

An Intuitive Analysis of the Impacts of Floods on Achieving MDGs in Pakistan

Abdul Hamid, [Naeem Akram](#), [Saira Bashir](#) and [Yasin Janjua](#)
CPRSPD, a Joint Project of UNDP and Government of Pakistan

Abstract: The aim of the study is to analyse the impacts of catastrophic floods of 2010 on achieving Millennium Development Goals (MDGs) in Pakistan. Since 2006, Pakistan has been facing many obstacles in its way to achieve the MDGs, stemming from rise in insurgency, electricity crisis, a sudden meltdown of the global economy in 2008, along with a sharp rise in oil and food prices earlier in that year. The floods in 2010, have destroyed lives, houses, croplands and road infrastructure, causing enormous suffering and damages across an area the size of Italy. These damages have put the country to a state from where it may take decades to recoup. It has been estimated that approximately 20 million people in 78 districts in Pakistan have been affected. Moreover, 2,000 people died, cropped areas of 2 million hector and 2 million houses were also damaged. Standing crops, animal farms, livestock the major sources of income for rural families, have been destroyed causing further rise in the incidence of Poverty. Similarly, there is also likelihood that the destruction caused to schools, hospital, other infrastructure will also negatively affects the Pakistan's performance regarding Health and Education related MDG indicators. Moreover, recent floods 2011 in Sindh will also have heavy toll on the economy and further aggravate the situation in achieving of MDGs in Pakistan. The study found that the impacts of disastrous flood were more severe in those districts which were already lagging behind in achieving MDGs.

Key words: Climate change, education, floods, health, poverty

INTRODUCTION

Pakistan, has faced serious challenges in the last four years, starting from 2006, in meeting many of the MDG targets, stemming from a sudden meltdown of the global economy in 2008, along with a sharp rise in oil and food prices earlier in that year. On the internal front Pakistan faced additional challenges with respect to internal security, political stability and economic stabilization in the wake of external shocks¹. Both external and internal factors have contributed to socio-economic vulnerability during the last four years (2006-2010). Even, prior to 2006, in October 2005, the North-Western part of the country was hit by a devastating earthquake, leaving 70,000 dead and over a million homeless, along with the wholesale destruction of social, economic and community infrastructure, which includes schools, hospitals, roads, bridges and other infrastructure. All of the above mentioned difficulties have adversely affected progress towards the achievement of MDG targets.

The rise in militancy in 2008 and 2009 has had a severe adverse effect on the Government's capacity to concentrate on social and economic progress due to diversion of substantial financial and administrative resources towards ongoing fight against militants. The action against militants led to an exodus of local population from troubled areas resulting in a large number

of Internally Displaced Persons (IDPs), which sapped resources earmarked for social sector spending; adversely affecting progress towards MDGs. For past few years, a 'security paradigm' has had to replace a development paradigm in the country. Security issues which had been of concern since around 2007-08 or so, highly aggravated in the year 2009 affecting large segments of capital stock, social and community infrastructure, human capital, foreign direct investment, and private investment in particular; subsequently undermining development priorities. Moreover, the destruction of very extensive infrastructure, which includes schools (especially for girls), roads, hospital and other public, social and economic services in parts of Khyber-Pakhtunkhwa, has proved highly deleterious towards reaching most of the targets related to the MDGs. In public sector, a large proportion of funds allocated for development sector, had to be redirected to other heads (CPRSPD, 2010) such as alleviate the sufferings of IDPs, their rehabilitation and reconstruction of critical public infrastructure.

Nevertheless, in July-September 2010, the unprecedented catastrophic floods have played havoc on Pakistan's economy ravaging precious cotton crops on agricultural lands, critical infrastructure, including road, schools, telecommunication, and water and sanitation facilities; destroying 1.7 million houses and leaving almost 20 million people homeless. This has certainly

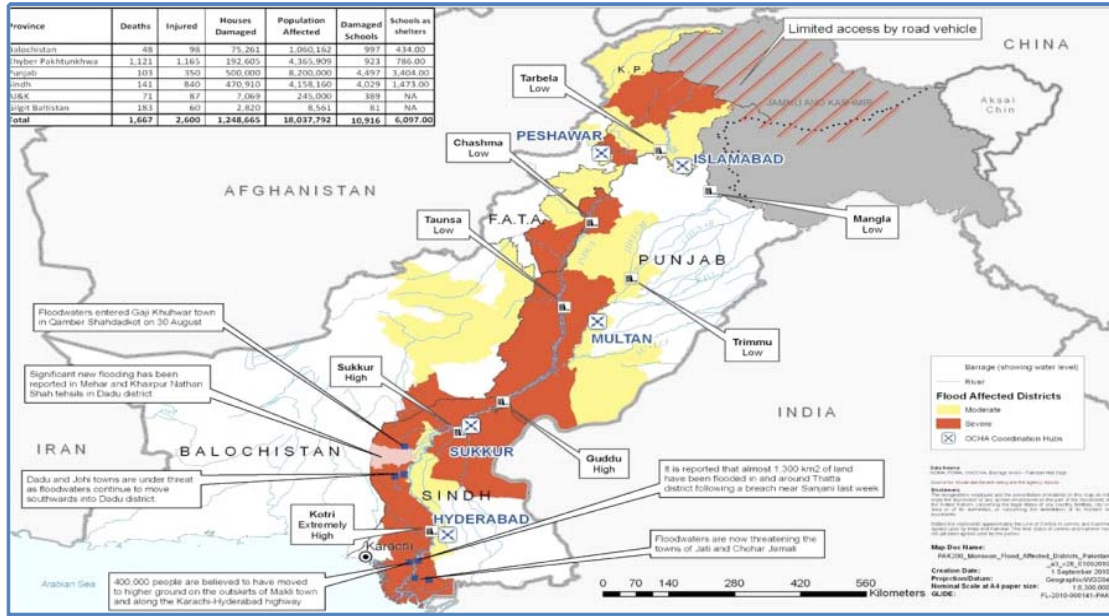


Fig. 1: Map of flood affected districts

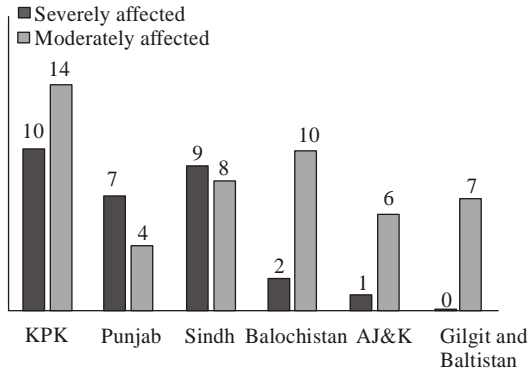


Fig. 2: Provincial breakdown of districts affected by flood (NDMA, 2010, 2011)

