advantage, simultaneously meeting their business objectives. Organizations believe they have a moral obligation to be more socially responsible. This is in keeping with the philosophy of CSR which has been successfully adopted by many business houses to improve their corporate image.

Firms in this situation can take two approaches:

- Use the fact that they are environmentally

responsible as a marketing tool.

• Become responsible without prompting this fact. Governmental Bodies are forcing Firms to become more responsible. In most cases the government forces the firm to adopt policy which protects the interests of the consumers. It does so in following ways:

- a. Reduce production of harmful goods or by products
- b. Modify consumer and industry's use and /or consumption of harmful goods; or
- c. Ensure that all types of consumers have the ability to evaluate the environmental composition of goods.

Competitors' Environmental Activities Pressure Firms to change their Environmental Marketing Activities. In order to get even with competitors claim to being environmentally friendly, firms change over to green marketing. Result is green marketing percolates entire industry. Cost Factors Associated With Waste Disposal or Reductions in Material Usage Forces Firms to Modify their Behavior. With cost cutting becoming part of the strategy of the firms it adopts green marketing in relation to these activities.

It may pursue these as follows:

- A Firm develops a technology for reducing waste and sells it to other firms.
- A waste recycling or removal industry develops.

3.12 The future of Green Marketing

There are many lessons to be learned to be learned to avoid green marketing myopia, the short version of all this is that effective green marketing requires applying good marketing principles to make green products desirable for consumers. The question that remains, however, is, what is green marketing's future? Business scholars have viewed it as a "fringe" topic, given that environmentalism's acceptance of limits and conservation does not mesh well with marketing's traditional axioms of "give customer

what they want" and "sell as much as you can". Evidence indicates that successful green products have avoided green marketing myopia by following three important principles:

a. Consumer value positioning

- Design environmental products to perform as well as (or better than) alternatives.
- Promote and deliver the consumer desired value of environmental products and target relevant consumer market segments.
- Broaden mainstream appeal by bundling consumer desired value into environmental products.

b. Calibration of Consumer Knowledge

- Educate consumers with marketing messages that connect environmental attributes with desired consumer value.
- Frame environmental product attributes as "solutions" for consumer needs.
- Create engaging and educational internet sites about environmental products desired consumer value.

c. Credibility of Product Claim

- Employ environmental product and consumer benefit claims that are specific and meaningful.
- Procure product endorsements or eco-certifications from trustworthy third parties and educate consumers about the meaning behind those endorsements and eco certifications.
- Encourage consumer evangelism via consumers social and internet communication network with compelling, interesting and entertaining information about environmental products.

3.13 Conclusion:

Now this is the right time to select "Green Marketing" globally. It will come with drastic change in the world of business if all nations will make strict rules because green marketing is

essential to save world from pollution. From the business point of view because a clever marketer is one who not only convinces the consumer, but also involves the consumer in marketing his product. Green marketing should not be considered as just one more approach to marketing, but has to be pursued with much greater vigor, as it has an environmental and social dimension to it. With the threat of global warming looming large, it is extremely important that green marketing becomes the norm rather than an exception or just a fad. Recycling of paper, metals, plastics, etc., in a safe and environmentally harmless manner should become much more systematized and universal. It has to become the general norm to use energy-efficient lamps and other electrical goods. Marketers also have the responsibility to make the consumers understand the need for and benefits of green products as compared to non-green ones. In green marketing, consumers are willing to pay more to maintain a cleaner and greener environment. Finally, consumers, industrial buyers and suppliers need to pressurize effects on minimize the negative effects on the environment-friendly. Green marketing assumes even more importance and relevance in developing countries like India.

3.14 Bibliography:

Books:

1. Chopra, S.Lakshmi, "Turning Over a New Leaf", Indian Management, Vol. 64, April 2007.
2. Shelton, R.D., "Hitting the green wall: Why Corporate Programs get stalled", Corporate Environmental Strategy, Vol. 2, No. 2, 1994.
3. Kilbour, William E., "Green Marketing: A Theoretical Perspectives", Journal of Marketing management. 1998.
4. Jacquelyn Ottam, "Green Marketing: Opportunities for Innovation" Sustainable Life Media INC.

