



# Disaster Risk Management Needs Report 2012

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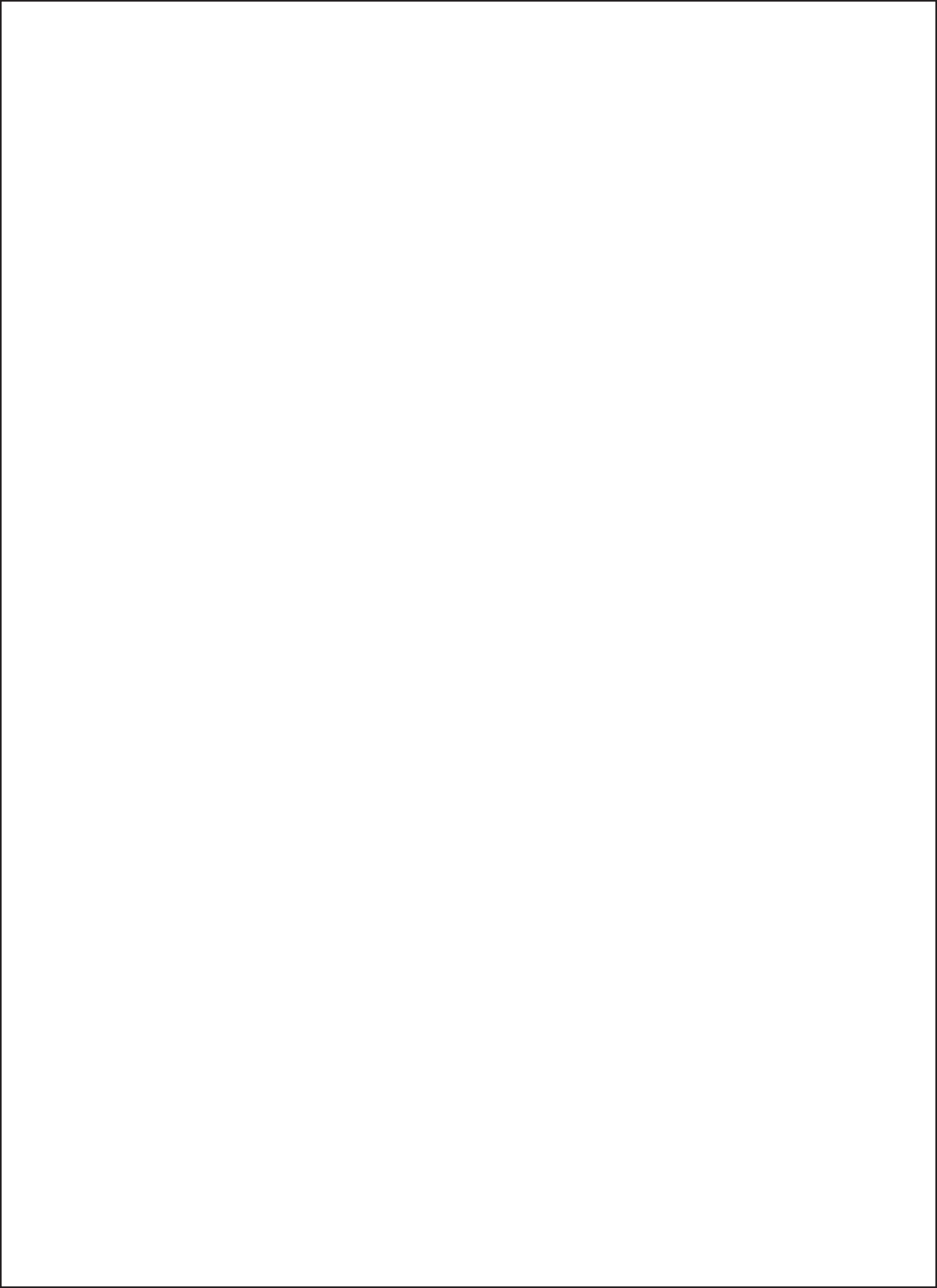
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This report has been produced under the  
overall guidance of Chairman, National Disaster Management Authority,  
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## List of Abbreviations

ADB	Asian Development Bank
AJK	Azad Jammu and Kashmir
CAA	Civil Aviation Authority
CBDRM	Community Based Disaster Risk Management
CBOs	Community Based Organizations
CDA	Capital Development Authority
CP	Contingency Planning
DC	Deputy Commissioner
DCO	District Coordination Officer
DDMA	District Disaster Management Authority
DDMC	District Disaster Management Coordinator
DDMU	District Disaster Management Unit
DDRF	District Disaster Response Force
DG	Director General
D.I.K	Dera Ismail Khan
DMAs	Disaster Management Authorities
DRF	Disaster Response Force
DRM	Disaster Risk Management
DRMC	District Risk Management Coordinator
DRR	Disaster Risk Reduction
EOC	Emergency Operation Center
ERC	Emergency Relief Cell
ERRA	Earthquake Reconstruction and Rehabilitation Authority
EWS	Early Warning System
FAO	Food and Agriculture Organization
FATA	Federally Administrated Tribal Areas
FDMA	FATA Disaster Management Authority
FFC	Federal Flood Commission
GB	Gilgit Baltistan
GBDMA	Gilgit Baltistan Disaster Management Authority
GIS	Geographic Information System
GLOF	Glacial Lake Outburst Floods
GOP	Government of Pakistan
GSP	Geological Survey of Pakistan
HQ	Head Quarter
HR	Human Resource
HRD	Human Resource Development
HRDP	Human Resource Development Plan
ICT	Islamabad Capital Territory
INGO	International Non-Government Organization
IG	Inspector General
IT	Information Technology
IG	Inspector General
JCSC	Joint Chief of Staff Committee
JICA	Japan International Cooperation Agency

KANUPP	Karachi Nuclear Power Plant
KP	Khyber Pakhtunkhwa
LG&RD	Local Government and Rural Development
M & E	Monitoring and Evaluation
MDMC	Municipal Disaster Management Cell
MHCP	Multi-Hazard Contingency Planning
MHVRA	Multi-Hazard Vulnerability and Risk Assessment
MIS	Management Information System
NDMA	National Disaster Management Authority
NDMP	National Disaster Management Plan
NDMF	National Disaster Management Framework
NGO	Non Government Organization
NHA	National Highway Authority
NVM	National Volunteer Movement
ONE UN DRM JP	One United Nation Disaster Risk Management Joint Programme
P & D	Planning and Development
PaRRSA	Provincial, Reconstruction and Rehabilitation Authority
PC	Planning Commission
PDMA	Provincial Disaster Management Authority
PDMC	Provincial Disaster Management Commission
PECR	Provincial Emergency Control Room
PEOC	Provincial Emergency Operation Center
PES	Punjab Emergency Service
PMD	Pakistan Meteorological Department
P/RDMA	Provincial/Regional Disaster Management Authority
PWD	Public and Works Department
SDMA	State Disaster Management Authority
SEOC	State Emergency Operation Center
SIDM	State Institute of Disaster Management
SMS	Short Message Service
SoPs	Standard Operating Procedures
SUPARCO	Space and Upper Atmosphere Research Commission (Pakistan)
TDMA	Taluka/Tehsil Disaster Management Authority
TEWS	Tsunami Early Warning System
TOT	Training of Trainers
UC	Union Council
UN	United Nations
UNDP	United Nation Development Program
WAPDA	Water and Power Development Authority
WFP	World Food Programme



## Message by the Chairman NDMA

The report is the out-come of a lengthy consultative process to identify the disaster management needs of the provinces. It is, perhaps, the first time that the National Disaster Management Authority (NDMA) has reached out to each province to understand disaster threat perception and disaster risk management needs of the provinces. The effort was jointly supported by the One-UN DRM JP and NDMA by holding consultative workshops in each province, and in the AJK from November to May 2012.

These workshops, initiated by NDMA, were conducted to gauge the existing capacities and needs of Disaster Management Authorities (DMAs) in a nationwide consultative process. This was a deviation from the earlier practice of asking for bureaucratic plans on paper. The interactive sessions meant meaningful experience sharing and deeper understanding of the issues at the provincial / regional level.

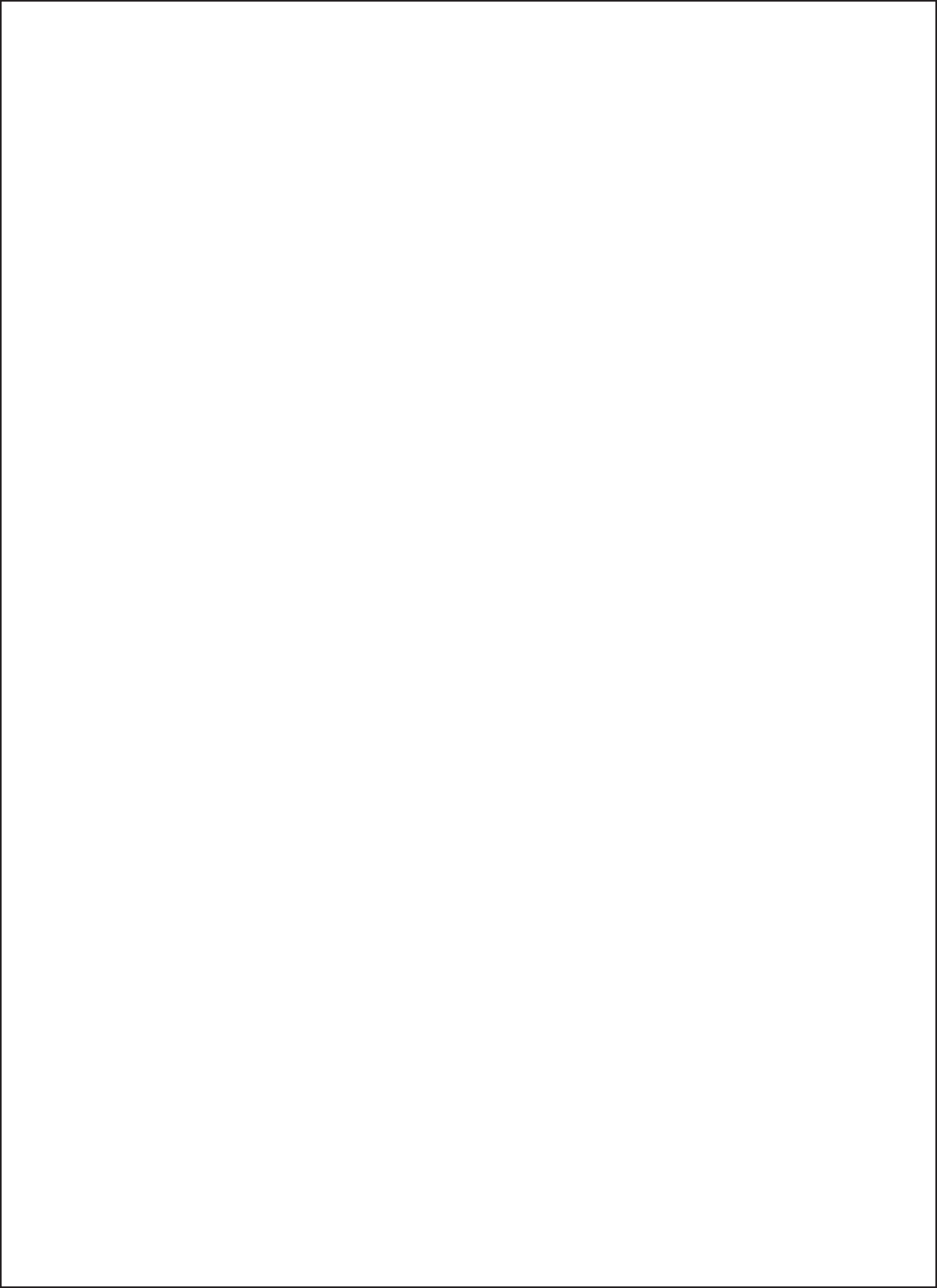
The report is a compilation of the findings and recommendations of these consultative workshops and thus outlines some of the key issues and challenges faced at the district and

provincial level. It also highlights some of the key areas where investment is needed to enhance disaster risk management capacities.

I am thankful to all the stakeholders especially the provincial / regional and district governments for their keen interest in the consultative process and their valuable inputs. I also extend my gratitude to UN Agencies and International and Local Non Government Organizations for their time and efforts.

Pakistan's approach to disaster management has changed much since the initial challenges we faced following the 2005 earthquake. Significant progress has been made in changing mindsets and institutionalizing systems of communication and response. The fact that our Disaster Management Authorities have come together in a coordinated process to further strengthen these systems is reflective of our improved understanding of DRM issues and challenges.

This report thus is an important step in the process of setting up an efficient DRM system in the country.