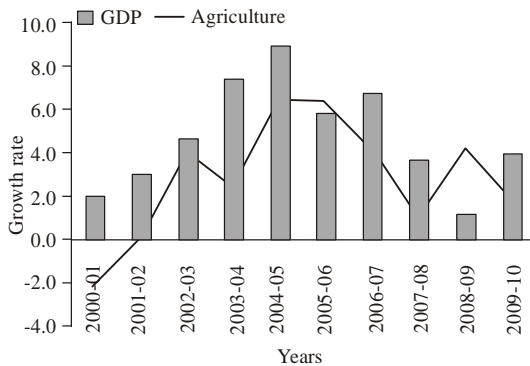


Fig. 3: Pakistan's economy is predominantly agrarian in its nature

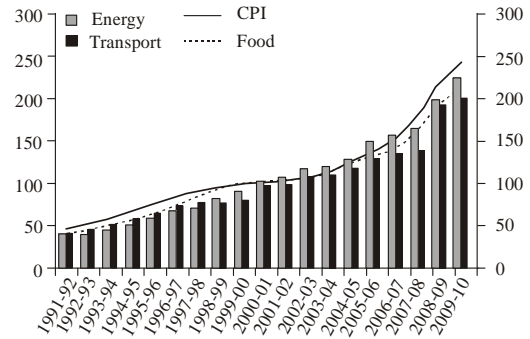


Fig. 4: Sector wise price trends CPRSPD (2010) calculation based on Pakistan Economic Survey (1999-2000, 2004-05, 2009-10, 2010-11)

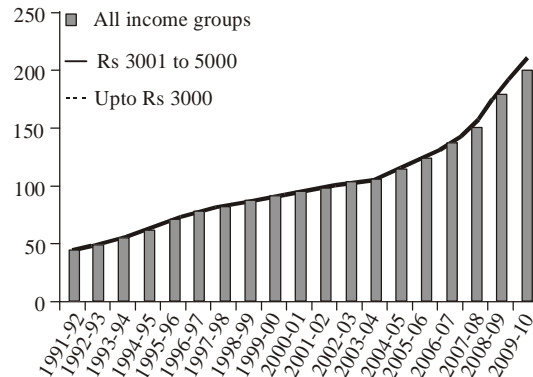


Fig. 5: Inflation experienced by different income group

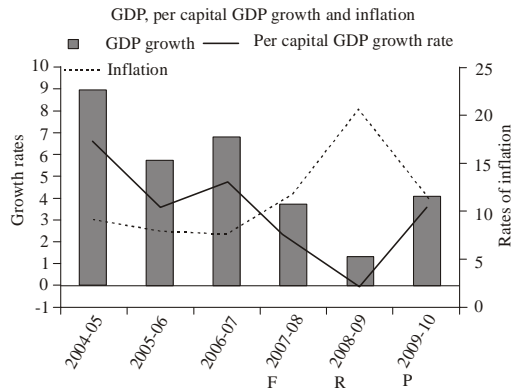


Fig. 6: Inflation cripples growth CPRSPD (2010) calculation based on Pakistan Economic Survey (1999-2000, 2004-05, 2009-10, 2010-11)

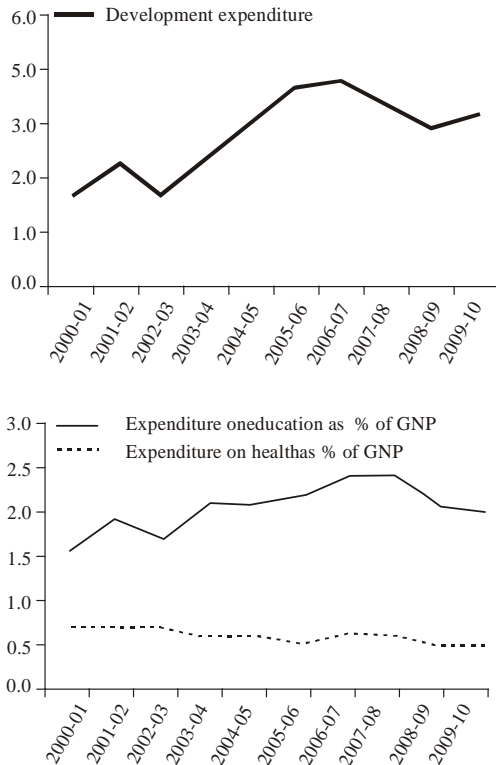


Fig. 7: Public expenditure on health and education CPRSPD (2010) calculation based on Pakistan Economic Survey (1999-2000, 2004-05, 2009-10, 2010-11)

caused an immense pressure on the economy. According to United Nations (UN), the number of people affected by the flood exceeds the combined sufferers of 2004 Indian Ocean tsunami, the 2005 Azad Kashmir earthquake, and the 2010 Haiti earthquake (Fig. 1 and 2 show the map and provincial breakdown of flood affected districts). The progress towards MDG targets, which has already been affected due to less favourable external and domestic

Table 1: Social sector related PSDP allocations

Sectors	PSDP 2009-10		PSDP 2010-11
	Estimated	Actual	Estimated
Education and vocational training	8,551.3	5,500.0	5,140.9
Higher education	22,500.0	18,500.0	15,762.5
Information technology	1,128.5	600.0	718.3
Science & technology	3,265.4	1,500.0	1,646.2
Manpower and employment	135.4	80.0	65.8
Health and nutrition	23,154.1	18,500.0	16,944.5
Physical planning and housing	5,582.0	3,800.0	3,618.3
Population welfare	5,250.9	3,600.0	4,115.5
Women development	343.7	200.0	152.9
Social welfare	487.7	250.0	170.6
Environment	2,253.9	1,000.0	1,000.0
Rural development	444.0	225.0	82.3
Culture sports tourism and youth	1,276.5	585.0	783.0
Governance research and statistics	180.0	100.0	82.3
Total	74,553.4	54,440.0	50,283.1

Pakistan Economic Survey (2010-11)

economic environment, has been severely affected after the floods. The objective of the study is to provide and intuitive analysis of the impacts of catastrophic floods on achieving Millennium Development Goals (MDGs) in Pakistan. This will help the policy makers to redesign their efforts by allocating more resources and accelerating pace of economic growth and development if MDGs are to be materialized successfully.