Websites:

- www.greenmarketing.net
www.epa.gld.gov.au
www.tnpl.com

Open Source Software And Its Utility In Education

O.S.Srivastava¹, Sujata Khatri² and V.B.Singh^{3*}

Abstract-The advances in all academic disciplines and the human knowledge are the result of the open sharing of ideas, studies, theories, and research. The use of open source software is increasing rapidly and its role is becoming high in different domains ranging from commercial, educational, to research. Today, Information and Communication Technologies (ICT) plays an important role in imparting quality education in all the academic disciplines across any geographical location with the help of advanced internet technologies. The role of ICT cuts all the barriers of cost, religion and location. Educational institutions are often faced with financial constraints. Competing demands for resources and the high costs of ICTs can be a major obstacle to providing ICT facilities in educational institutions. The major component in setup of ICT is hardware and software cost and the overall cost of ICT in educational institutions can be reduced by using open source software. In this paper, we will discuss some important open source software which can help to students and benefit institutions.

1. Introduction

Since, the last two decades, advancement in the information technology has changed the dynamics of life and society as well as software development. It has added new dimensions like e-learning, e-conferencing, e-commerce, e-meeting e-governance, e-chatting ..., and the list is now becoming endless. The development and usages of open sources software (OSS) as well as interest of academics and practitioner has grown up since 1990 due to advanced in internet technologies and availability of higher bandwidth at cheaper cost. The design and development of open source software is significantly different from that of proprietary software. Open source software is developed by community for community. The development of OSS is of interdisciplinary nature and needs knowledge and expertise from many scientific disciplines such as computer science,

management and organization, social sciences, law, economics and psychology. According to Gartner's report, about 80 percent of all commercial software will include elements of open source technology 2012 [1]. Governments' interest in OSS is increasing, due to their reliance on sophisticated software. The UK Office of Government Commerce released a series of case studies in October 2004 outlining how OSS has been used in the public sector. However, UK parliamentary responses to questions on the use of OSS in government show that uptake is still limited. The Office of the Deputy Prime Minister is funding the 'Open Source Academy' project. This is intended to overcome barriers to uptake of OSS in local government such as lack of information, skills, confidence and lack of suitable products [2].

Open source was first evolved during 1970s. Richard Stallman, an American software

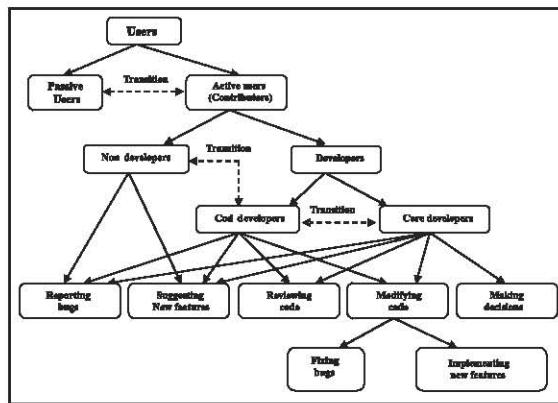
O.S.Srivastava is currently working at Delhi University Computer Center, University of Delhi as Senior Programmer. He completed his M.Sc. (Physics) from Kanpur University. His research interest includes open source software and software reliability.¹ Dr.Sujata Khatri is currently working as Assistant Professor in the Department of Computer Science at DDU College, University of Delhi. She completed her Ph.D. from MDU University Rohtak, Haryana. Her research interest includes software reliability and object oriented testing.² Dr.V. B. Singh is currently working as Associate Professor in the Department of Computer Science at Delhi College of Arts and Commerce, University of Delhi, Delhi (India). He received his Ph.D. degree from University of Delhi. His research interests include mining software repositories, empirical software engineering and software reliability engineering. He has co-authored a book "Essentials of Computer Network Database and Internet Technology" from NAROSA Publishing India.³