## Executive Summary

Climate change is raising the frequency and scale of disasters. This is having an enormous impact on already disaster prone countries such as Pakistan, made vulnerable by its extreme climatic zones, its eroding coastline and the volatile River Indus, which stretches from north to south of the country. Pakistan is affected by landslides, earthquakes, hill torrents, monsoons, flooding and cyclones; the Northern Areas (Gilgit Baltistan) of the country are affected by frequent avalanches also. More than thirty million people have been affected by disasters in Pakistan over the past three years. These disasters have led to large scale temporary population dislocation, the loss of major state infrastructure, exacerbated existing gaps in educational and health services and ultimately led to increased levels of poverty and a reduction in living standards.

The series of repeated large scale disasters experienced in Pakistan has forced changes at both policy level and in the development of institutional infrastructure working in this area. This is in the form of the National Disaster Risk Management Framework (NDRMF), the establishment of the National Disaster Management Authority (NDMA), the establishment of Provincial / Regional Disaster Management Authorities (P/RDMAs) and the set up of District Disaster Management Authorities (DDMAs) across Pakistan. This report analyzes the findings compiled from a series of nine consultative workshops held in Muzaffarabad, Karachi, Rawalpindi, Multan, Lahore, Quetta, Peshawar and Islamabad to identify and prioritize the needs of PDMAs and DDMAs. The objective of this analysis is to highlight key areas for further investment to feed into future planning and strategy.

The central findings of this report show that R/PDMAs and DDMAs require significant investment in capacity building in terms of policy guidance, information management systems, communication systems, equipment, software and technical expertise. This investment is particularly needed at the level of DDMAs being the first line of response, the central means of information collection and dissemination and the implementing arm of

Pakistan's disaster management structure.

There are also significant variations in the development, efficiency and expertise of disaster management institutions and services between the regions/provinces. The structure is relatively developed in Punjab and KP having systems and technical expertise for emergency response. Punjab has set up the Punjab Emergency Response Service (PES), which has greatly enhanced coverage and response times. In other regions / provinces such as Gilgit Baltistan (GB) this structure is at the skeletal / planning stage with the Gilgit Baltistan Disaster Management Authority (GBDMA) requiring major investment in capacity building. Apart from the need for capacity building and the set up of better early warning systems, other institutions such as PDMAs in Sindh and Balochistan have more stressed the need for research studies into the affects of climate change on coastal erosion and better systems to monitor these changes.

Ultimately all authorities in Pakistan's disaster infrastructure need to improve systems of information sharing, best practices and communications. This means improving the flow of information not only between provinces / regions but also from national level to provincial / regional level to district level. This will improve policy implementation and enable those at the national, provincial and district level to make better-informed decisions in the areas of both planning and implementation.

The key points that surfaced during this process include;

1. Knowledge mapping and development of multi hazard profiles and vulnerability and risk assessments along with attached risks for every District. The detailed Multi-Hazard Vulnerability and Risk Assessments (MHVRAs) at district level would provide a base on which layer of DRM Plans can be developed corresponding to the ground realities. Though it is understandable that the needs identified from MHVRAs at District level cannot be totally catered for by the resources available, however the pi-

- lot can be carried in a few of the most vulnerable districts to get an idea of the level of needs.
2. Streamlining Land Records for reducing the disaster threats by addressing the issues of encroachment and damage to the ecology of the region. This entails not only computerizing the land records but also working towards appropriate land-use planning and allocation of land, conservation of waterways, clearing of natural drains, and ensuring that all infrastructures are maintained and protected.
  3. Mainstreaming Disaster Risk Reduction (DRR) into development process with special emphasis on Community Based Disaster Risk Management & School Safety Programme.
  4. Installation and strengthening of Early Warning Systems (EWS) for tropical cyclones, floods, drought and tsunamis.
  5. Develop capacities of line departments / administration to carry out search, rescue and relief activities by institutionalizing a mechanism in the form of creating a Disaster Response Force with a mix of professionals and volunteers. To do so there is a need to deploy well trained full time employees at District level along with creation and strengthening of organized network of youth and volunteers to support the government and communities when required.
  6. Special emphasis needs to be given to R/PMDAs in order to develop them as a strong implementing agency for DRM interventions. Subsequently the R/PMDAs further need to work on capacity building of DDMA's along with allocations of funds for DRM from District Resources.
  7. Assessment of suitable locations and construction of adequately sized and durable warehouses to facilitate easy access to emergency relief items.
  8. Capacitate District level organizations in management of relief goods and supplies, organizing the movement of communities, setting up and managing camps, ensuring supplies to camps, identifying camp needs and preferences, inventory management and linkages with non-government partners, individuals etc.
  9. Construction of critical community based disaster mitigation infrastructure along with much needed community physical infrastructure damaged in 2010-11 floods.
  10. The development of Risk Transfer Mechanisms i.e. insurance schemes to minimize the long-term negative impact of disasters on both urban and rural livelihoods.
  11. Emphases needs to given to adopt possible measures to conserve energy at all levels, and use all available sources to enhance production of energy.

## Introduction

Pakistan has experienced a series of high profile disasters in the last decade due to climate change. The continuous onslaught of disasters has compelled Pakistan to move away from a response centric approach towards preparedness and prevention thus bringing about a paradigm shift in its overall Disaster Risk Management (DRM) agenda. The NDMA and its development partners have invested considerable time and energy in bringing about this paradigm shift. The authority has brought on board key stakeholders to develop and implement holistic programmes for DRM with special emphasis on preparedness and mitigation.

The NDMA is driving the Government of Pakistan's agenda for DRM by coordinating all DRM related initiatives in Pakistan and aligning them with NDRMF and National Disaster Risk Management Plan (NDMP). The last few years have seen the DRM becoming a provincial/regional priority with the establishment of R/PDMAs and their demand for more inclusive DRM planning to help provinces/regions fend for themselves in the wake of any future disaster. In order to help provinces lead the DRM planning and implementation process while ensuring that it remains a national priority as well, NDMA in November 2011 initiated a series of provincial/regional level consultative workshops on DRM to ascertain the level and type of needs for DRM in the country. The Provincial/Regional DRM consultative workshops were designed not just to uncover the pragmatic local perspective of prioritized DRM needs but also to capacitate the representatives of provincial and regional governments, Non Government Organizations (NGOs) and other stakeholders on DRM concepts, perspectives, theories and practices along with sharing the global and national best practices. During the consultative process the participants were encouraged to suggest approaches for DRM at local and national level.

Workshops/Meetings		
Province/Region	Date	City
Azad Jammu & Kashmir	Nov 2011	Muzaffarabad
Sindh	Dec 2011	Karachi
Punjab (Rwp) & GB	Jan 2012	Rawalpindi
Punjab (Lhr)	Jan 2012	Lahore
Balochistan	Jan 2012	Quetta
Khyber Pakhtunkhwa	Feb 2012	Peshawar
FATA	Feb 2012	Peshawar
Punjab (Multan)	Mar 2012	Multan
ICT	May 2012	Islamabad

Table: 1

The objective of the workshops was to understand the needs and future DRM plans of the provinces/regions and to identify possible resource and capacity gaps. The main sessions within this consisted of presentations detailing key DRM initiatives (both implemented and ongoing), future DRM plans, available resources, future needs and identified gaps and an outline of further support required by the provinces / regions. The workshops were also used as a platform to share the vision and plans featuring the combined DRM activities proposed by NDMA and United Nations (UN) Agencies.

Following the collation of information and feedback obtained from these workshops, NDMA held a national level consultative meeting with key stakeholders including: the Federal Flood Commission (FFC), Pakistan Army, Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), Pakistan Meteorological Department (PMD), Geological Survey of Pakistan (GSP) Civil Aviation Authority (CAA), Planning Commission (PC), National Highways Authority (NHA), Water and Power Development Authority (WAPDA), Pakistan Public Works Department (PWD), Survey of Pakistan and Islamabad Capital Territory (ICT). The outcomes of national consultative meeting are part of this report.

## Methodology:

Data for this report was drawn from both primary and secondary sources. The latter was used for the background and contextual sections of this and included a review of:

- The National Disaster Management Framework,
- Sample district disaster management plans
- Published documents from the FFC
- Published documents by Earthquake Reconstruction and Rehabilitation Authority (ERRA)
- The National Plan: Strengthening National Capacities for Multi-hazard Early Warning & Response System, PMD, (2006).

The second section of this report draws its

findings from the series of nine consultative workshops that took place with provincial and regional DMAs over November 2011 to May 2012. These were held in Muzaffarabad, Karachi, Rawalpindi, Multan, Lahore, Quetta, Peshawar and Islamabad. During these workshops key inputs were provided by all DMAs on their institutional development, capacities and needs. This report analyses and consolidates the findings of these workshops highlighting key areas where further investment and modifications of existing systems and procedures are required. The analysis was undertaken by evaluating the frequency and priority given to each need identified. These were first sorted into broad categories of capacity, planning, system set up, infrastructure, research and policy, these were then further broken down into preventative, emergency response and management.

## Disaster Context of Pakistan

Pakistan covers a total land area of 796,095 sq. km and has a population of 187 million. The country is geographically divided into three areas: the northern highlands, the Indus river plains and the Balochistan plateau. Pakistan's geographical location, its topography, the nature of its economy, rapid urbanization and high population levels make it vulnerable to natural and human induced disasters. Natural disasters that repeatedly affect Pakistan include: earthquakes, floods, landslides, cyclones, and droughts. In addition to this, the country is affected by industrial disasters, disease epidemics, fires, accidents (road, rail, and air), and civil and military armed conflict<sup>1</sup>. The effects of these disasters are exacerbated by poor infrastructure, scant emergency response services and high levels of poverty, particularly in rural areas lowering coping mechanisms at all levels. The most affected are the vulnerable groups including women, children, elderly and the disabled; this is in part due to the lack of support services available for these groups. The human impact of natural disasters in Pakistan can be judged by the fact that 6,037 people were killed and 8,989,631 affected in the period



Figure: 1 Map of Pakistan

between 1993 and 2002 (World Disasters Report 2003, Geneva) with a further 20 million people affected by the 2010 floods (outlined in more detail below).

In recent years Pakistan has suffered a series of natural disasters, including the 2005 earthquake, and major floods in 2010 and 2011. These calamities killed thousands and cost millions by destroying large-scale infrastructure, housing,

livestock, agriculture, equipment, other assets and livelihoods. Since Pakistan is situated on major earthquake fault lines, the likelihood of similar tragedies in the future remains significant. Prior to and during the October 2005 earthquake, Pakistan generally followed a reactive approach to disaster management with policies such as the National Calamities Act focusing primarily on relief and compensation. During this period, capacity gaps were also exposed in terms of technical expertise and systematic response within authorities such as the Emergency Relief Cell (ERC) working under the Federal Cabinet Division. The country lacked a systematic approach towards managing the effects of natural disasters. The Government therefore established specialized agencies such as: (a) the ERRA; and (b) the NDMA for disaster management.

The strategy for responding to natural disasters is now laid out in the NDRMF<sup>2</sup>. This guides the work of the entire system and has been developed through wide consultation with stakeholders at the local, provincial, and national levels. The Framework also includes contingency plans for industrial and chemical disasters. Disaster management plans for the provinces have been finalised for Balochistan, AJK, Punjab, Sindh and the northern areas (GB). However the developed plans require revision to incorporate elements such as the new benchmarks created after the 2010 and 2011 floods as well as the new political and administrative system of the provinces, which have restored the previously defunct offices of commissioner and divisions.