Pre and post shocks performance of the economy: Pakistan had achieved high economic growth, which averaged above 6% during 2002 to 2007 resulting in significant progress towards achieving MDGs (CPRSPD, 2010). However, since 2008, several global and local shocks discussed earlier have severely impacted progress towards achievement of MDGs.

Pakistan's services sector has grown significantly for the past few years; however, the economy can be characterized as an agrarian one due to its dependence on a large agro-based export sector. The international food and energy price shocks and drought like situations at domestic front had already resulted in a decline in agriculture outputs subsequently affecting overall economic growth for past few years (Fig. 3).

Due to external and internal shocks in the presence of structural and supply side bottlenecks, increasing inflation for last few years has affected all income groups alike (Fig. 4 and 5). High GDP growth of early 2000, more or less, seems to be a monetary phenomenon due to easy access to credit during 2002-2007, which resulted in access liquidity in the economy resulting in double digit inflation starting in 2007. Similarly, inflation has crippled economic growth resulting in a decline in real per capita income growth as well (Fig. 6).

An overall decline in economic growth and diversion of funds towards fighting militants and increasing security on borders has constrained government's ability to continue its public sector development program especially related to social sectors of the economy (Table 3).

Table 2: Details of flood damages

Province	Area affected km	Deaths	Injured	Houses damaged	Total affected districts	Population affected	Cropped areas (ha)	Cattle head
Baluchistan	322	48	98	75,261	12	700,000	255,237	55,501
KPK*	awaited	1,156	1,198	200,799	24	3,800,000	205,347	52,750
Punjab	14,047	110	350	509,814	11	8,200,000	774,610	3,572
Sind	30,132	393	1,202	1,114,629	17	7,184,550	1,056,758	263,703
AJK	1,800	71	87	7,106	7	200,000	30,820	288
G-B	7,500	183	60	2,830	7	100,000	3,635	4,669
Grand total		1961	2,995	1,910,439	78	20,184,550	2,326,407	324,982

National Disaster management Authority (NDMA, 2010 and 2011) reports. (<http://ndma.gov.pk/>, Accessed on: October, 2010)

Table 3: Pakistan MDG status at a glance

Status	No.	Indicators
Ahead	6	Proportion of seats held by women in National Parliament Proportion of children under five who suffered from diarrhoea in the last 30 days and received ORT HIV prevalence among 15-24 year old pregnant women (%) HIV prevalence among vulnerable group (e.g., active sexual workers) Proportion of TB cases detected and cured under DOTS (Direct Observed Treatment Short Course)No. of vehicles using CNG
On track	2	Lady Health Workers' coverage of target population Land area protected for the conservation of wildlife
Slow	4	Share of women in wage employment in the non-agricultural sector Gender Parity Index (GPI) for primary and secondary education Youth Literacy GPI
Lag	20	GDP (at constant factor cost) per unit of energy use as a proxy for energy efficiency
Off track	1	Infant mortality

CPRSPD (2010)

Table 4: Sector wise damage of floods in affected districts (DNA estimates)

Sector	Damage in US\$ (M)	Damages in Rs. (M)
Irrigation	248.6	21,224
Housing	1,080.0	91,83
Agriculture	5,044.0	428,739
Transport and communication	1,328.0	112,880
Energy	309.4	26,299
Private sector	282.0	23,932
Education	311.3	26,461
Health	49.7	4224
Water and sanitation	40.0	3400
Governance	70.3	5976
Financial	979.0	83,215
Environment	11.7	994.5
Total	9,754	829,184

The economic upturn during the years 2002-2007 was largely built upon consumer-led growth and investments in the speculative sector, with remittances and foreign aid driving this growth. What was missing was a long-term strategy and direction needed to guide this money being sent to Pakistan into more productive sectors. The fiscal space created by years of economic prosperity allowed the government to provide much needed infrastructure, but these developments were unable to keep pace with the increase in demand. The best example of this is the huge demand in power consumption which emerged as a consequence of the high spurts of economic growth, which the government was unable to meet, resulting in extensive shortages of electricity affecting domestic manufacturing activity and industry. Persistent inflationary pressures and weak performance of key sectors of the economy, the emerging bottlenecks in infrastructure especially in the power sector and the surge

in global commodity prices, especially oil, led not only to an unprecedented rise in inflationary pressure but also made the balance of payment position very vulnerable. The down side impact of the boom years provides evidence for growing income inequality among the different income groups.

The inability, or reluctance, to deal with the speculative bubble that emerged in the economy around 2007, along with hyper political activity and the subsequent rise in oil and fuel prices, was a key factor which brought the economy down to a halt in 2008; registering a growth rate of mere 1.2% per annum. Having to accept an IMF stabilisation package, there has been considerable belt-tightening and stabilisation effort at the cost of growth and employment. The fiscal crisis of the state has returned, with debt increasing and the fiscal space of 2002-07 period hugely squeezed, the Public Sector Development Programme (PSDP) had to be cut considerably. All such fiscal and economic developments clearly indicate that the MDGs targets set for these years are unlikely to be met (Table 1).

Nevertheless, one must also acknowledge the attempts made by the present government to address numerous problems, which have persisted until at least 2008. For instance, reaching consensus around the National Finance Commission Award, some attempts to reform the taxation structure, the commitment to fight against terrorism in Pakistan, and working with a largely supportive opposition in Parliament, which have given a sense of a strengthening and maturing of the political order, might affect the MDG targets favourably in near future.

Impact of floods in affected districts: Global economic recovery and successive victories against militants on domestic front had caused an optimistic scenario for growth in fiscal year 2010-11. The economic activity in large and small scale industrial sector had also shown signs of recovery (Economic Survey, 2009-10). Nevertheless, devastating floods lasting for almost 3 months from July-Sept 2010 has destroyed vast expanse of agricultural land; rural and urban settlements; and public infrastructure.

Floods have severely affected almost all sectors of the economy. The detail of estimated flood damages is given in Table 2 and 3. The estimated results show that the maximum damages the floods have done to the agriculture; livestock and fisheries; transport and communication and housing. The rebuilding cost will be further accelerated in the wake of rising inflation. As still majority of population is directly or indirectly depends on the agriculture sector in Pakistan for livelihood and production related activities, floods have feared to cause negative impacts on the social and economic indicators as well as the ones related to MDGs.

It may be further added that as Pakistan is yet to get out of crisis caused by devastating floods in 2010. In 2011, floods caused by heavy monsoon rains have badly affected the Province of Sindh. According to preliminary estimates of NDMA, 23 districts in Sindh have been severely affected. It has caused the death of 389 people. Eight million people have been directly affected, 2.1 million acres of farmland have been inundated with floodwater, and 1.5 million homes have been washed away (Appendix D). There is likelihood that it will further aggravate the situation of MDGs in Pakistan.