developer, who believes that sharing source code and ideas is fundamental to freedom of speech, developed a free version of the widely used Unix operating system under GNU^[2 and 3]. The spirit of open source software is the free right of using, reproducing, distributing and modifying the software, which creates an efficient economical, productive software development model: establishing commercial projects through the concept of open source, implementing collaborative development through the open source community based on the network, allocating resources optimizedly, increasing the transparency of projects, and reducing the risk of development^[4]. Eric Raymond, the main proponent and co-founder of the open source project, is generally credited with establishing the movement of OS through his seminal paper "The cathedral and the Bazaar"^[5] and attributed the open-source software development approach as:

"Given enough eyeballs, all bugs are shallow."

1.1 Development Paradigm of Open Source Software

Open source softwares are developed by community for the community. Different users irrespective of their geographical locations contribute towards the development of open source software. Development structure of open source software and classification of users and



developers and their role is described in following figure as follows in^[6].

In above diagram it is shown how users have been categories into active and passive category. Different categories of users are also upgraded

and they move up to the level of core developers and code developers. Transition also takes between users at different levels. Responsibility and functions of different level of users have been also shown in above diagram.

Free/Open Source Software is software that is made available along with source code as a distinctive feature. It is often available at no cost. Users can use and distribute the software. And if they so wish, they can study the source code and modify it to suit their needs. The modified version of the software can also be redistributed. In contrast, proprietary software is licensed to users for a fee and the source code is usually closely guarded and not made available to users. The Free Software movement focuses on moral and ethical issues relating to the freedom of users to use, study, modify and redistribute software. Open Source advocates take a more corporate approach, focusing on the advantages of the Open Source software development method.

2. Learning and Digitization

The digitization of education is a relatively new phenomenon that has transformed the education sector as follows in^[7].

Corporations and academic institutions have joined forces to further explore the potential for digitizing education through

- Virtual universities courses
- Education portals
- E-courses with multimedia features

Online courses are offered in a variety of forms by various sources. Some courses are offered by subsidiaries of renowned traditional universities, although many such courses are not accredited. The parent universities' names act as a powerful draw for online students. Courses are also offered by organizations that create digital online courses.

Most universities annually pay large sums to software companies to use their products, but open source licenses are free.

- Flexibility. Open source products are

- customable and can involve third parties. New features and tools can be imported from the open source community.
- Service continuity. The huge collaborative network of the open source community minimizes, although it does not eliminate, the risk of discontinued service. Volunteer help is available through open source support systems such as forums.
 - Continuous improvement. Extensive collaboration ensures that software products keep improving. Programmers from different institutions and organizations, along with volunteers, contribute freely to projects.
 - Tax benefits. Governments of many countries have implemented tax-exemption policies to boost open source projects, although the governmental role in promoting open source software is controversial.
- ### **3. Open Source Software in Education**
- Open source software usages in educational institutions provide a quality education. It provides many benefits to students, researchers and institutions. Following are the benefits of using OSS in education.
- Total setup cost of ICT can be lowered by using OSS.
 - Open source software are more reliable. Openness of software makes more reliable.
 - Its performance is good as more intelligent and volunteer/self motivated people are working towards the development of OSS.
 - The open philosophy of development of OSS makes it more innovative and also it encourages innovations. Students can use source code of software for better research and customized for their own purpose.
 - It's provide an alternative to illegal copying/piracy
 - Students and teachers can learn a lot from seeing the source code of the software. They can understand how the software has been written and how additional functionality can be added to software by writing new patches.
- Open source resources are available from the following initiatives:
- Curriki**, the Global Education and Learning Community, is a nonprofit body dedicated to the creation of free, open source curricula for all users and one of the most popular OSC online esources.¹⁰ Curriki provides course materials for primary and secondary education, primarily focusing on the creation of complete curricula for courses distributed and used globally.
- Connexions** is a pioneering venture set apart from other open-education resources by its scope. The site provides instructional material for primary, secondary, and post secondary levels, as well as the industrial sector. Contributions are invited from all segments of society. The materials are available in different languages, and users from all over the world can download, customize, and reload them. Authors get credit for their contributions.
- MIT Open CourseWare** makes undergraduate and graduate course materials from MIT available on the Internet. This initiative has not damaged the university's reputation but instead has encouraged other institutions to publish their courses online as well.
- ### **Requirements of Educational Institutions**
- Different educational institutions have different ICT infrastructure requirements, depending on the level of education, the nature of the courses they offer and the available funding. Invariably, however, there is a need for computer laboratories in educational institutions for conducting basic computer classes, allowing students to complete their assignments, conducting specialized ICT classes, providing access to the library system, making available learning management systems and facilitating email communications. The number of computers required depends on the student population and the student-computer ratio that the institution considers desirable.