An outline of natural disasters affecting Pakistan is provided below for reference and context:

**Floods:** Pakistan is one of the five South Asian countries with the highest annual average number of people physically exposed to floods. Floods particularly affect Punjab and Sindh while relatively plain areas of KP are affected by flash floods. Hill torrents affect the hilly areas of KP, Balochistan, Punjab and the northern federally administered areas. In July-August 2010, Pakistan was hit by unprecedented monsoon rains and floods. Over 20 million people were affected in 78 of the 141

districts in Pakistan, claimed 96 lives in four districts of AJK, as well as partial or complete damage to bridges, roads, buildings, electricity, and cultivable land. Flooding again affected the provinces of Sindh and Balochistan in 2011 (August - September), resulting in more than 465 deaths, affecting nearly 5.5 million people, and damaging up to 1.6 million homes and approximately 6.8 million acres of crops<sup>3</sup>. Parts of the country especially those next to major rivers like the Indus and its tributaries, are susceptible to flash floods. Glacial Lake Outburst Floods occur in the northern areas

Table 2: Overview of damages/deaths caused by Natural Disasters in Pakistan: 1980-2010<sup>4</sup>

No of events:	138
No of people died	87,053
Average died per year:	2,808
No of people affected:	58,098,719
Average affected per year:	1,874,152
Economic Damage (US\$ X 1,000):	18,402,814
Economic Damage per year (US\$ X 1,000):	593,639

Figure: 2

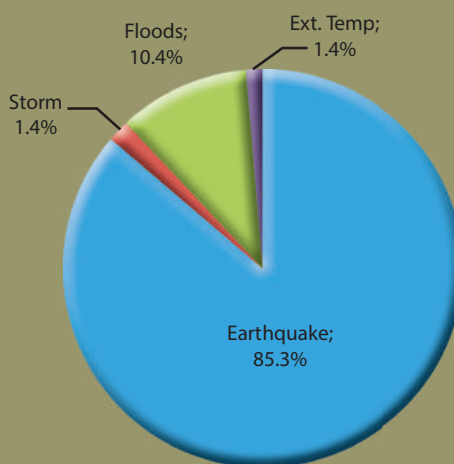


Table 3: Ten most severe natural disasters in Pakistan for the period 1900 to 2011 ranked by the number of affected people

Disaster	Year	Affected People
Flood	2010	20,202,327
Flood	2011	9,200,000
Flood	2005	7,000,450
Flood	1992	6,655,450
Flood	1992	6,184,418
Flood	1976	5,566,000
Earthquake (seismic activity)	2005	5,128,000
Flood	1973	4,800,000
Flood	1978	2,246,000
Drought	1999	2,200,000
Storm	2007	1,650,000

<sup>2</sup>The NDRMF is going to be replaced by DRR policy being developed in consultation with Federal, Provincial and District level stakeholders.  
<sup>3</sup>[http://www.usaid.gov/our\\_work/humanitarian\\_assistance/disaster\\_assistance/countries/pakistan/template/index.html](http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/countries/pakistan/template/index.html)  
<sup>4</sup><http://pakresponse.info/Portals/0/Pakistan-OneYearOn-28July2011.pdf>  
<sup>5</sup><http://preventionweb.net/english/countries/statistics/?cid=129>

(GB). 14 major floods have hit the country since 1947, causing economic losses and damages amounting to USD 6 billion<sup>6</sup>.

**Earthquakes:** Pakistan lies in a seismic belt and therefore suffers from frequent earthquakes of moderate to strong magnitudes affecting Federal Territory and the provinces of Balochistan, KP, Punjab and Sindh. Earthquakes normally occur along the Himalayas, Karakorums and partly the Hindu Kush ranges in the north, Koh-e-Sulaiman range in the west with the Chaman fault line along Quetta, and Makran fault line along the seacoast. The devastation can be immense because of the poor quality of buildings and exposure of larger populations to earthquake risks. The most recent earthquake occurred in 2005 in Kashmir and KP causing massive loss of life (over 73,000 persons) and widespread destruction. Other major earthquakes include the 1935 earthquake in Quetta which reached above 6.5 on Richter Scale intensity and left 35,000 dead, in 1945 on Makran coast, and in 1976 in the Northern areas (GB).

**Cyclones/Tsunamis:** Cyclones in Pakistan are not a frequent phenomenon, but they have previously caused large-scale damage to coastal areas of Sindh and Balochistan, which are the most vulnerable areas to these. The period 1971-2001 recorded 14 cyclones throughout Pakistan<sup>7</sup>. The most significant of these include the December 1965 Karachi cyclone that caused 10,000 casualties, the 1993 Pak – Indo Cyclone that affected Thatta and Badin in Sindh killing 609 people and displacing around 200,000 people from the area, and the 1999 cyclone in Thatta and Badin districts wiped out 73 settlements, and resulted in loss of 168 lives, nearly 0.6 Million of people were affected. The losses to infrastructure were estimated at Rs.750 Million PKR. The most recent cyclones are the 2007 Cyclone in which 200 people died in Karachi and cyclone PHET that hit Pakistan (Sindh & Balochistan) in early June, 2010 killing 15 people, injuring dozens and disrupting electricity transmission and communications systems.

**Landslides:** The regions of Kashmir, GilgitBaltistan and parts of the KP province are particularly vulnerable to landslides and

avalanches. Aside from the young geology and fragile soil type of mountain ranges, accelerated deforestation is a major cause behind increased incidences of landslides. Small scale isolated landslides occur frequently in the above-mentioned regions. The frequency of landslides is expected to increase with forest cover shrinking by 3.1% (7000 - 9000 hectares of land) annually. The most severe landslide in Pakistan occurred in GilgitBaltistan close to Karimabad in northern Pakistan in 2010. This landslide led to the formation of Attabad Lake in Hunza Valley. The landslide killed twenty people, buried and inundated the Karakoram Highway and blocked the flow of the Hunza River for five months. The lake flooding displaced 6,000 people from upstream villages and inundated over 12 miles (19 km) of the Karakoram Highway cutting off a further 25,000 from land transportation routes.

**Droughts & Famine:** Each season some regions of Pakistan remain dry and are always vulnerable to drought. If subsequent seasons fail to generate significant precipitation, drought conditions emerge in these areas gaining severity in the absence of rainfall. Drought has become an intermittent phenomenon in the country. Every province of Pakistan has a history of major droughts in the past. In recent years drought is reported to have extensively affected Balochistan, Sindh and Southern Punjab where average annual rainfall is as low as 200-250 mm. Severe drought episodes in 2000 and 2002 affected livelihoods, resulted in human deaths, forced tens of thousands of people to migrate, and killed large number of livestock. This drought led to 120 deaths and affected 2,200,000 people. The main arid rangelands are Thar, Cholistan, Dera Ghazi Khan, Tharparkar, Kohistan, southern districts of KP and western Balochistan. Other than Balochistan, all of these areas are within the range of monsoon rainfall, which itself is erratic and scattered. Two to three years in every ten in these areas are drought years. In Pakistan the responses to drought are usually taken on an emergency and on ad-hoc basis. Such reactions to crises often result in the implementation of hastily prepared assessments and procedures that lead to ineffective, poorly coordinated and untimely responses.

<sup>6</sup><http://unportal.un.org.pk/sites/UNPakistan/OneUN/DRM%20Documents/NDRM%20Framework%20Pakistan.pdf> (NDRMF)

<sup>7</sup>Pakistan Meteorological Department, 2006, National Plan: Strengthening National Capacities for Multi-hazard Early Warning & Response System. 11

Indus Basin River system-flooding and flood mitigation, H. Rehman, and A. Kamal

## DRM Institutional Framework

The government response to disaster relief has been varied in its institutional arrangement and corresponding effectiveness over the decades. While there are an increasing number of international humanitarian agencies operating in the country, the Government has also strengthened its leadership and coordination role in disaster management. Its strength in areas such as disaster preparedness and mitigation has yet to be proved, although the foundations for these have been established through NDMA. The structure of Pakistan's disaster management mechanisms has changed considerably since 2005.

Prior to the earthquake on 8 October 2005, state response to natural disasters was carried out largely on an ad hoc basis, by a range of different institutions. The predominant actors included the ERC, the FFC and the PMD.

It was recognized very quickly however that the earthquake demanded a more coordinated and large-scale relief and response leading to the establishment of the National Disaster Management Commission in 2007. The NDM Ordinance 2006 also provided a framework for the establishment of a system of Provincial/Regional disaster management Commissions and Authorities to facilitate the implementation of DRM activities in the country. The National and Provincial/Regional Commissions are the policy-making bodies, while the Disaster Management Authorities were made the implementing and coordinating arms.

**Other Institutions:** At the national level, the Pakistan Army, Para-military forces and civil defence are effective in terms of emergency response mechanisms. The following national agencies specialize in aspects of DRM: the ERC, Cabinet Division), the FFC, the National Crisis Management Cell (Ministry of Interior) and Civil Defence (Ministry of Interior).

**One UN DRM JP:** The One UN Joint Programme is a part of the UN reform process with the aim of reducing fragmentation, improving efficiency and enhancing the effectiveness of the UN. The One UN DRM JP contributes towards the implementation of the disaster risk management framework and Hyogo Framework of Action (HFA) 2005-15. In Pakistan, thirteen UN agencies signed to be part of One UN JP out of which eight are actively participating. The Programme is functional in the whole of Pakistan and the first phase was started in 2009 and the second phase (five years) is expected to initiate in 2013. The Joint Programme outcomes are:

- Strengthened policies, norms, institutional and coordination mechanisms.
- Reliable and integrated multi-sectoral knowledge information and communication system.
- Enhanced capacities of key educational and training institutions and professional bodies.
- Empowered communities, vulnerable groups, grassroots organizations and local authorities.

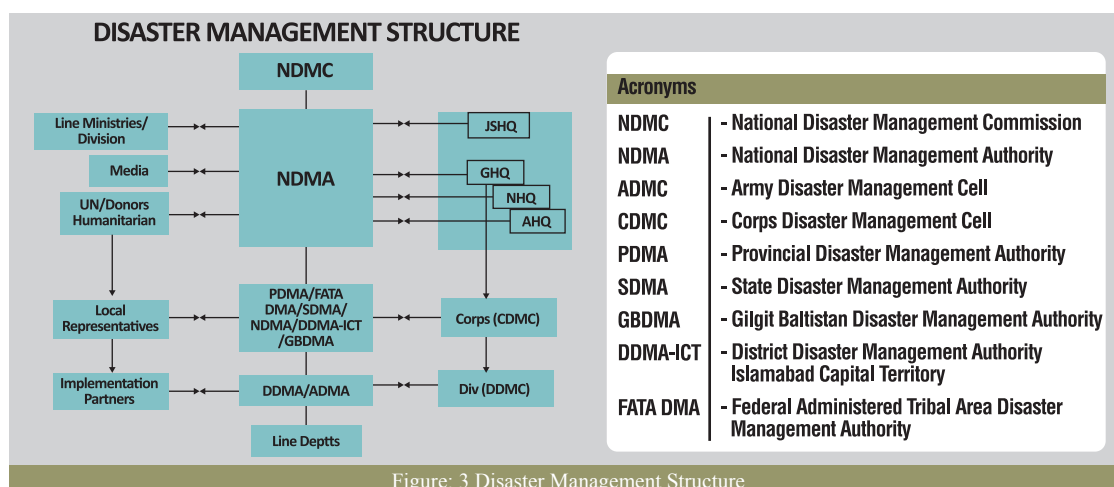


Figure: 3 Disaster Management Structure

## Synthesis of Provincial / Regional Needs

During the consultative workshops conducted by NDMA, the P/RDMAs of each province/region were asked to present their priority needs in order to enhance their institutional capacity. This exercise was conducted with a view to achieving the effective implementation of disaster management policies, systems and procedures at provincial / regional and district level. This section provides a summary of each need prioritized by the PDMAs and NDMA. These needs are further prioritized according to frequency (across different DMAs) at provincial and regional level. These needs are listed in this section according to their frequency ranking and explained in the context of Pakistan.

### Interprovincial/Regional Analysis of Needs:

Following the identification and collation of the needs highlighted by the provinces / regions, analysis was carried out to decipher P/RDMAs institutional preferences for infrastructure, planning, policy, research, system and capacity.

For the purpose of analysis, the needs related to training, awareness raising, education, institutional development, organizational strengthening, human resource development, a lack of technical expertise, and systems were grouped under the broad category of capacity gaps. However, due to the range within this category it is broken down further in the sector wise analysis into HRD, management, and emergency services.

To understand the institutional infrastructure set up/developed to date, it is important to analyze the type of needs identified by P/RDMAs e.g. GilgitBaltistan identified four capacity related needs, the most important of which was the strengthening of its Provincial Level DMA,

whereas in Punjab where the organization set up is much more developed discussion was focused on the strengthening of its DDMA's, Civil Defence and community capacity in disaster risk reduction and management. PDMA Punjab is also focusing on the provision of more specialized services such as the use of scuba divers, boats and sonar radars for search and rescue. However the findings do show that heavy earth moving machinery is perceived as a need in KP, FATA, AJK and GB, all confronting problems of landslides, avalanches and in KP earthquakes also.

The category of systemic needs covers search and rescue services, early warning systems, emergency operation centres, monitoring and evaluation (M&E) systems, disease surveillance systems, and risk transfer mechanisms. The highest percentage of needs under the category of system was found to be in Sindh followed by AJK, FATA, GB, Balochistan, KP and Punjab respectively. The establishment of a Disaster Response Force similar to the Punjab Emergency Services 1122 was identified by almost all the regions, while Punjab itself requested the strengthening of its existing service. The Installation of Early Warning Systems was identified as a major need by AJK, KP, GB and Sindh whilst Emergency Operations Centers were highlighted as a need by Sindh, AJK and FATA. Islamabad Capital Territory (ICT) was the only region that highlighted the need for establishing a mechanism for carrying out mock and drill exercises.

These are the central findings of this report carrying the highest frequency of responses and requiring policy level change or significant investment. A further breakdown of these categories and others is provided in the following section.