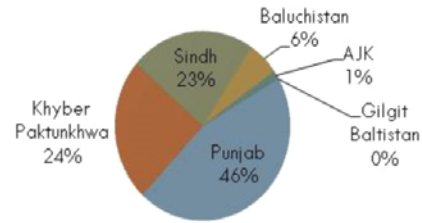
MDGs status:

Pre flood scenario: The pre-economic shock picture did not present a drastically gloomy picture. Until 2006, Pakistan had been performing well towards MDGs (CPRSPD, 2010). In post 2006 scenario, progress on many indicators reversed. A brief summary of the pre-flood MDG scenario is presented in Table 3.

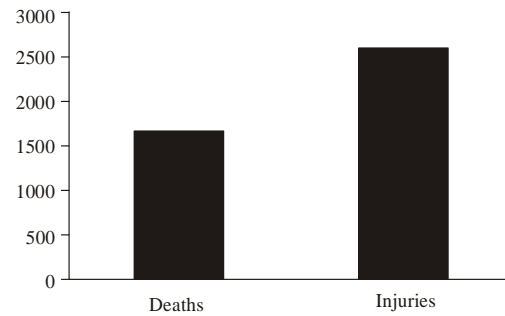
Pakistan is on track in 2, ahead in 6 and lagging behind in 20 out of 33 MDGs indicators while registering slow progress in only 4 indicators; performance in only one indicator is considered off track.

Post flood impact on MDGs: Flood has severely affected almost all sectors of the economy impacting the overall economic landscape of the country. This is likely to hamper Pakistan's progress towards the Millennium Development Goals (MDGs).

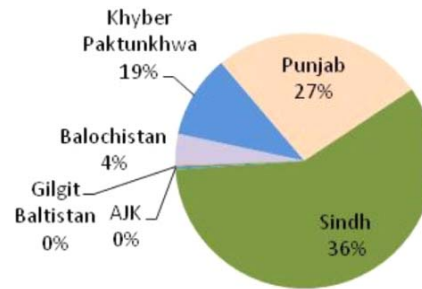
The detail of estimated flood damages is given in Table 2. The estimated results show that the maximum damages of flood was done to the agriculture live stock



(a)



(b)



(c)

Fig. 8: (a) Population affected, (b) Reported deaths and injuries for all areas, (c) Houses damaged

and fisheries, transport and communication and housing. The rebuilding cost will be further accelerated in the wake of rising inflation. As still over 60 % of population is directly or indirectly depending on the agriculture sector in Pakistan, flood is feared to have much negative impacts on the MDGs relate indicators. Sector wise flood damages estimates are given in Table 4 (Fig. 8).

The estimated flood damages related to MDG sectors in flood affected districts are 16 times higher than overall MDG related budget for PSDP (2010-11) (Fig. 7).

Interestingly many of the districts, which are either severely or moderately affected by floods were not performing well on several MDG related social indicators (Appendix A). In the aftermath of floods, these indicators are expected to deteriorate further. A historical analysis of 5 maj or MDG related indicators in severely and

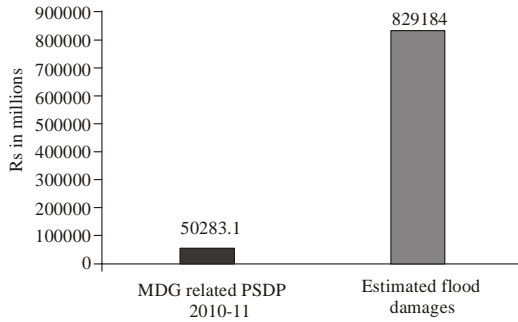


Fig. 9: MDG related PSDP (2010) expenditure vs flood damages

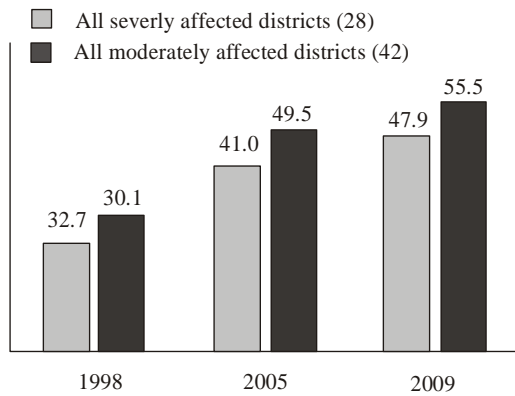


Fig. 10: Net enrollment ratio primary

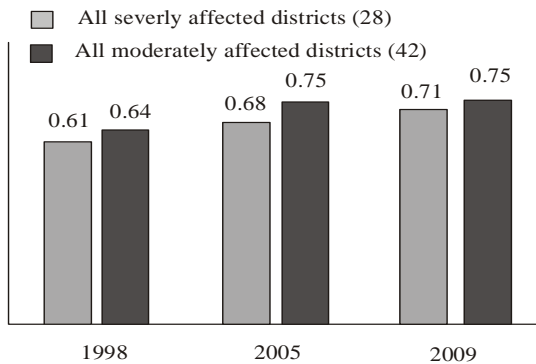


Fig. 11: Gender parity index primary

moderately flood affected districts is presented in Fig. 9-13 indicating pre flood progress towards MDGs.

Almost all districts, presently affected by floods, had been performing well as far as Net Enrollment Ratio (NER) and Gender Parity Index (GPI) at primary level is concerned; however, in comparative terms districts which are now severely affected were lagging behind the districts which are now moderately affected by floods. Therefore, severely affected districts have become even more vulnerable.