There are often requirements, in an academic setting, for publishing information and providing access to materials via the Web. These include teachers and lecturers providing course materials

online, students putting up Web pages, administrators publishing information on the intranet and the institution maintaining a public website.

All these require appropriate Web server, hardware and software.

Server Software

We use the following server software:

Linux flavors like : **Red-hat, Debian, Cent-OS,Ubuntu**etc

E-Mail like SendMail software from sendmail.org

File and print services: like **Samba** (samba.org) can be used as print server

Web server: like **Apache** (Apache.org)

Database server: like **Mysql** as database server and **PHP** as scripting language or **PostgreSQL** from postgresql.org as database management system.

Other Softwares:

- **Moodle:** Moodle integrates pedagogical features missing in many LMS tools, allowing instructors to construct customizable, online courses or a wide range of course modules on a flexible platform. Linux, UNIX, Windows, Mac OS X, Downloaded about 500 times a day. <http://www.moodle.org>
- **Bodington:** This Java-based virtual learning environment was developed by the University of Leeds in the United Kingdom. Bodington aims to provide a flexible, durable learning environment for large, complex institutions with numerous departments. It allows quick upload and management of learning contents. It works under Shibboleth, Linux, Microsoft, Mac OS X, Implemented at University of Leeds, UHI or

UNIX Millennium Institute, and University of Oxford. Provides services to 15,000 users with a single server (<http://www.bodington.org>)

- **Claroline:** Built on free technologies such as PHP and MySQL, Claroline addresses the pedagogical needs of teachers and learners, emphasizing training technologies and well-structured online courses. It works under Microsoft, Linux/GNU, Mac OS X; Available in 35 languages <http://www.claroline.net>
- **Dokeos :** Dokeos is a web-based application developed on free technologies such as PHP and MySQL. Designed to facilitate e-learning and course management, it provides a flexible, user-friendly platform to simplify the e-learning processes. It Supports SCORM import and LDAP. Data can be imported using CSV or XML files. <http://www.dokeos.com>
- **LRN:** It supports online learning and other interactive digital systems. Originally designed to meet the needs of universities, it was later implemented in schools, organizations, and corporations. Its flexible framework allows easy customization. <http://www.dotlrn.com>.
- **ATutor:** The ATutor learning content management system was developed by the Adaptive Technology Resource Centre at the University of Toronto. It Complies with W3C WCAG 1.0 and W3C XHTML 1.0; supports content developed in IMS or SCORM. More than 17,000 registered installations <http://www.atutor.ca>
- **OLAT:** OLAT (Online Learning and Training) began in 1999 at the University of Zurich, where a team of developers continues to enhance the software. Much of it is written in Java. OLAT is registered under Apache License 2.0. It works under Microsoft Windows, Mac OS X, Linux, Solaris, and UNIX. Conforms to SCORM, IMS QTI, and IMS Content Packaging.