## Analysis of Need Prioritization

### 1. Capacity Building of Government Officials in Disaster Risk Management:

*Capacity Building of Government Officials in Disaster Risk Management was identified as a priority need by DMAs in all eight provinces / regions. The need was highest in the area of emergency response (14%) compared to prevention at 11% and disaster management at 9%. These findings reflect the need to train relevant government departments and local authorities on DRM and the need for equipment to be provided. This is in relation to the provision of emergency medical aid and search and rescue operations. Capacity building was not only requested by all DMAs but also for staff / volunteers at all levels: national, provincial, district and community.*

**Contextual information:** In line with the global commitments, Pakistan is continuously upgrading its Disaster Risk Management systems and enforcing lines of responsibility for this at the community, district, provincial and national level. As part of the process to further refine these, Pakistan needs to invest in developing its capacities at all levels. This investment will be in the form of research, technical guidance, trainings and equipment. The capacity building of government officials is crucial for the complete and long-term implementation of Pakistan's DRM policy.

On-going capacity problems at the District and lower levels is expected to be a major challenge in achieving the effective functioning of Pakistan's DRM initiatives. Key line departments at the third and lower tier i.e. District, Tehsil/Taluka and Union Council level are endeavoring to overcome these capacity gaps and requesting comprehensive programmes / projects. Since the 2005 earthquake in AJK, ad hoc capacity building initiatives have been undertaken by the national and provincial level DMAs, UN Agencies and international non-governmental organizations (INGOs), however, large capacity gaps remain. These are primarily in the areas of: risk assessment, risk reduction measures, disaster management planning, camp management,

relief distribution, reporting and community mobilization for awareness raising and disaster risk management.

Improvements in disaster preparedness at the government level can be achieved through setting up of systems, distilling best practices, strengthening information dissemination, and carrying out exchange visits through specialized courses tailored to meet the needs of each level of response.

### 2. Awareness and capacity building of communities in DRM

*Although community level needs were not the focus of the workshops, this was raised as core priority by seven out of the eight provinces/ regions represented. This was primarily in the area of prevention.*

**Contextual information:** Communities and in particular those from vulnerable groups (women, the elderly, children and person with special skills) or high-risk areas need awareness raising and capacity building in preparedness and response. A comprehensive communications strategy and campaign targets including coverage also need to be developed for this. In addition to this, regular bulletins can be disseminated providing general information on DRR and activities that can be undertaken at community level. This can be disseminated by National and Provincial DMAs.

Following the aftermath of the 2005 earthquake and 2010 and 2011 floods, GoP, NGOs, INGOs and UN Agencies have carried out activities to capacitate communities to manage risk and respond to disaster. However, there is a need to upscale these activities planning and managing them from the national level. This will require the design of standard training modules on disaster risk management which can be used to provide Training of Trainers (TOTs) to government staff at the central, provincial and district level on Disaster Risk Management. These professionals can then be used to establish disaster risk management centers and conduct community trainings to be monitored from

the district and provincial level.

DRM also needs to be formally institutionalized at the community level through the establishment and strengthening of the disaster response force. This force needs to be trained in hazard and risk mapping, hazard safety, response planning, coordination, basic search and rescue, first aid, fire fighting, information management, communication and disaster management. It is also essential to make available necessary search and rescue equipment/response tools to these committees for effective response. All activities in the area of community response and preparedness need to be linked to the district level institutional framework and DDMA's.

### 3. Strengthening of DDMA/Us (human resource, equipment, capacity building)

*The need for the strengthening of DDMA's was raised by six out of eight provinces/regions represented. This included training on policy and system use and set up, the provision of search and rescue equipment and emergency medical equipment.*

**Contextual information:** To achieve the effective implementation of current Disaster Management Systems, there is a need to strengthen the institutional base at all levels. District Disaster Management Authorities are the implementing arm of these systems being the first line of response on the ground. These authorities therefore need to be strengthened as much as possible to ensure that policy is implemented and systems effectively put into place.

Currently there is a capacity gap at the district level, meaning that at the level of implementation there is a lack of sufficient understanding of the challenges, types of vulnerability and how to provide systematic and comprehensive support to vulnerable groups/communities. The capacity building of district level disaster management authorities has become an increasing priority especially with the decentralization and rollout of national DRM programmes/projects.

### 4. Establishment and strengthening of Disaster Response Force

*Establishment and strengthening of search and rescue teams was requested by DDMA's in four provinces/regions.*

**Contextual information:** Pakistan lacks technical services to enable a more effective response to and management of emergencies at the provincial level. These services include the provision of search and rescue, expertise and equipment, and the provision of emergency medical treatment to victims of disaster. The exception to this is Punjab, which launched the Emergency Services (Rescue 1122) in 2004, which is now operational in all districts of Punjab. Its services include: ambulance, rescue and fire services and a community safety programme. As of now the PES has rescued over 1.3 million emergency cases. Despite the high volume of cases, the service has maintained its standard and average response time of 7 minutes in all districts of Punjab. As an example of best practice, the management of this programme is providing technical assistance to other provinces of Pakistan as well.

The institutional setup for the provision of a dedicated search and rescue service / Disaster Response Force was highlighted as one of the major needs by respective provinces/regions. Although the cost of establishing this type of service on such a scale is considerable, this should not be viewed as a long-term barrier to achieving such objective. There is a need to conduct review to decipher how existing government and private facilities could be utilized to reduce the costs of setting up this service. District Disaster Response Force (DDRF), a combination of government and community members, was another area highlighted as a need. The DDRF is to be linked with response communities at the UC or Tehsil/Taluka level and can be called for help if calamity goes beyond the control of UC or Tehsil/Taluka level response committees. The UC/ Tehsil/Taluka level response committees are to be trained and equipped with necessary basic early warning and search and rescue

equipment to effectively respond to localized disasters in future.

### 5. Building Codes (formulation, technical assessment and implementation)

*The need to enforce building codes was raised by DMAs in AJK, ICT, KP, Balochistan and Sindh, meaning that despite the introduction of regulations it remains a major issue across Pakistan.*

**Contextual information:** Following the 2005 earthquake in Pakistan, standard regulations were set for building construction. These regulations set a minimum acceptable level of safety for all constructions and have been available across the country. However, there is still a need to review and revise these in light of the increased frequency and magnitude of hazard risks throughout Pakistan in recent years.

A central issue, which needs consideration, is the technical assessments of existing structures along with the enforcement of building codes. Currently the control over design and location of buildings is one of the weakest areas. The ongoing failure to properly implement building codes is placing people at considerable risk and needs to be reviewed at high priority.

A core strategy for tackling this issue is to raise awareness through a public campaign on the need to enforce safety regulations. This campaign should target developers and contractors as well as the general public.

### 6. Multi hazard vulnerability and risk assessments

*With the exception of Punjab and GB, the need for more research into climatic changes and the environmental effects of disaster was raised by every province/region. This was also raised as a need in the area of monitoring with DMAs requesting for improved assessment strategies to be developed.*

**Contextual information:** Risk and vulnerability assessments are highlighted as

a key component of disaster preparedness issues. The findings from these can have an important role in improving strategies for disaster prevention and mitigation. Research is also needed in the area of damage assessment to decipher the long term impacts of disasters on livelihoods, communities and the role of past disasters in increasing the potential for further disasters e.g. through deforestation.

Activities have already been undertaken out by UN Agencies in close collaboration with NDMA resulting in Provincial and District DRM plans and Multi Hazard Contingency Plans (MHCPs). Despite this, there is still a need to develop a mechanism to record systematic information about the varying hazards and vulnerable communities at the district and municipal levels to plan investment accordingly. The absence of such information presents difficulties in identifying and prioritizing areas for resource allocation (amount and type). Further emphasis also needs to be given to developing systems for the review of provincial and district level plans / assessments on a continuous basis. The major constraints being faced at the national level for the completion of MHVRA include capacity gaps in this area and a lack of researchers with relevant technical expertise.

Prior to the planning and implementation of capacity building programmes a comprehensive and detailed risk and vulnerability assessment needs to be conducted in all the districts. This should cover hazards, assets and vulnerability analysis and must take into account locational, structural, operational, and socio-economic vulnerabilities. The assessments will also significantly contribute to the development of a natural disaster risk reduction strategy and plan.

### 7. Construction of warehouses and provision of food and non food items

*The construction of warehouses to store relief items was mentioned as a high priority by DMAs in five provinces/regions: Punjab, Sindh, AJK, Balochistan and KP. This was identified as a district level need suggesting*

*that these could be placed in high-risk districts.*

**Contextual information:** Currently in Pakistan it is a common practice to use schools and other public facilities for the storage of food during emergencies. The need for adequately sized and strong warehouses to facilitate easy access to emergency relief items was highlighted as the major need during 2010 floods. There is also a need to assess possible locations for these warehouses in order to maximize coverage whilst meeting the needs of the most vulnerable communities e.g. those with the weakest coping strategies / safety nets.

Institutional capacity also needs to be strengthened in the management, logistics and maintenance of relief item and the need was felt particularly at the district level. Training, rehearsals and simulation exercises need to be increased to ensure that efficient systems are implemented for this.

## 8. Establishment and Strengthening of Regional DMAs

*DMAs from Sindh, Balochistan, AJK and FATA raised the need to strengthen and establish DMAs at the regional levels. This will involve investment in office space, equipment and capacity building of staff in DRM systems.*

**Contextual information:** Aligning and capacitating the existing DRM system with the newly restored Commissionerate system can be achieved through the establishment and strengthening of RDMA offices which will lead to better inter-district cooperation and response in real time disaster. These regional EOCs will complement the efforts of the PDMA and provincial EOCs to improve disaster response capacities.

## 9. Strengthening of Civil Defence

*The need to strengthen Civil Defence as an emergency response force was raised by DMAs in Punjab, Balochistan and AJK.*

**Contextual information:** Like elsewhere,

Civil Defence Services in Pakistan have their origins in vulnerabilities arising from armed conflicts. In the 1950s these services were organized on countrywide basis. The 1952 Civil Defence Act made Civil Defence responsible for all measures involved in defending the general population against hostile attacks. It was amended in 1993 and the scope of work was enhanced to include remedial measures against natural or human induced disasters in peacetime. However, despite the broad revision in the scope of work undertaken by Civil Defence forces as a result of this amendment, there was no review or restructuring of the service. Recent disasters have starkly demonstrated the capacity gaps in Civil Defence.

Pakistan Civil Defence Services must be restructured if they are to maintain their perceived role in disaster management amid the efforts that are already underway across the country to improve disaster management and emergency response. The example of Punjab Emergency Services including Rescue 1122 is a case in point which has taken over the role of Civil Defence Services in Punjab.

In order to strengthen and restructure Civil Defence, investment must be made in creating / updating training institutes to meet international standards. This would benefit all emergency service providers. Specialist reviews must also be undertaken at the national level to bridge the legislative and policy gaps that undermine the functioning of emergency response services. Specialized training institutes must also be used to disseminate best practices to set an operational standard for Civil Defence Services across the country. Civil Defence can also be strengthened and converted into a disaster response force within the provincial and regional DMA structure.

## 10. Installation and strengthening of Early Warning Systems

*DMAs in Sindh, AJK, KP and FATA requested for the set up/strengthening of Early Warning Systems at the district level.*

**Contextual information (provided by disaster type):**

**Early Warning Systems for tropical cyclones:** Tropical cyclones are believed to be the most severe disaster type in terms of impact for coastal populations in Pakistan because their frequency and intensity. An effective warning system requires accurate meteorological forecasts of the tropical cyclone landfall position and timing, the wind distribution (from which the storm surge can be calculated) and the precipitation (from which the flooding can be predicted). To strengthen existing early warning systems for this type of hazard the following areas need to be focused on:

- The transfer of advanced technology, experience, and training that will enable better forecasting to improve warning systems;
- Internal infrastructure enhancement that will enable warnings to be communicated effectively, and
- The education and training of emergency response managers and non-governmental officials to ensure that the public responds in an appropriate way to the threat.

**Early Warning Systems for Floods:** Although resources are limited in this area, Pakistan has undertaken various measures to minimize the risks affiliated with flood hazards. This includes the development of a comprehensive flood forecasting system. The intense rainfall observation areas include parts of Balochistan, Sindh, KP, GB and FATA. This is operated by PMD using seven meteorological radars located at Islamabad and Karachi (installed in 1990 and upgraded in 1998), Dera Ismail Khan and Rahim Yar Khan (installed in 1998) established under the Japanese Grant Aid ; and Sialkot (installed in 1978 and upgraded in 2006), Lahore (installed in 1997 and upgraded in 2003) and Mangla (installed in 2008) established under an Asian Development Bank loan package.