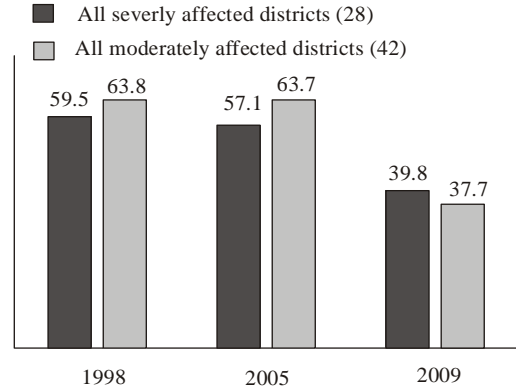


Fig. 12: Immunization rate for 12-23 months children

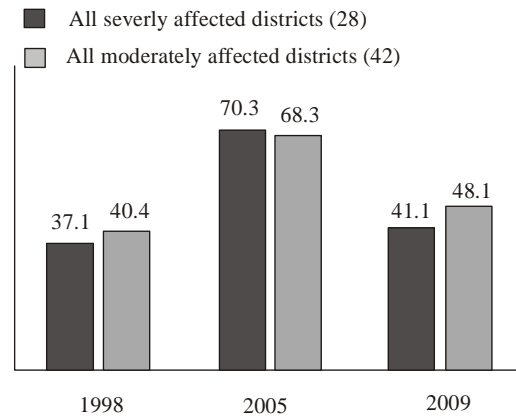


Fig. 13: Safe water supply coverage

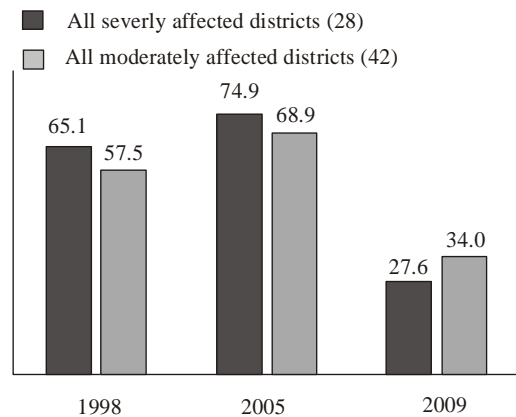


Fig. 14: Sanitation coverage

The immunization rates were already declining in districts which are affected by floods heralding a disaster in post flood scenario (Appendix B).

The water supply and sanitation coverage had improved in flood affected districts in 2005 against the 1998 benchmark; however, the coverage had already declined in 2009 (Appendix C). Proper sanitation

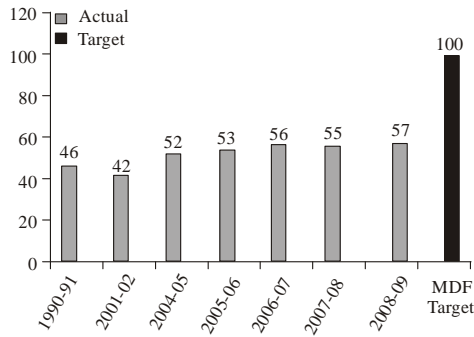


Fig. 15: Literacy rate in Pakistan, *: Pakistan Integrated Household Survey (PIHS) 1990-91, 2001-02; Pakistan Social and Living Standard Measurement Survey (PSLM, 2001-02, 2004-05, 2005-06, 2006-07, 2007-08 and 2008-09

coverage had fall by more than half in both severely and moderately affected district in 2009 against 2005 performance (Fig. 14).

Likely impact of floods on poverty: The progress on poverty related indicators reveals that the situation was not hopeful even prior to floods. Pakistan was lagging behind in all the poverty related indicators. Moreover, according to the World Prosperity Index, Pakistan has slide down to the lowest levels on the index with a rank of 109 out of 110 countries; second last only to Zimbabwe (India is ranked 88/110, Bangladesh 96/110).

In post floods scenario over 20 Million people have been directly affected and approximately 1,910,439 houses have been destroyed. Since a significant number of people live below and marginally above the poverty line, prevailing conditions are likely to aggravate poverty levels for both chronic and transitory poor in the country and in flood affected districts specifically².

As mentioned earlier, the maximum damages have been done to the agriculture sector. The food and cash crops over millions of hectares and millions of livestock have perished in floods. The persistence of double-digit inflation for last two years and further uptrend in food-commodity prices e.g., wheat, edible oil, sugar, corn, pulses, meat, vegetables, fruits, etc has severely reduced the purchasing power of the poor. As a consequence the dietary and calorie intake situation has already been aggravated. Under present circumstance, the MDG target of reducing head count poverty to 13% by 2015 has become an abstract and naive idea. Table 5 shows that Pakistan lags in all the indicators of MDGs 1: Eradicating Extreme Poverty and Hunger.

Likely impact on goal 2 (achieving universal primary education): Though marginal improvements have been achieved, Pakistan is already lagging behind in all the

MDG indicators for goal 2. The overall literacy rate is stagnated around 57% for Pakistan (Fig. 15). According to PSLM (2008-09) data, literacy is strongly associated with household income. The data suggests that the literacy rate varies directly with income, and is highest amongst the high income quintile. The huge damages of floods, directly affected the educational institutions and are indirectly affecting the masses in flood districts through reduced incomes. Therefore, a negative impact on education and educational outcomes is expected.

The graph given below shows that over 11,000 schools have been destroyed in flood affected districts. The maximum damages were done to schools in the Punjab province (41%), followed by the Sindh (37%), the Balochistan (9%) and the KPK (8%). Furthermore, over 6,000 schools have been used for relief camps. Around 0.5 million school going children have been forced to stay out of school due to floods. The reconstruction of schools and brining back these children back to educational institutions will need both time and money (Fig. 16).

Likely impact of floods on health related MDGs:

Pakistan had been on track towards achieving MDG target of children under 5 suffering from diarrhea in the last 30 days (Fig. 17). However, survivors of the flood are at higher risk and are in danger of being affected by water borne diseases including cholera, cryptosporidiosis, rotavirus, typhoid and paratyphoid. Children are the most likely sufferers from these epidemic diseases and are considered vulnerable. According to UN up to 3.5 million children could be in danger of contracting deadly diseases carried through contaminated water and insects. The recent outbreak of dengue fever has also affected thousands of people across the country.

Pakistan also lags far behind in achieving the target of controlling of malaria. The dismal situation is presented in Fig. 18. Flood water in affected areas is likely to further aggravate the situation. Another important health issue confronted by the flood survivors is pregnancy related complications. According to UN Population Fund (UNFPA), among the flood-affected population, nearly 52,500 women are expected to give birth in the next three months and about 53,000 newborns will need health care. Under these conditions mortality rates (maternal and infant) might increase in the near future as women are unlikely to have access to proper healthcare facilities (The pre-flood maternal mortality ratio is given in Fig. 19).

The current situation of development expenditures on education and health in Pakistan is not hopeful. Pakistan has been spending around 2.0 and 0.5% of GNP on education and health, respectively. The destruction of basic health units in union councils, outbreak of diseases, meager health resources and inadequate infrastructure will reinforce the miseries of the affected people.