Popular within the European higher education community
<http://www.olat.org>

- **Sakai** : The core software consists of generic collaboration tools, with tools designed for specific applications (such as teaching and portfolio tools) available. Sakai complements commercial software like WebCT, Blackboard, ANGEL Learning, and desire2Learn. Adopted by many reputable universities worldwide.
<http://www.sakaiproject.org>

Productivity Suite:

- **OpenOffice** (www.openoffice.org), is gaining popularity as its features are becoming comparable to the proprietary Office suite. As noted earlier, OpenOffice can run on various platforms and a complete migration to Linux before it can be used is not necessary. In fact, it can be run on Windows side-by-side with Microsoft Office. A prominent feature of the latest version of OpenOffice is the ability to export documents directly to pdf format.
- **AbiWord** (www.abiword.com) works on most major operating systems, including Windows, and it supports many languages. It can read and write most documents in Word format and has the same look and feel as Word. AbiWord's native document format uses Extensible Markup Language (XML), which is an open standard. This means that an AbiWord document can be read by any other software using an appropriate XML parser.
- **Gnumeric** (www.gnome.org/projects/gnumeric) is a fast and complete spreadsheet programme that is being actively developed. It can support various spreadsheet file formats and has good support for Excel.
- **Web Browser** : There are a number of Open Source browsers available such as Mozilla, Galeon and Konqueror. Mozilla (www.mozilla.org) is a popular browser that is based on source code released by Netscape.

- **Multimedia:**

- **GIMP** (www.gimp.org) is the most well-known FOSS for image editing and graphic design. It is a desktop application that can be used for various purposes by both academic staff and students. It is available for GNU/Linux, Unix variants and Windows. As it supports various image file formats, interoperability with other programs should not be an issue. GIMP is considered to be the FOSS equivalent of the proprietary Photoshop software.

- **Audacity** (audacity.sourceforge.net) is a FOSS audio editor through which you can record sounds, play sounds, and import and export files in various formats. It can be used to edit your audio, mix tracks together, or apply effects to your recordings. A media player for workstations is necessary for playback of videos and other multimedia content. This is commonly available on proprietary platforms.
- **On FOSS platforms, Mplayer** (www.mplayerhq.hu) is a programme that provides similar functionalities. It is available for Linux and many other UNIX variants and it supports many video and audio formats.

We are describing some software which can be used for scientific and library purposes.

- **Scilab** (scilabsoft.inria.fr) is a full-featured scientific software package that may be used in numerical analysis or engineering courses at the university level.
- **Dspace**: Used for the management of digitized book contents.
- **Newgenlib, Koha** : These are complete library management software available in any linux flavour and Ms-Window. Koha is full-featured and has modules for cataloging, reserves, Online Public Access Catalogue (OPAC), circulation, patron management and acquisitions. The circulation component

includes issues, renewals, returns and fines, and it can be set up to use bar code scanners. The acquisitions module includes budgets, pricing and supplier information.

There are many such Free Open Source Software which are very useful but all can not be described due to limitation of page size but students and researchers can download other software for different Open Source Software websites. Main website for development of open source software is www.sourceforge.net.

Proprietary software designed for the education sector is of very high cost and can not be afford by all institutions. The software may be administrative software such as Library Management Systems or Learning Management Systems. For all these closed source software, some of their equivalent free and open source software is available which are more reliable and dependable. But, it is likely that FOSS for these and other education-specific applications will become available in the future.

4. Advantages of OSS

Computer software is often used in research work and the use of proprietary software and operating systems in such work is inconsistent with the principle of verifiability, as the computation of results by closed-source software is not open to scrutiny. The validity of research findings, arrived at using FOSS can be verified, because the source code is for examination.

Some special view points regarding FOSS are:

- Encourage Innovation: like initially GNU operating system developed by Massachusetts inst
- Alternative to Illegal Copying
- Possibility of localization through source code
- Learning from source code

Open source products have gained considerable grip over the realm of higher education. The question remains, nevertheless: What is the future of open source software in higher education?

From a commercial perspective, open source projects are taking their first tentative steps into the marketplace.

This might be good news for universities because it would remove the threat of market monopolization, but to measure up to industry standards, open source projects need more sophistication. If collaborative contributions continue at their current pace, this might not be difficult to achieve.