Although much effort has been made by the Government of Pakistan in strengthening the flood forecasting system, further measures need to be taken to enhance the efficacy of hydrological systems for the analysis of rain and river flow. This will improve capacity to predict floods by collecting additional relevant information. Keeping in view the river system of Pakistan, KP along with the Northern areas (GB) and AJK are considered to be the most critical areas and where the strengthening of early warning systems for floods requires special attention. In Pakistan there are two types of floods: flash floods, which demand a very short response time and riverine floods, which occur at a slower rate. Flash floods are extremely difficult to forecast whilst riverine floods can be forecasted with available hydrological flood models and flood routing methods.

In the case of the 2010 floods in Pakistan, it became evident that systems to predict and communicate flash floods were largely missing although weather forecasting information was available for the northeast and northwest of Pakistan. In the case of riverine floods, not enough hydrological information was available for forecasting from major tributaries. Forecasting was also compromised by insufficient information provided from the headwaters of trans boundary tributaries to the Indus including from Chenab, Sutlej and Jhelum Rivers and the Kabul River system. During the first and second flood waves, forecasting and flood routing was further impeded by the loss of gauging information due to malfunctioning /destroyed river gauges. Breaching of levees also had negative effects on providing more accurate flood forecasting services.

Reliable, accurate and timely flood forecasting services are the backbone for sound decision-making in flood management. However, at present there are gaps related to the accuracy of flood forecasting data and weaknesses in the observation network in terms of location and density as well as in the availability and reliability of telecommunication facilities to ensure the timely relay of critical data.

Although a framework has been established (Flood Early Warning System), this needs upgrading/updating, particularly with regards to its information management software. There also needs to be stronger coordination and communication between flood forecasting centers and DDMA's. The proposed interventions given below are based on the need to make DDMA's viable hazard decision support organizations:

- The installation/upgrade of River Gauges with warning systems
- The improvement of communication and information dissemination systems through the provision of equipment to DDMA staff and communities for data reporting.
- The provision of Information Technology (IT) software for the development of Information Management Systems (MIS) for reporting and analysis. This will also include online information and data files to ensure that warnings are transmitted and communicated well in time.
- The provision of technical staff and specialized trainings.

**Early Warning Systems for Droughts:** The rainfall variability in Pakistan is considerably high. The climate in the lower southern half of the country is arid and hyper-arid with some regions always vulnerable to drought. Every province of Pakistan has experienced major droughts at some point in their history. Drought differs from other natural disasters in the sense that the effects of drought often accumulate slowly over a considerable period of time and may be visible for many years after the drought has ended. In Pakistan response to drought is made on an emergency and ad hoc basis. This leads to ineffective, poorly coordinated and untimely responses. There is a major need to develop a monitoring and early warning system to facilitate drought mitigation measures.

**Early Warning Systems for Tsunami:**

Tsunami Early Warning Systems (TEWS) are proposed for the coastal areas of Pakistan. These should be set up along with the provision of basic early warning equipment such as wireless phones, sirens, torches, lifesaving jackets and megaphones. These items can help a community to prepare/evacuate in the event of impending tsunami or cyclone. The TEWS is a satellite based warning system that allows residents of an area 20-30 minutes to evacuate before a tsunami or cyclone hits. DDMA in collaboration with United Nation Development Programme (UNDP) piloted this system in 2011 in Gwadar city, on the coast of Balochistan and is proposed for replication in other areas along the coastlines of Balochistan and Sindh provinces.

#### **11. Construction of critical infrastructure for risk mitigation**

*Disaster risk mitigation infrastructure was identified as a need at the district and community level. This was prioritized by DDMA's in Sindh, Balochistan and AJK.*

Much of the critical prevention infrastructure was damaged/destroyed, in both urban and rural areas following the 2010 and 2011 floods. The rehabilitation of this infrastructure requires the identification and assessment of damaged schemes to decipher where investment is most needed. The construction of access/link roads and related structures such as culverts, dams, flood levies, irrigation channels, small bridges alongside the dewatering, restoration and desilting of drains and drinking water supply schemes has already been identified as a high priority. These are essential for the provision of basic services and recommencement of livelihood activities through road access to markets, particularly for more vulnerable groups. The cost of reconstruction for schemes in Sindh following the 2011 Floods is estimated at PKR 7,872 million (US\$ 90.5 million) and for Balochistan at PKR 1,654 million (US\$ 19 million). The proposed strategy for the reconstruction of irrigation, drainage and flood protection barriers is to restore all damaged infrastructures, and strengthen vulnerable and damaged sections before the upcoming 2012

monsoon season.

Many regions of Pakistan have been made further vulnerable to disasters due to damaged/destroyed critical infrastructure by the 2010/11 Floods. As a result, the delivery of services and emergency support may be hindered causing further loss of life and disruption to economic activities. The capacity of local government to respond to disaster may therefore be weakened by this. Government officials at the district level need to be trained in the identification of appropriate mitigation measures / engineering technologies and access to financing for disaster response.

## 12. Establishment and strengthening of provincial and regional Level Emergency Operation Centers

*DMAs in Sindh, AJK and FATA requested the set up and strengthening of emergency operations centers and systems. The wider need for stronger systems for emergency response had a frequency of 6% among responses.*

**Contextual information:** Existing structures, facilities and coordination mechanisms for emergency response need to be reviewed. Previously one of the most important aspects was the absence of Provincial and Regional Emergency Operational Centers (EOCs) within R/PDMAs. However, following the 2010 Floods, PDMAs of Punjab, Sindh, KP, Balochistan and SDMA-AJK were supported to establish well-equipped EOCs. Such EOCs now need to be established in FATA and GB. In order to improve coordination mechanisms and emergency response activities, EOCs also need to be established at strategic locations e.g. in all the agencies in FATA, proposed regional/divisional DMAs in Balochistan etc. and linked with central EOC to be established at NDMA.

Emergency response activities should be coordinated through specialized teams based at the district level and linked with the EOCs at Regional/Provincial levels. These facilitate provincial and national government, UN agencies, donors, non-government organizations

and others in the provision of timely support in disaster response. The EOCs will be activated as soon as a hazard risk is raised. For complex incidents, the EOCs may be staffed by personnel(s) from multiple disciplines.

Although carrying a lower frequency in provincial responses, the following areas were also discussed by DMAs as priority areas:

- **Heavy Machinery** (Earth Moving Machines etc.) surfaced as one of the prioritized needs in GB, FATA, AJK, Balochistan and KP. However the same was not identified as a need by other provinces / regions.
- **Climate Change Studies** were requested by DMAs in Sindh and KP. DMAs in Balochistan also requested specialists to conduct seismic studies.
- **School Safety Programmes** were requested by DMAs in AJK to enhance prevention activities. DMAs in Sindh and Balochistan also requested for the inclusion of DRM in the syllabus for school, college and university students.
- **Awareness raising and sensitization of policy makers** was requested by DMAs in Sindh and Balochistan to help in filling the gap between policy and implementation.
- **The need for improved monitoring systems for DRM** was raised in several respects. One aspect was the need for development of a more integrated monitoring and evaluation system of DRM. Another aspect requested was for improved disease surveillance (requested by DMAs in Sindh and Balochistan). The need for improved Damage and Needs Assessment Methodologies was also highlighted as a need by officials in Sindh.
- **The need to mainstream DRR into the Development Process** was pointed out as a priority by DMAs in AJK; this would have a significant impact on the scale of disaster prevention activities.

- DMAs in Sindh highlighted the need to **Develop Provincial level Recovery Policy documents** defining the recovery procedures for recovery e.g. in terms of compensation and rehabilitation.
- **Land use planning** was mentioned as another important area in DMAs in Sindh. This issue relates to encroachments on to riverbeds and using hazard mapping in the planning processes.
- Capacity building was reported as a repeated issue by DMAs with representatives from Punjab, Balochistan and AJK requesting the **Establishment of a Disaster Management Academy**. Other PDMA's also requested that a **Hub be established at the federal level for the provision of technical and material support** to DMAs.
- **Media Management** was pointed as a need by DMAs in Sindh and ICT to manage / facilitate information flows and encourage more responsible reporting mechanism e.g. to avoid the spread of misinformation.
- The development of **Risk Transfer Mechanisms** i.e. insurance etc. was raised as a need by PDMA's to minimize the long-term impact of disasters on both urban and rural livelihoods. It was suggested that disaster risk insurance should cover life insurance of the main bread earner, food security, shelter, small business, livestock and crops. This is an area, which has lot of scope in terms of both demand and market development, however has yet to be explored.
- Equipment to facilitate search and rescue was requested by DMAs in Punjab. This was in the form of scuba divers, rescue boats, and sonar radars. Drill exercises were also suggested. The same was surfaced as a need by SDMA.
- Though investment has been made to strengthen the Provincial Level DMAs, however, there is still much more needed to further provide equipment, vehicles, and communication systems to strengthen these particularly in GB.
- Adopt possible measures to conserve energy at all levels, and use all available sources to enhance production of energy.



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**NATIONAL  
PROVINCIAL / REGIONAL  
PERSPECTIVE**



## NATIONAL

This section provides an overview of National Disaster Management System (NDMS) in Pakistan. This has been compiled drawing upon the findings from the consultative meeting held in Islamabad with national level organizations including: the Federal Flood Commission (FFC), Pakistan Army, Pakistan Space and Upper Atmosphere Research Commission (SUPARCO), Pakistan Meteorological Department (PMD), Geological Survey of Pakistan (GSP) Civil Aviation Authority

policy will outline the current challenges, the areas needing further investment, and key stakeholders. This policy is to be developed in consultation with DMAs in all provinces/regions and technical agencies working in this area. DRR policy will be further informed by existing provincial/regional and national plans which include sections on this and multi hazard risk assessments which have been conducted and are to be conducted across the country. This policy will cover DRR at all levels: national, provincial/ regional, district and community. A ten year (2012-2022) National Disaster

### History of National Disaster Management System in Pakistan- Important Milestones

Year	Milestone	Function
1958	West Pakistan National Calamities Act	Provides for the maintenance and restoration of order in areas affected by calamities and relief against such calamities and focuses on emergency response
1971	Creation of Emergency Relief Cell in the Cabinet Division	Disaster relief at the national level
200	Promulgation of National Disaster Management Ordinance	For establishment of National Disaster Management System
2007	Establishment of National Disaster Management Authority	Implementing, coordinating and monitoring body for disaster risk management at the national level.
2007	Formulation of National Disaster Risk Management Framework	Overall guideline for disaster risk management at national, provincial and district levels
2010	National Disaster Management Act	Conversion of NDMO to NDM Act for establishment of National Disaster Management System

(CAA), Planning Commission (PC), National Highways Authority (NHA), Water and Power Development Authority (WAPDA) Pakistan Public Works Department (PWD), Survey of Pakistan and Islamabad Capital Territory (ICT). The section also highlights common issues drawn out both during the provincial/regional level workshops and national level consultative meeting.

### Policy Formulation

NDMA is in the process of formulating the National Disaster Risk Reduction Policy. This

Management Plan (NDMP) is also being prepared, which aims at enhancing the capacity of the country to prepare for and respond to natural disasters (floods, earthquake, tsunami, drought, sediment disaster, avalanches, GLOFs, cyclone with storm surge, etc.) by defining the measures to be considered necessary for their management. The NDMP identifies the roles and responsibilities of the stakeholders, including federal, provincial and district governments, community organizations, NGOs, businesses, and other agencies involved in the disaster management.

### Main Objectives of the NDMP

- To develop resilience in society against disasters that Pakistan has experienced in the past, such as the 2005 Earthquake and floods of 2010 & 2011;
- To mitigate damage from recurring disasters such as floods, urban flooding, earthquakes, tsunamis, droughts, landslides, sediment disasters, avalanches, GLOFs, cyclones with storm surges, etc.;
- To reduce disaster risks and vulnerabilities, particularly those of the poor and the marginalized groups in the country;
- To clarify the roles and responsibilities of the national and local governments, public agencies, corporations, NGOs, communities and residents to reduce disaster risks.

The document is intended to inform decision makers and planner on DRM at the national level for next ten-year period from 2012-2022. The NDMP contains the core components of disaster management policies, strategies and actions, including: (i) national hazard and vulnerability assessment, (ii) human resource development, (iii) community-based disaster risk management, (iv) multi-hazard early warning system, (v) disaster management operation by type of disaster, such as earthquake, tsunami, flood, drought, cyclone, etc., and (vi) actions / programs for disaster management.

### Challenges for Disaster Management

- Strengthen disaster management administration at the national, provincial, district and local levels.
- Enhance disaster management system in the pre, during and post-disaster periods.
- Establish mechanisms for monitoring and assessment of disaster risks.
- Promote mechanism for mainstreaming

disaster risk reduction measures into development planning processes.

- Promote disaster risk management at local and community levels.
- Strengthen capacity of all relevant players in disaster management.
- Address the vulnerability of communities through risk transfer mechanisms.