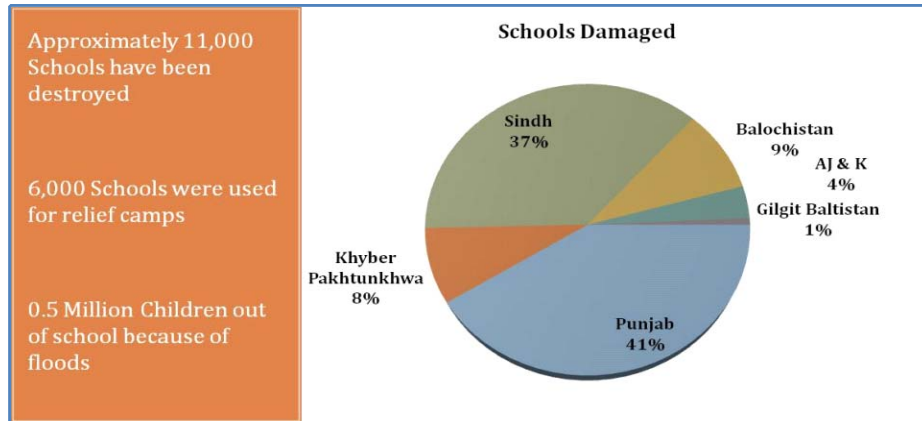


Fig. 16: Impact of floods on educational infrastructure (CPRSPD, 2010)

Table 5: Goal 1: Eradicating extreme poverty and hunger (status at a glance)

Indicators	2009-10
Proportion of population below the calorie based food plus non-food poverty line	Lag -
Prevalence of underweight children under 5 years of age	Lag -
Proportion of population below minimum level of dietary energy consumption	Lag

CPRSPD (2010)

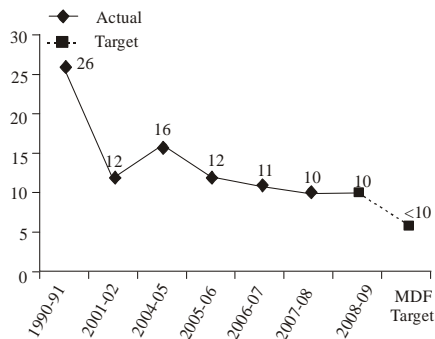


Fig. 17: Proportion of children under 5 suffering from diarrhea in last 30 days (CPRSPD, 2010)

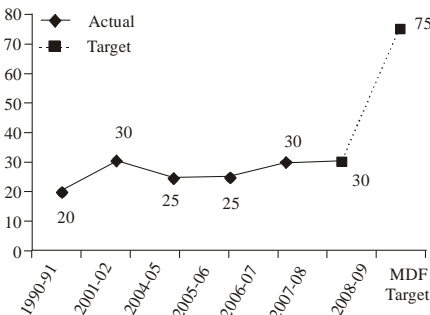


Fig. 18: Proportion of population using malaria prevention and treatment measures (CPRSPD, 2010)

The data on the impact on potable water and sanitation in post flood scenario is still not available; however, as noted above the coverage had already

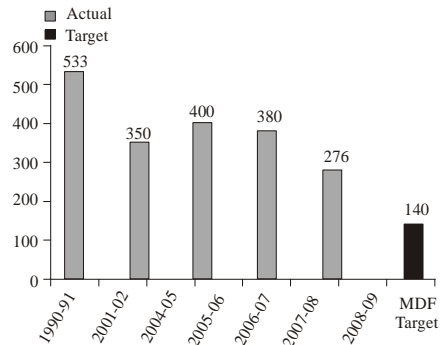


Fig.19: Maternal mortality ratio (CPRSPD, 2010)

declined in 2009. The existing situation in the country is not very promising as only 65% of population has access to clean water and 63% has access to sanitation. The contamination of water channels like rivers, streams, brooks, wells and water pumps in the flood affected areas will aggravate the situation further for the affected population. The provision of safe drinking water will be one of the critical challenges during rehabilitation of flood affectees.

CONCLUSION AND RECOMMENDATIONS

- Half-a-decade (2011-2015) may be a short period to fill gap between performance & expectations, but future trends do not necessarily have to be predicated on past performance. If public services related to MDGs are provided in timely manner in flood affected areas one can hope that some of the

Appendix A:

District	NER rate			GPI NER			Immunization 12-23 months			Water supply			Sanitation		
	1998	2005	2009	1998	2005	2009	1998	2005	2009	1998	2005	2009	1998	2005	2009
Punjab															
<i>Bakhar</i>	37.1	51	61.0	0.71	0.7	1.0	63.1	12	78.3	98.5	99.7	3.9	22	77.7	19.2
<i>D.G.Khan</i>	23.7	50	52.0	0.64	0.9	0.7	66	30	34.0	82.5	86.2	22.3	25	62.3	40.2
<i>Layyah</i>	37.7	54	68.0	0.74	0.8	0.9	43.6	17	82.1	99.3	99.8	11.8	22.5	53.9	44.6
<i>Mianwali</i>	49.4	64	68.0	0.76	0.84	0.7	63.9	7	28.4	85.1	89	43.5	32.2	75	71.2
<i>Muzaffar Garh</i>	27.5	39	48.0	0.64	0.7	0.7	68.4	33	19.0	98.9	99.3	7.2	18.9	39.5	47.1
<i>Rahim Yar Khan</i>	31.9	42	49.0	0.79	0.83	0.8	56.4	24	23.5	92.4	99.4	9.8	32.2	57.3	58.9
<i>Rajanpur</i>	25	50	42.0	0.6	0.8	0.7	62.9	32	52.8	80.4	91	7.9	20.9	58.3	18.7
<i>Jhang</i>	45.9	63	63.0	0.68	0.84	0.9	74.3	25	41.4	96.9	98.3	7.4	23.1	50.5	45.3
<i>Khushab</i>	46.6	65	73.0	0.72	0.82	0.9	75.7	3	55.8	84.4	98.7	35.7	24.8	52.6	67.0
<i>Multan</i>	43.3	49	63.0	0.74	0.92	1.0	63.9	23	43.7	97.9	98.7	13.5	50	72.1	67.6
<i>Sargodha</i>	53.2	59	76.0	0.86	1	1.0	78.3	21	55.5	98.5	98.5	33.8	34.6	71.7	87.7
KP															
<i>Charsada</i>	18.6	41	54.0	0.57	0.65	0.8	71.89	0.1	44.7	33.4	51.9	21.5	59.2	99.3	59.1
<i>Dera Ismail Khan</i>	20.9	35	38.0	0.58	0.69	0.7	55	77.5	35.6	70.4	87.8	30.5	41.9	74.2	35.5
<i>Kohistan</i>	4.5	27	38.0	0.22	0.25	0.2	48	48.2	15.1	14	28.9	8.3	17.6	11.7	18.3
<i>Lower Dir</i>	15.7	39	51.0	0.59	0.79	0.8	76.3	84.8	64.4	51.7	58.6	54.3	24.7	84.1	4.1
<i>Nowshera</i>	30.6	48	66.0	0.63	0.73	0.8	74.6	85.3	62.5	58.2	82.8	53.6	57.9	94.2	84.4
<i>Peshawar</i>	41.8	45	59.0	0.79	0.84	0.7	82.6	81.3	64.9	66.3	84.5	63.2	73.2	93	90.0
<i>Shangla</i>	11.4	27	41.0	0.29	0.47	0.7	25.3	54.8	20.0	27.2	19.5	35.8	13.6	69.9	48.0
<i>Swat</i>	19.3	41	39.0	0.67	0.77	0.8	75.8	90.8	60.9	36	59	83.9	36.3	64.7	53.8
<i>Tank</i>	16.8	35	40.0	0.36	0.49	0.5	49.8	65	37.4	41.7	69.6	59.3	44.9	70.2	28.1
<i>Upper Dir</i>	14.6	34	48.0	0.46	0.53	0.9	63.7	86	57.5	45.2	38.6	59.6	15	48	16.6
<i>Abbottabad</i>	48.9	70	82.0	0.88	1	1.0	79.2	92.6	56.3	64	76.9	74.4	34.3	77.7	77.7
<i>Bannu</i>	20.9	49	54.0	0.37	0.6	0.7	67.3	74.8	42.0	72.8	93.6	81.5	54	74.2	45.7
<i>Battagram</i>	12.2	45	65.0	0.43	0.71	0.9	49.6	80	31.3	47.7	48.9	77.0	15.3	42.1	61.3
<i>Bonair</i>	16.4	38	62.0	0.45	0.65	0.7	65.9	56.3	63.2	49.4	57.1	57.6	28.2	83.2	46.4
<i>Chitral</i>	41.7	55	61.0	0.8	0.75	1.0	87.5	100	67.5	45	49.1	52.3	38.5	77.3	31.0
<i>Hangu</i>	19.9	42	81.0	0.9	0.91	0.9	73.8	87.3	39.0	66.1	78	76.3	46.7	74.9	78.2
<i>Karak</i>	27	62	61.0	0.67	0.71	0.8	74	66.6	30.7	34.2	50.4	38.7	21	48.2	34.0
<i>Kohat</i>	32.8	48	62.0	0.63	0.64	0.7	60.8	59.2	47.5	53.4	74	51.6	46.6	99.1	60.7
<i>Lakki Marwat</i>	24.9	50	52.0	0.32	0.59	0.5	67.6	55.9	19.5	35.6	51.4	40.0	51.4	72.2	38.2
<i>Mansehra</i>	35.5	64	70.0	0.78	1	0.9	70.5	80	47.7	56.5	60.5	50.2	20.8	50.6	63.9
<i>Mardan</i>	28.6	55	58.0	0.63	0.86	0.8	79.4	85.5	55.5	47.9	73	20.1	62.1	98.1	57.0
<i>Swabi</i>	25.9	52	63.0	0.62	0.97	0.8	71.7	88.3	53.4	33.8	59.7	22.1	45.3	82.9	57.3
Sindh															
<i>Dadu</i>	32.2	40	53.0	0.73	0.78	1.0	55.4	78.4	56.6	68.9	73.7	22.6	67.2	94.1	38.8
<i>Ghotki</i>	24.4	50	45.0	0.68	0.75	0.6	51.8	78.1	24.0	96.8	99.6	11.9	26.7	86	45.2
<i>Jacobabad</i>	21.8	25	36.0	0.64	0.47	0.6	58.8	35.2	2.9	97.1	93	23.8	35.6	76.4	36.5
<i>Jamshoro</i>	N/A		35.0	N/A	N/A	0.8	N/A	N/A	25.0	N/A	N/A	35.6	N/A	N/A	32.3
<i>Kasmore</i>	N/A		52.0	N/A	N/A	0.7	N/A	N/A	5.3	N/A	N/A	4.6	N/A	N/A	30.0
<i>Larkana</i>	28.5	42	45.0	0.74	0.63	0.7	69.8	82.1	80.0	89.6	93.1	12.3	73.3	97.6	76.8
<i>Shadad kot</i>	N/A		39.0	N/A	N/A	0.6	N/A	N/A	66.3	N/A	N/A	19.3	N/A	N/A	50.4
<i>Shikarpur</i>	18.2	52	50.0	0.72	0.86	0.9	55.7	82.9	22.2	98.2	99.7	3.8	57.6	81.1	58.7
<i>Thatta</i>	16.3	33	39.0	0.62	0.71	0.5	51.9	63.7	34.2	40.3	64	22.9	52	63.9	16.7
<i>Hyderabad</i>	35.9	45	61.0	0.76	0.76	0.9	63.1	87.9	39.9	89.6	99	71.1	71.4	88.8	86.9
<i>Khairpur</i>	33.5	44	51.0	0.73	0.71	0.8	59.2	61.7	24.5	94.2	98.3	8.5	52	72.1	38.9
<i>Matiali</i>	N/A		49.0	N/A	N/A	0.8	N/A	N/A	6.7	N/A	N/A	23.2	N/A	N/A	50.7
<i>Nowshero Feroz</i>	29.9	54	50.0	0.72	0.84	0.8	54.5	87.6	18.3	94.9	99	11.9	71	96	41.6
<i>S.Benazir Abad *</i>	38.4	41	59.0	0.67	0.65	0.8	65	51.5	51.6	94.5	98.9	10.5	50.8	98.3	76.2
<i>Sukkur</i>	36.2	55	49.0	0.75	0.86	0.8	59.9	75.3	32.9	93.1	98.1	30.3	58.4	82.5	54.8
<i>Tandu Allah Yar</i>	N/A		48.0	N/A	N/A	0.8	N/A	N/A	8.3	N/A	N/A	17.8	N/A	N/A	51.8
<i>Tandu Muhd Khan</i>	N/A		39.0	N/A	N/A	0.6	N/A	N/A	15.0	N/A	N/A	13.1	N/A	N/A	31.9
Balochistan															
<i>Jafarabad</i>	17.7	41	46.0	0.58	0.53	0.64	7.23	2.5	7.13	5.9	60.2	20.3	30.4	67.4	15.5
<i>Nasirabad</i>	7.4	21	38.0	0.41	0.5	0.5	49.4	55	9.41	9.8	43.9	18.3	25.8	57.5	13.3
<i>Barkhan</i>	16.4	37	33.0	0.5	0.61	0.4	59.6	44.8	26.8	15.9	39.7	0.8	21.6	12.2	45.0
<i>Harnai</i>	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
<i>Jhal Magsi</i>	3.7	23	31.0	0.33	0.57	0.6	29.6	67.9	26.5	13	22	12.4	44.2	28.6	6.1
<i>Kech</i>	38.7	63	54.0	0.82	0.85	0.8	68.9	65	15.8	30	32.4	48.3	53.4	88.7	20.5
<i>Kohlu</i>	N/A		11.0	N/A	N/A	0.2	N/A	N/A	28.2	N/A	N/A	5.0	N/A	N/A	12.4
<i>Loralai</i>	20.3	40	51.0	0.54	0.47	0.5	58.7	65.4	55.6	31	40.1	43.2	47.9	61.8	15.1
<i>Musa Khel</i>	10.3	34	23.0	0.72	0.26	0.3	37.9	48.3	26.1	11.6	17.3	0.7	12.9	43.2	14.7
<i>Qilla Saifullah</i>	21.7	26	45.0	0.55	0.69	0.4	39.3	37.9	27.6	26.4	50.4	13.1	20.8	15.9	11.0
<i>Sherani</i>	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Italic: Severly affected districts; Non-italic: Moderately affected districts