They have a long way to go before they enter the mainstream, but together they have great potential to change forever the face of education.

Open source software refers to both the concept and practice of making program source code openly available. Users and developers have access to the core designing functionalities that enable them to modify or add features to the source code and redistribute it. Extensive collaboration and circulation are central to the open source movement.

- Source code distribution. The source code of the entire open source product must be easily modifiable. In the absence of the source code, the product must cite a low-cost resource where users can obtain it.
- Unrestricted distribution. Users can distribute the software without paying royalties.
- Modifications. The license allows modifications, and its terms remain unchanged for distribution of improved versions.
- Author's source code integrity. If the license allows patch file distribution along with the original source code, a user cannot modify the code and distribute it except by giving the new version a new name. No personal discrimination. No person or group shall be discriminated against during open source product distribution.

In 1977 the trio began distributing an open source version of UNIX called BSD. The following year saw the release of a revised edition called 2BSD. Programmer Richard Stallman founded the GNU Project in 1984.

The GNU General Public License allows users to modify the code and distribute the improved version under the same license. The GNU operating system lacked a kernel, however, until Linus Torvalds developed the Linux kernel. In 1992, the Linux kernel was integrated within the GNU operating system[7].

5. Drawbacks of OSS

Following are drawbacks and limitations of OSS.

- Potential drawback of open source projects for education becomes evident during their implementation. Using the software to its full potential may prove challenging for beginners, and the availability of the source code is irrelevant for end users if they do not find the product useful.
- There are no guarantees that a project will reach completion and deliver the desired results, for example. Progress depends on the interest and time of the collaborative workforce and lack of resources or funding can derail a project.
- Most commercial open source products, however, are self-sufficient. Intellectual property rights can make it difficult to ascertain whether a particular software solution has been patented. If a process used in an open source project has already been patented, the group can be charged with patent infringement.
- Although the availability of source code makes it difficult for patent holders to prove infringement, these issues often cloud over development of open source software.

Conclusion

In this paper, we have discussed Open Source Software from historically point of view. Evolution of OSS has been discussed by

considering the up gradation of users from passive to core and code developers. We have also discussed the most commonly used software developed on open source philosophy and used in education. Any researcher or student want to develop software for some specific application based on open source philosophy, they can registered their product on website www.sourceforge.net and later on more volunteer can join the product and product can get their final shape. If we want to download any software then we can download from www.sourceforge.net. In future, we will discuss the uses of cloud computing in education.

REFERENCE

1. <http://arstechnica.com/news.ars/post/20080205-gartner-80-percent-of-commercial-software-programs-will-inlude-open-source-by-2012.html>.
2. www.parliamnet.uk/parliamentary_office/post/pubs2005.cfm
3. Stallman, Richard, The GNU Project, <http://www.gnu.org/gnu/thegnuproject.html>, 1998.
4. Xu Hao, Zhang Zhengang, Lin Chunpei and Ding Zhuo "The Study on Innovation Mechanism of Open Source Software Community", 4th International Conference on Wireless Communications, Networking and Mobile Computing, pp. 1-5, 2008.
5. Eric S. Raymond, "The Cathedral and the Bazaar"
6. Cristina Gacek and Budi Arief "The Many meanings of Open Source", IEEE Software, Vol. 21 issue 1, pp.34-40, 2004.
7. <http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazine+Volum/OpenSourceSoftwareinEducation/162873>



Published and Printed by:

**DELHI COLLEGE OF ARTS AND COMMERCE
(UNIVERSITY OF DELHI), NETAJI NAGAR, NEW DELHI-110023**

Phone : 011-24109821, 26116333 Fax : 26882923

e-mail : intellectualresonance@gmail.com Website-<http://www.dcac.du.in>

© Intellectual Resonance

The views expressed in the articles are those of the authors

Printed at: Xpress Advertising, C-114, Naraina Industrial Area, Phase-I, New Delhi-28