### Prioritized Needs

Knowledge Mapping / Risk Atlas/MHVRA Development of multi hazard profiles and vulnerability and risk assessments / Risk Atlas was highlighted during the provincial/regional and national level consultative workshops / meeting. The detailed Multi-Hazard Vulnerability and Risk Assessments (MHVRAs) at district level would provide a base on which layer of DRM Plans can be developed corresponding to the ground realities.

### Disaster Response Force

Develop capacities of line departments / administration to carry out search, rescue and relief activities by institutionalizing a mechanism in the form of creating a Disaster Response Force with a mix of professionals and volunteers. To do so there is a need to deploy well trained full time employees at District level along with creation and strengthening of organized network of youth and volunteers to support the government and communities when required.

### Disaster Safety Net

The development of Risk Transfer Mechanisms i.e. insurance schemes to minimize the long-term negative impact of disasters on both urban and rural livelihoods. The disaster risk insurance should cover life insurance of the main bread earner, food security, shelter, small business, livestock and crops. This is an area, which has lot of scope in terms of both demand and market development, however has yet to be explored.

During the consultative process it was

emphasized that there is a need to develop an index based insurance solution to the disaster prone communities against various threats like floods, earthquakes, droughts etc. and needs to be designed for food security, life, property, crops and livestock of the communities. It was further suggested that for the poorest of the society the premium should be paid by the government. It was further proposed that it should be managed as a separate legal entity to be run by board of independent corporate professionals.

### **Mainstreaming DRR**

Mainstreaming disaster risk reduction into development programmes and projects is one of the key areas to be addressed; the importance of this was also highlighted during the consultative process by DMAs as it has a major impact on disaster prevention and mitigation.

Furthermore there is need for creating awareness about the DRM amongst the general public. This can be done by holding workshops and seminars, as well as integration of DRM into educational institutions / curriculum. In addition there is a need to mainstream gender and other vulnerable groups perspective at all level i.e. national, provincial, district and community.

### **National Institute of Disaster Management (NIDM)**

In order to strengthen capacities of government and non-government organization in Disaster Management there is a need to invest in National Institute of Disaster Management (NIDM). This would benefit emergency service providers along-with necessary support to bridge the legislative and policy gaps that undermine the functioning of emergency response services. Furthermore NIDM would also develop and disseminate best practices to set standards for all the emergency service providing organizations.

### **DMAs HR Capacity/Technical Capacity**

Special emphasis needs to be given to R/PMDAs in order to develop them as a strong implementing agency for DRM interventions. Subsequently the R/PMDAs further need to

work on capacity building of DDMA's along with allocations of funds for DRM from District Resources.

Further more capacitate of District level organizations needs to be enhanced in management of relief goods and supplies, organizing the movement of communities, setting up and managing camps, ensuring supplies to camps, identifying camp needs and preferences, inventory management and linkages with non-government partners, individuals etc.

### **Stockpiling**

Currently in Pakistan it is a common practice to use schools and other public facilities for the storage of food during emergencies. The need for adequately sized and strong warehouses to facilitate easy access to emergency relief items was highlighted as the major need during 2010 floods. There is also a need to assess possible locations for these warehouses in order to maximize coverage whilst meeting the needs of the most vulnerable communities e.g. those with the weakest coping strategies / safety nets.

### **Monitoring Systems and Information Portal**

During the period of the consultative process, the provincial / regional and district DMAs focus was on the strengthening of the existing / prevailing institutional capacities at the level of response and implementation. The national consultative meeting went further to state that coordination at all levels in the setting up of these systems, in particular in the establishment of proper monitoring systems and mechanisms for information sharing, is vital to improve the functionality and use of these. It was further suggested that an information portal be set up where maps, data, up to date information and contact details could be available and obtained by concerned quarters.

### **Early Warning Systems**

The establishment of multi hazard early warning systems at all levels as a key national need was identified in the provincial / regional level consultative workshops. This need was also stressed during the national level

consultative meeting. During this meeting, it was also highlighted that medium and long-term priority projects have already been identified to expand the existing capacity and outreach of early warning systems.

### **Awareness Raising**

The need for training, education and awareness raising on disaster management and disaster risk reduction was another key area highlighted in both the national level consultative meeting and regional / provincial level workshops. The major areas that need to be focused on include: risk assessment, risk reduction measures, disaster management planning, camp management, relief distribution, reporting, response planning, activity coordination, search and rescue, first aid, firefighting, information management, communication systems, etc.

### **Mitigation**

The development of infrastructure for disaster risk reduction and mitigation was identified as another major need both in the national level consultative workshop and by regional and provincial DMAs. DMAs also focused on the need for further investment in post disaster activities such as the rehabilitation of community level infrastructure damaged/destroyed during the floods of 2010 and 2011. Another related aspect highlighted in the national consultative meeting is the need for the strengthening of building codes with emphasis on follow up for the enforcement of

these through the relevant authorities.

### **Research Grants**

During the national consultative meeting it was recommended to provide research grants for Phd thesis on DRM of which a stipend of \$1,000 will be provided during the final semester of studies.

## **PUNJAB:**

**Profile and Hazard/Disaster Scenario:** The province of Punjab contains five major rivers that flow through the country, including the River Indus. Its topography comprises rich fertile plains and deserts, as well as some of the most populated urban centers of the country. Punjab is prone to monsoon and flash floods, droughts, windstorms, epidemic and to some extent earthquakes. Due to its concentrated population, it is also prone to disease outbreaks such as the recent dengue epidemic. Industrial and other man-made accidents including fire incidences are also relatively common. Major disasters in the past few years include the 2010 monsoon floods, dengue epidemic in 2010 and 2011 and the Sialkot Tornado in 2011. Southern Punjab is a major cotton-producing area and is of immense importance to the entire country in terms of productivity. In 2010, the monsoon floods inundated more than 200,000 acres of cotton plantations in the district of Muzzafargarh alone.



Consultation workshop, Punjab

**Institutional Arrangement DRM:** PDMA Punjab operates as the executive arm of the PDMC. In Punjab the previous system of the Board of Revenue run by a Relief Commissioner and Director General Relief still prevails, however for the purpose of effective coordination, the positions of DG PDMA and DG Relief have been merged into one position, i.e., the DG PDMA. PDMA Punjab is chaired by the Relief Commissioner and DG PDMA acts as a Secretary, while all secretaries, Additional IG Operations, DG Punjab Emergency Services and DG Civil Defence are members. PDMA Punjab is currently operating with a staff base of 95 persons. The functional wings of PDMA include Operational, GIS and Spatial Data, IT and Communication, Forecasting & Early Warning, and, NGOs, Social Protection and Gender Wings, while the planned ones include Corporate, Insurance and Micro Finance Wing, Legal Wing and Medical Wing. PDMC Punjab has two unique additions to its PDMC board including four members of NGOs or civil society representatives and three elected representatives. These elected representatives are nominated by the Chief Minister from the elected members of the Provincial Assembly. DDMA Punjab is chaired by the District Coordination Officer as Administrator of the District while the District Emergency Officer acts as the Secretary. The DRF of the province work under the DDMA and in coordination with PDMA, Civil Defence and Rescue 1122.

**PES - Rescue 1122:** Punjab Emergency Services (Rescue 1122) was established under the Punjab Emergency Services Act 2006, for the management of emergencies and provision of timely rescue and response to victims of disasters. It has a presence in all districts of Punjab and has an average response time of seven minutes. This service contains ambulances, rescue and fire services and a community safety programme. DG PES heads the organization and is also a member of the PDMA.

**Key DRM Initiatives – Past and Present:** A number of key DRM interventions have been recently implemented. These include the drafting of provincial and district DRM plans,

the establishment of Emergency Operations Centers, setting up of Model DRM Villages, and conducting relief activities for the victims of monsoon floods. However, since the PDMA Punjab is a relatively new institution, it still requires considerable capacity building. This is in the area of: identifying more technical staff, contingency planning exercises, and long-term recovery. Prior to the establishment of the PDMA, Civil Defence was responsible for disaster response; this institution did not have the capacity to deal with the scale of disasters in the province.

Initiatives carried out by PDMA to date

- PDMA has worked in areas affected by overflow from the River Sutlej and in areas affected by hill torrents such as Mianwali and Khushab during the Monsoon floods of 2011.
- PDMA has been actively involved in the distribution of cash grants to flood affectees in close coordination with District Governments.
- PDMA has conducted extensive research on the Dengue Epidemic, to be shared with districts and stakeholders for effective planning against the disease
- PDMA has cooperated with the One UN Joint Programme on DRM, on new initiatives such as the digitization and preservation of Land Revenue Records (including Geo-referencing) as well as Government Buildings Rehabilitation projects. A mobile office equipped with necessary technology has been deployed for scanning Revenue Records.
- Disaster Response Forces for the province covering every district in Punjab are in the process of being created / strengthened under the leadership of PES at the provincial level and DDMCs at the district level.
- PDMA has begun the process of establishing a DRF Wireless system that connects local and provincial DRFs with the provincial Emergency Operations Control Room at PDMA Lahore. PDMA Punjab intends

to expand this wireless system (currently operating in 14 districts) to all 36 districts of Punjab.

#### **Future Plans and Needs:**

##### **Punjab Disaster Response Force (PDRF)**

**Project:** The Government of Punjab has created a Punjab Disaster Response Force under the PDMC and PDMA. This project is directed by the Punjab Emergency Service at the province level and by the DDMCs at the district level. Efforts are required to strengthen, train, prepare and equip these DRFs to better respond to disasters. The project aims to train 7,500 people in emergency response focusing on water rescue operations. It also aims to train 108 specialized staff working in rescue.

**Requirements:** Procurement of scuba-diving equipment, sonar radars (for locating items/persons trapped under rubble or debris), basic rescue equipment, the establishment of a water rescue training course at PES Academy, Hazardous Material (HAZMAT) suits, life-rings and jackets, search cameras, and acoustic listening devices.

**Community Based Disaster Risk Management (CBDRM) Project:** Out of the 6 million people affected by the 2010 Monsoon Floods in Punjab, the PES-Rescue 1122 was able to rescue around 40,000 people. Despite this, response could have been enhanced if local level response forces were available within communities with established protocols to respond to disasters.

In addition to the Punjab Emergency Services-Rescue 1122, the Government of Punjab plans to utilize the Razakars (volunteers) of the Civil Defence, boy scouts, girl guides and young people to form the District DRF. A total of 6,000 young Razakars and Rover Scouts will be trained over a period of two months in basic rescue operations including: first aid, collapsed structure search and rescue, water rescue, and fire fighting. The trainings will be conducted at specially designed training facilities in each of the 9 divisions in Punjab. The Lahore division will utilize the facilities

available at PES Rescue 1122, Lahore.

**Requirements:** The construction of eight outdoor training facilities in eight divisions of the province (Lahore PES being the 9th) for training of DRFs. Uniforms, First Aid Kits, Fire Rescue, Harnesses, Rope Ascenders, Mobile Fall Arresters, Swivels, Pulleys & Carabiners, and Protective Gear such as gloves, masks, etc. for the Razakars and Boy Scouts' training. Compensation / stipends for the Razakars (Rover Scouts are unpaid volunteers).

**DRF Wireless Expansion Project:** Rescue 1122 has its own wireless system, which is not connected with the District Administration. PDMA envisions a wireless system connecting the District Disaster Response Forces with the Emergency Operations Center (EOC) at PDMA Lahore through the respective DDMAs.

**Requirements:** High Frequency sets, Base Sets, Vehicle-mounted Base Sets, Walkie-talkies, and Triangle guy-wired towers are required for the DDMAs and DRFs in all districts of Punjab.

##### **Disaster Risk Management Coordinators:**

With funding from the One UN DRM JP, PDMA Punjab has placed DRMCs at provincial and district levels to enhance and better coordinate preparedness and response activities. These DRMCs assist district and provincial administration in carrying out necessary DRM activities and provide technical expertise in the field. Currently, 9 districts have DRMCs positioned in their respective DMAs, and one Provincial DRMC is available at PDMA Lahore.

**Requirements:** Hiring of DDRMCs in the remaining 27 districts of Punjab.

##### **Storage Network at Divisional HQs in Punjab Project:**

Storage facilities for Food and Non-Food Items are required in different regions of the country to improve response times and reduce transportation costs during disasters. PDMA plans to establish a network of storage facilities at 9 divisional Head



Quarters in Punjab. Each division covers an area equivalent to 4 or 5 districts on average. One metallic warehouse of 500 MT capacity is proposed at each divisional HQ at an estimated cost of USD 33,300 per unit.

**Requirements:** Central Warehouses required in Multan and Mianwali. One metallic warehouse of 500 MT capacity in each divisional HQ.