Appendix A: (Continue)

District	NER rate			GPI NER			Immunization 12-23 months			Water supply			Sanitation		
	1998	2005	2009	1998	2005	2009	1998	2005	2009	1998	2005	2009	1998	2005	2009
All severely affected districts (28)	23.7	41.0	47.9	0.61	0.68	0.71	59.5	57.1	39.8	65.1	74.9	27.6	37.1	70.3	41.1
All moderately affected districts (42)	30.1	49.5	55.5	0.64	0.75	0.75	63.8	63.7	37.7	57.5	68.9	34.0	40.4	68.3	48.1

Appendix B: Indicators of education and health

Area	PSLM (2004-05)		PSLM (2006-07)		PSLM (2008-09)	
Net enrollment rate* (NER) at primary level	NER	GPI	NER	GPI	NER	GPI
Pakistan	52.4	0.85	55.6	0.86	57.4	0.88
Severely affected	41.8	0.734	6.3	0.72	47.9	0.77
Moderately affected	53.1	0.82	55.2	0.82	58.2	0.83
Not affected	58.0	0.92	61.1	0.93	62.2	0.95
Literacy for ages 10 years and above	Literacy	GPI	Literacy	GPI	Literacy	GPI
Pakistan	52.8	0.62	54.9	0.64	57.3	0.65
Severely affected	41.4	0.41	42.2	0.41	45.6	0.44
Moderately affected	49.4	0.50	51.5	0.53	54.8	0.54
Not affected	58.8	0.73	61.2	0.75	62.9	0.75
Youth literacy for ages 15-24						
Pakistan	65.5	0.72	67.5	0.75	69.6	0.77
Severely affected	51.5	0.48	52.4	0.49	55.9	0.54
Moderately affected	62.4	0.60	64.8	0.65	67.3	0.66
Not affected	72.3	0.85	74.3	0.87	75.9	0.88
Immunization for children 12-23 months	Immunization	GPI	Immunization	GPI	Immunization	GPI
Pakistan	79.0	0.98	76.4	0.97	77.9	0.99
Severely affected	74.4	0.95	69.1	0.95	69.6	0.99
Moderately affected	77.6	1.00	72.9	0.96	74.7	1.01
Not affected	81.8	0.99	81.4	0.99	82.9	0.98

Appendix C: Sanitation and drinking water

Area	PSLM (2004-05)	PSLM (2006-07)	PSLM (2008-09)
Drinking water			
Pakistan	87.9	87.3	88.3
Severely affected	83.4	81.3	84.6
Moderately affected	85.6	86.5	87.8
Not affected	90.6	89.8	89.9
Sanitation			
Pakistan	59.2	64.9	70.9
Severely affected	46.2	47.8	57.5
Moderately affected	53.6	59.9	66.0
Not affected	66.4	73.1	77.7

Appendix D: Summary of Losses/Damages Due to Flood in Sindh (Pakistan) – 2011

						Houses damaged					
Union	People	Area affected	Cropped area				Persons	Persons	Cattle head		
Districts	Council	Villages	affected	(Acres)	damaged (Acres)	Partially	Fully	Total	died	injured	perished
23	674	41,334	8,188,177	6,589,141	2,166,623	630,457	569,050	1,499,507	389	745	87,608

National Disaster Management Authority (NDMA, 2010 and 2011) reports, (<http://ndma.gov.pk>/accessed on 24-09-2011)

indicators may improve slightly even if the MDG target remains unachievable.

- Public sector development is likely to suffer as funding is diverted for provision of basic facilities & rebuilding of infrastructure destroyed by floods. As the PSDP expenditures have already been curtailed in

recent years, an endemic decrease in PSDP funding for MDG related sectors will further worsen progress towards MDG targets at least in the short-run.

- Renewed and concerted efforts to mobilise resources to refocus priorities in favour of the MDGS Goals are required.

- Commitment to build social safety nets to protect vulnerable flood affected segments of the population should be considered on priority basis at least in the short-run.
- The adoption of new NFC award and 18th Amendment will provide more resources to the provinces for expanding social sector expenditures, which can prove fruitful for making progress towards MDG targets.
- Public Private Partnership for the provision of basic services especially in flood hit areas should be considered to cope with the current financial crunch.
- Reducing non-developmental expenditures and taxation structure reforms to broaden the tax base are highly recommended.
- Involving developmental partners for provision of basic needs like health and basic education in flood affected districts is regarded of prime importance.
- Provision of subsidized credit in short term to farmers affected by floods may also be considered so that food shortage can be tackled.
- The inflation can push more population below poverty line; therefore, macroeconomic stabilization measures must be adopted in timely manner.
- A comprehensive reform agenda is required therefore a “New Growth Strategy” is being prepared by the Planning Commission (2010) to tackle the long-run challenges faced by Pakistan.
- Implementation of decentralization and devolution at the grassroots is highly recommended for effective delivery of basic services.
- Extraordinary measures to achieve the targets set up for each of the eight MDGs are required and need a big-push approach.
- The continuous floods since last two years invite policy makers to formulate dedicated short term and long term measures to tackle this calamity on permanent basis.

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End note:

- 1 Political instability in 2007 and in 2008 and the transition from a military-led regime to a democratically-elected government have also caused severe disruptions in economic and social development.
- 2 In the absence of credible data, the number of people dragged below poverty line is not available at the moment; however, the PSLM (2010-11) has already started in July 2010, but the data will not be available until late next year.