**Development of Model Union Councils in DRM Project:** PDMA intends to develop Model Union Councils in Punjab via a multi-hazard and multi-spatial approach to DRM. These UCs will include Village Organizations with trained members, retro-fitted public buildings, safety trained school children and hospital staff, community shelters, Early Warning Systems, and developed and enforced structural/ non-structural guidelines for construction. The tentatively planned UCs for this project includes Alipur/Jatoi in Muzaffargarh, Chaprar in Sialkot, Morghai in Rajanpur, Cholistan in Bahawalpur. These 4 UCs have been selected because of their vulnerability to a variety of natural disasters that are common in their respective districts. The project will prepare guidelines for disaster resilient structures in the selected UCs with special focus on public buildings such as schools and health units. The project will perform situation analysis to identify safer locations for existing villages.

**Requirements:** Funding support / cost-sharing for construction of four Model UCs.

## KHYBER PAKHTUNKHWA

### Profile and Hazard / Disaster Scenario:

The province of KP faces a range of natural and human induced hazards including: floods, earthquakes, avalanches / landslides, droughts, militancy and terrorism. Major disasters in recent years include the 2005 earthquake, the 2010 monsoon floods, and the IDP crisis as a result of the GoP led operations against militant outfits (ongoing since 2008). Due to geographical location of the FATA, which are bordering KP, its displaced population takes refuge in districts of KP, ultimately

forcing the province to take measures having an additional burden on provincial resources. The population of KP is also vulnerable due to its topography. Most of its inhabitants live in rural areas, score low on socio-economic indicators, and are poorly organized when it comes to DRM awareness and preparedness.

### Institutional Arrangement – DRM:

In KP, previously, the Provincial Relief Commissionerate was responsible for the relief, compensation and rehabilitation of people affected by natural disasters. These functions have now been incorporated into the newly established PDMA. PDMA has attained the status of body corporate and its approved staff strength currently stands at 157 persons. On 17th March 2012, the Provincial Assembly of KP passed an Amendment Act, titled “National Disaster Management (Khyber Pakhtunkhwa) Act, 2012” has made landmark changes to the provincial chapters of the Act. The salient features are as follows:

- The scope of PDMA KP has been increased to include not just accidents, but also fire, bomb blast, terrorist activities, militancy annoyed or provoked mob.
- PDMA KP has been empowered to undertake any project under its administrative control for the purpose of expedient recovery including relief, rehabilitation, reconstruction and settlement of the affected people
- Secretary Relief, Rehabilitation and Settlement have been made member and the Director General (DG) PDMA as member-cum-secretary of the PDMA.
- PDMA KP has been given the authority for appointment of officers and employees including officers, advisors, experts, consultants and employees as it may consider necessary for the efficient performance of its functions on such terms and conditions as it may deem suitable. It has also been granted the power of requisition of resource provisions and vehicles for the execution of its activities



Consultative workshop, Khyber Pakhtunkhwa

- PDMA KP has been empowered to establish committees on its own including financial, technical and advisory committee

PDMA is currently housed within the Civil Secretariat. PDMA-PaRRSA is headed by the DG who reports to the Secretary Relief, Rehabilitation and Settlement Department. The Secretary RSS department in turn reports to the Chief Secretary of KP who reports to the Chief Minister KP.

PaRRSA is responsible for reconstruction and rehabilitation activities in the militancy affected areas. It has a human resource base of 150 personnel, and an overarching relationship with PDMA-KP. The Authority has its Project Management Unit (PMU) at the Divisional Level (Swat) and dedicated units at the district level in each of the implementing departments (or any other offices) appropriate to expedite the recovery, reconstruction, rehabilitation and settlement work. There are also Steering Committees at the Provincial and Divisional level for fast track approval of development projects.

**Rescue 1122 - KP:** KP emergency services follow the same model of the Punjab Emergency Services. It has a staff strength of 850 professionals and fire-fighters, ambulance, search and rescue, and paramedical services available. It currently has limited outreach in the districts, but is working to expand this in

the coming years.

**DDMUs:** KP has District Disaster Management Units instead of Authorities that come under the purview of the District Coordination Officers, with District Disaster Management Officers as their focal points. District Police Officer, EDO Health, EDO Revenue, and EDO Works & Services are members of the DDMUs.

#### **Key DRM Initiatives – Past and Present:**

Key DRM initiatives in KP province conducted by PDMA-KP include the following:

- Camp management following the internal dislocation crisis.
- A Provincial Emergency Operations Center has been established at Peshawar. It is being connected to 10 DDMUs in KP in the initial stage.
- A Draft Provincial DRM Strategy has been prepared with key strategies and policies to strengthen disaster management and administration at provincial, district, UC and community levels.
- Provincial working group on DRR Mainstreaming was established for effective coordination between NDMA, PDMA, Provincial P&D and other provincial departments. The working group is also responsible for developing sector-specific

ic strategies and frameworks for mainstreaming DRR into development projects.

- PDMA has developed a system of SMS alerts for communities along with weather and river flow updates through news bulletins on FM radio during the flood season.
- PDMA carried out journalist's trainings and capacity building of information officers for disasters.
- Glacial Lake Outburst Floods (GLOF): Projects for reducing risks and vulnerabilities from Glacier GLOF in Northern Pakistan are funded by Adaptation Fund (AF) and United Nations Framework Convention and Climate Change (UNFCCC) through UNDP. Pakistan was the first out of fourteen countries where GLOF Project was first implemented. Current projects for mitigation of GLOF include at Dronagah Valley Chitral & Bagrot Valley in GB

#### **Future Plans and Needs:**

**Multi Hazard Early Warning Systems:** PDMA-KP has emphasized in provincial workshops, the need for installation of Doppler Radars, along with the strengthening and establishment of weather forecasting observatories. This need is especially pronounced in light of Climatic Changes and Special Shift in Monsoon Impact.

**Requirements:** Installation of Doppler Radar at Cherat. Improvement of existing 14 Weather Forecasting Observatories. Establishment of 9 additional Weather Forecasting Observatories. Assessing / Mapping Vulnerability to Earthquakes. Assessing / Mapping and Planning for Climate Change (Monsoon Impact).

**CBDRM Programme:** Sustainability of any disaster / development initiative entails government institutions and community participation and ownership. Use of knowledge, practices or agreements to reduce

risks and impacts, in particular through policies and laws, public awareness raising, training and education is effective in this regard. District government departments will be trained and sensitized for involving local communities in planning and execution of risk reduction interventions and projects. Communities as well as local administrations and NGOs capacities will be enhanced in CBDRM through training of Master Trainers who can take it forward in the future.

**Requirements:** Community awareness and understanding of DRM / CBDRM and increased number of CBDRM initiatives.

**Institutional Strengthening:** PDMA is currently in the process of procuring office equipment for DDMUs. PDMA has fabricated mobile DDMUs offices in all the Districts and capacity building of DDMOs in DRM is being carried out.

**Requirements:** Capacity building of Provincial, District, and Tehsil level staff in DRM. Strengthening of DDMUs.

**Resilient Cities Programme:** PDMA / PaRRSA is working towards enforcing structural measures to make buildings more resilient to disasters. A special emphasis is being placed on public buildings such as schools and hospitals, followed by residential buildings and public infrastructure (Water and Sanitation schemes, etc.). Attention is being paid towards rebuilding according to disaster resilient standards, retro-fitting existing buildings, quality control in construction projects and building the capacity, expertise, education and training of personnel within the Communications and Works Department, Tehsil Municipal Administration, and Public Health Department, etc. Under this programme, Disaster Resilient Architectural and Structural drawings for 192 schools and 19 health facilities have been developed in KP.

**Requirements:** Strengthening capacity of Public Health and Engineering Department through provision of Machinery and Equipment.

## SINDH

### Profile and Hazard / Disaster Scenario:

The province of Sindh is the south eastern province of Pakistan, and it covers a geographical area of 14 million hectares. 60% of land is arid or non-cultivable. Sindh contains coastal, desert, mountainous, and plain areas. The River Indus and its tributaries also flow through Sindh with

- Department of Rehabilitation (established in 2010) headed by Minister Rehabilitation; for early recovery / rehabilitation activities in calamity-hit areas and oversight of PDMA Sindh.
- Provincial Disaster Management Commission headed by Chief Minister Sindh.
- Provincial Disaster Management Authority headed by the Relief Commissioner /



Consultative workshop, Sindh

overflow causing significant destruction during the recent monsoon floods 2010-11. Most of Sindh's population, currently estimated at around 43 million lives in rural areas, although the urban centers such as Karachi also hold high population levels. The economy of Sindh is based on agriculture, most of it relying on irrigation. Floods are therefore a major concern in this province, as they disrupt livelihoods and the economy. 7.2 million and 9.2 million people were affected by the monsoon floods of 2010 and 2011 respectively, along with billions of dollars worth of losses in all sectors of the economy. Floods are the most recurring disaster in the province; other threats include tsunamis, cyclones, earthquake and drought.

### Institutional Arrangement – DRM:

In pursuance of the Provision of the National Disaster Management Ordinance 2006 and later the Act of 2010, the Province of Sindh has the following institutional arrangements:

Senior Member Board of Revenue. PDMA Sindh has regional offices in Sukkur and Hyderabad with a Regional Director and supporting staff. There are also two sub-offices in Larkana and Thatta with Deputy & Assistant Directors and support staff.

- District Disaster Management Authorities (DDMAs) headed by Deputy Commissioners (DCs).

### Key DRM Initiatives – Past and Present:

PDMA Sindh has contributed to DRM in the province through the following initiatives:

- Prepared Proposal for Creation of Provincial Disaster Risk Management Fund in collaboration with UNDP
- Established a Provincial Emergency Operation Centre (PEOC)

- Prepared SoPs at Provincial and District level for Flood / Rain / Cyclone emergencies
- Prepared District Disaster Risk Management Plans for Districts – Thatta, Badin, Dadu, Mirpurkhas, Sanghar, Qambar-Shahdaskot and Kashmore (in collaboration with One UN DRM JP)
- Conducted Study for Retrofitting of Health and Education Facilities of Public Sector
- Coordinated conduct of Drills for Cyclone / Tsunami and School safety Programmes in Coastal areas in collaboration with One UN DRM JP. Coordinated a drill on Nuclear Emergency in Association with KANUPP
- Coordinated Training Programmes / workshops for Provincial, District officers, Civil Society and NGOs in DRM and DRR in collaboration with One UN DRM JP
- Prepared development schemes for drought mitigation in desert areas of district Umerkot and Tharparkar, ambulance & rescue and disaster preparedness and management project at tentative cost Rs. 2.0 billion by funding through Provincial development budget.

#### **On-going activities:**

- Processing of cash grants for Flood 2010 and Rain / Flood 2011 affected household
- Coordinating preparation of Early Recovery Plans and Rehabilitation activities with the assistance of UN Agencies, Donors, NDMA, Provincial, District and Federal Government / Agencies
- Coordinating working of Early Recovery Sectoral / Thematic working groups at provincial and district Level
- Process launched for Registration of NGOs / INGOs

- Setting up emergency operation centres (EOC) & warehouses at Regional Headquarters- Hyderabad and Sukkur
- Preparation of Revised SoPs with departments and District Administration
- Focusing on Institutional Strengthening with the Financial and Technical Support of One UN DRM JP and other donor agencies
- Developing linkage with Volunteer Groups, Academic and Technical Institutions
- Formulation and Processing Development Schemes for DRR (Drought Intervention, Ambulance & Rescue and Disaster Preparedness and Management)

#### **Future Plans and Needs:**

##### **Institutional and Legal Arrangements:**

PDMA Sindh is planning to establish and strengthen its regional offices at Hyderabad and Sukkur by providing them with necessary office space and equipment. This is being done to maximize PDMA Sindh outreach in the field and remain relevant to the needs on ground and increase its response capacity. PDMA also intends to strengthen DDMA's and establish Taluka Disaster Management Authorities (TDMA's) and community based organizations (CBOs) for managing the risk of disaster. PDMA wants to frame the strategy for the implementation of the existing building codes and come up with new building codes where required. The process will include compilation of existing building codes by all agencies and coming up with its implementation plan in consultation with all relevant stakeholders.

PDMA, in the short run, intends synchronizing all existing DRM laws in the province in order to make an umbrella law to harmonize and align laws to the NDM Act of 2010. The activity will clearly lay down the roles and responsibilities and will make use of the existing human resource available with the institutions established under the law so far.

**Requirements:** Strengthening of PDMA Offices at Karachi, Hyderabad and Sukkur. Strengthening of DDMAs, TDMAs and local CBOs in DRM. Formulation of Strategy on Implementation of Building Codes and harmonization of existing laws and regulations on DRR.

**Provincial Risk Assessment:**

PDMA Sindh has identified the need to carry out a vulnerability assessment of the province on stage-by-stage basis resulting in preparation of a digitized Vulnerability Atlas of the province in the long run. PDMA is laying emphasis on conducting study on climate change, which has subjected Sindh to two consecutive years of flooding. Technical Vulnerability Assessments of critical buildings is required throughout the province especially in the districts that were severely hit by the Monsoon Floods.

**Requirements:** Hazard and Vulnerability Risk Assessments conducted throughout the province for a variety of disaster. Study on impact of Climate Change. Technical Vulnerability Assessment of critical infrastructure.

**Capacity Building and Awareness:**

PDMA Sindh plans to build the capacities of government officials and CBO's through provision of necessary training to them. In addition, PDMA intends to hold specialized training for the Civil Defence officials and preparation of manual of instructions and SoP's for their efficient functioning. In the long run, PDMA plans to conduct research in application of DRR policies and techniques through national and international institutions. It also plans to mainstream DRM into education systems through curriculum and to train academics in DRR/DRM.

Awareness and sensitization workshops and seminars for the policy makers and politicians is another proposed area of intervention by PDMA. This will also include orientation for the media persons in hazard and disaster management reporting.

**Requirements:** Training of Government

officials, CBOs, Civil Defence officials, and EOC personnel in DRM/DRR. Awareness raising on DRM issues for Policymakers and Politicians. Media Orientation on Hazard / DRM Reporting. Research in DRR. Integration of DRM into education system.

**Disaster Risk Management Planning and Development:**

PDMA is laying emphasis on development of provincial and district level DRM plans based on the vulnerabilities that they are exposed to and in light of coping capacities locally available. PDMA wants to revise these plans where they already exist, in light of the super floods of 2010 and rains of 2011. The process of risk assessment is to be taken to the community level by assessing local village level risks and devising community based disaster risk management interventions based on the risks so identified. CBDRM interventions can further be enhanced by the creation of UC level Disaster Management Committees, which PDMA plans to establish in the coming years.

Construction and retrofitting of large and community physical infrastructure schemes are also proposed to generate and boost the economic activities in the affected and vulnerable districts. In the long run PDMA plans to initiate small DRR schemes and insurance schemes in key sectors such as health and agriculture to provide income support to vulnerable populations.

Establishment of Tsunami, floods and cyclone early warning system, in line with latest technologies, is proposed to meet the provincial needs. In the long run, a



Participants from the Consultative Workshop, Sindh

Communicable Disease Surveillance System for Health and Agriculture sectors is also part of PDMA's future plans. Establishment and strengthening of well equipped Emergency Operation Centres (EOC's) at all tiers and creating their linkages with key organizations and institutions capable of responding to the disaster are proposed. This will be supported by newly devised SOP's for establishing the working relationship among all partners. In addition to this, PDMA hopes to establish warehouses at critical points at provincial, regional and district levels.

Strengthening and establishing the search and rescue teams in the province is another area of focus by PDMA Sindh. Another important activity is to develop a common and speedy damage and needs assessment methodologies for all stakeholders to follow. As part of the future 5-year plan, PDMA hopes to have established provincial, district and local level Rescue Teams and conduct regular drills and workshops for those districts that are highly vulnerable to disasters.

**Requirements:** Revision of Provincial and District DRM Plans. CBDRM Interventions. Community Risk Assessments. Rehabilitation of Rural Infrastructure and DRM / DRR Schemes. Establishment of Flood and Cyclone Early Warning Systems at Province level. Strengthening / Establishment of Emergency Operation Centers (EOCs) at province and district levels. Establishment of Rescue and Response Teams. Development of SOPs and Common Damage / Loss Assessment Methodologies for provincial and district agencies and CBOs. Insurance schemes for DRR.

## BALUCHISTAN

### Profile and Hazard / Disaster Scenario:

The province of Balochistan is the largest province in Pakistan in terms of area and has the lowest population levels. It covers a land area of 34.7 million hectares, which is inhabited by around eight million people. Approximately 80% of the area can be classified as inter-mountainous, the remaining consisting of

flood and coastal plains. Balochistan has seen a history of hazards and disasters including earthquakes, cyclones, droughts, floods, and tsunamis. Major disasters include the Quetta earthquake of 1935, Ziarat earthquake of 2008, Tsunami of 1945, Cyclone PHET in 2009, Drought 1997-2002, and Floods in 2007, 2010 and 2011. The 2010 Floods killed 51 people and affected 14 districts, the 2011 floods killed 23 people and affected 17 districts.

### Institutional Arrangement – DRM:

In Balochistan the normal workings of the PDMC and PDMA remain in effect. The Deputy Commissioner acts as the Chairperson of District Disaster Management Authority (DDMA) and members include DOs, DPO, and other officials appointed by the District Government. PDMA Balochistan is planning to setup regional DMA offices in six regions of the province, for better coordination and response to disasters over the vast land area.

### Key DRM Initiatives – Past and Present:

- Operationalization of Provincial Disaster Management Authority Balochistan
- Established District Disaster Management Authorities (DDMAs)
- Creation of Provincial Disaster Management Fund (Balochistan)
- Established Provincial Emergency Control Room (PECR)
- Establishment of Rescue 786 Services.
- Prepared District Disaster Risk Management Plans for District – Kech, Kachhi, Ziarat, Jhal Magsi, Naseerabad, Lasbela, Quetta, Gwadar, and for Overall Balochistan ( One UN DRM JP)
- Coordinated conduct of Drills for Cyclone / Tsunami and School safety Programmes in Coastal area (One UN DRM JP)
- Coordinated Training Programmes / workshops for Provincial and District



Consultative workshop, Balochistan

- officers and Civil Society (One UN DRM JP)
  - Processing of Cash grants
  - Coordinating preparation of Early Recovery Plans and Rehabilitation activities with the assistance of UN Agencies, Donors, NDMA, Provincial, District and Federal Government / Agencies
  - Coordinating working of Early Recovery Sectoral/Thematic working groups at provincial and district Level
  - Process launched for Registration of NGOs/ INGOs (>100 Registered NGOs)
  - Establishing flosspans at Naseerabad and jaffarabad with the help of WFP. One already established in PDMA premises
  - Placement of 3 Boats in WFP strategic warehouses to be used in emergencies by both DDMA and WFP
  - Focusing on Institutional Strengthening with the Financial and Technical Support of One UN DRM JP and other donor agencies
  - Developing linkage with Volunteer Groups, Academic and Technical Institutions
  - Compilation of Loss Damages Reports and Relief Activities Reports
  - Organizing Sports activities for IDPs at Sibi
  - Individual compensation of Flood Affectees
  - Trainings conducted on Single Reporting Format and Operational Aid and Situational Information System.
  - PDMA Balochistan is also working on creating a multi-donor trust fund for DRM activities along with development of MIS and GIS at District level.
- Future Plans and Needs:**
- Institutional Strengthening:**
- PDMA intends to establish Regional offices in 6 regions of Balochistan. This is being done in order to align and capacitate the prevalent DRM system with the newly restored Commissionerate system. This will lead to better inter-district cooperation and response in the wake of any disaster.
- PDMA is also planning strengthening of





Group Work Consultative Workshop, Balochistan

DDMAs, T-DMAs, and CBOs in DRM, however the major capacity building activities will be carried out at 6 regional hubs which will be responsible to provide necessary support to Districts and Tehsils. PDMA wants to frame the strategy for the implementation of the existing building codes and come up with new building codes where required. The process will include compilation of existing building codes by all agencies and coming up with its implementation plan in consultation with all relevant stakeholders.

**Requirements:** Strengthening of six PDMA Regional Offices along with provision of Search and Rescue equipment. Development of Monitoring and Evaluation System for DRR at PDMA. Strengthening DRM capacities of DDMAs. Formulation of Strategy on Implementation of Building Codes and identification of public and private buildings for retrofitting, Multi Hazard Contingency Plans in the Province.

### Provincial Risk Assessment:

MHVRA and Seismic Micro zonation studies are important tools for uncovering the dangers posed by possible natural disasters before they actually occur. PDMA Balochistan in coordination with the One – UN DRM JP has already conducted some such studies for city of Quetta, which have helped to inform contingency plans, and future construction projects. More studies are required of this sort particularly in different types of disaster scenarios especially in urban areas with larger vulnerable populations.

**Requirements:** MHVRA conducted throughout the province for a variety of disasters. Multi-Hazard Contingency Planning study of district Quetta, Ziarat, Killa Abdullah and Sibi and after Seismic study of Quetta City formulation of strategies and polices for Quetta Town

### Capacity Building and Awareness Raising:

With regard to the capacity building and awareness the most important need is to train PDMA and DDMAs staff, line departments, media and CBOs in DRM/DRR. In addition training of the staff/volunteers of Civil Defence is also one of the key capacity building initiatives that needs to be carried out on urgent basis.

**Requirements:** Establishment of Disaster Management Academy. Human Resource Capacity building in DRM/ DRR (PDMA, DDMA, Govt. line departments, CBOs, etc.) Awareness-raising on DRM issues for Policymakers and Politicians. Media Orientation on Hazard/DRM Reporting.

### Disaster Risk Management Planning and Development:

PDMA is laying emphasis on development of provincial and district level DRM plans based on the vulnerabilities that they are exposed to and in light of coping capacities locally available. PDMA wants to revise these plans where they already exist, in light of the super floods of 2010 and rains of 2011. The process of risk assessment is to be taken to the community level by assessing local village level risks and devising community based disaster risk management interventions based on the risks so identified.

Construction and retrofitting of large and community physical infrastructure schemes are also proposed to generate and boost the economic activities in the affected and vulnerable districts.

Establishment of Tsunami, floods and cyclone early warning system, in line with latest technologies, is proposed to meet the

provincial needs.

Establishment and strengthening of well equipped Emergency Operation Centres (EOC's) at all tiers and creating linkages with key organizations and institutions capable of responding to the disaster are proposed.

Establishment of a disaster response force along with the strengthening and establishment of the search and rescue teams in the province is another area of focus by PDMA Balochistan. This is to be achieved through the provision of HR, training and specialized equipment reducing response times, increasing outreach and improving the quality of services.

**Requirements:** Revision of Provincial and District DRM Plans. CBDRM Interventions. Rehabilitation of Rural Infrastructure and DRM/ DRR Schemes. Flood and Cyclone Early Warning Systems at Province level. Emergency Operation Centers (EOCs) at province and district levels. Rescue and Response Teams. DRM Education in schools, colleges, and universities. Communicable Disease Surveillance System for Health Sector. Development of SOPs and Common Damage / Loss Assessment Methodologies for provincial and district agencies and CBOs.

## State of Azad Jammu & Kashmir

### Profile and Hazard / Disaster Scenario:

The State of AJK lies to the northeast of Pakistan, next to the Himalayan Mountain range. The State has mountainous terrain and is vulnerable to associated risks and hazards including flashfloods, landslides and earthquakes. AJK was severely affected in the 2005 earthquake with most districts lying on the earthquake fault line. Hazards are further multiplied due to the glacial melting of mountains in the region, which cause flash floods in the area.

### Institutional Arrangement – DRM:

The State Disaster Management Authority (SDMA) of AJK was established as the executive arm of the State Disaster

Management Commission. It is responsible for the broad spectrum of DRM activities in AJK. It achieved the status of relief, DM and Civil Defence Secretariat in 2011, headed by the Secretary SDMA. 10 DDMA's have been established in the districts. A State Emergency Operation Center has been established at the SDMA under One UN DRM Joint Programme. A Municipal Disaster Management Cell (MDMC) has been established within DDMA-Muzaffarabad.

### Key DRM Initiatives – Past and Present:

SDMA in collaboration with its partners including the One UN DRM JP, have conducted a number of DRM initiatives in the State, as follows:

- Operationalized SDMA and Established DDMA's in 10 Districts
- Prepared State Disaster Risk Management Plan (UNDP)
- Prepared District Disaster Risk Management Plans of 5 Districts: Muzaffarabad, Rawalakot, Bhimber, Bagh, and Neelum (UNDP & One UN DRM JP)
- Established State Emergency Operation Center – Operates 24/7 (One UN DRM JP)
- Prepared SOPs for EOC
- Established Municipal Disaster Management Cell (MDMC) as sub-part of DDMA Muzaffarabad (One UN DRM JP)
- Conducted Seismic Hazard Assessment of Muzaffarabad and prepared Risk Maps (One UN DRM JP)
- Retrofitting of Jinnah Dental Hospital
- Women Welfare Community Center in Muzaffarabad
- Landslide stabilization and debris control on GulshanNullah, Muzaffarabad (One UN DRM JP)

- Established Disaster Management Committees in all 109 UCs of 6 districts (Muzaffarabad, Rawalakot, Hattian, Haveli, Bagh and Neelum) and trained volunteers
- Stockpiles of Emergency Response Equipment built at 6 DDMAAs and in all UCs of 6 districts
- Prepared Multi-Hazard GIS Based Maps of Muzaffarabad (The World Bank)
- Emergency Response Capacity development of Rescue 1122 (Muzaffarabad, Kotli, Mirpur, Sudhnuti, and Bhimber) Civil Defence and DDMAAs
- Capacity building training for government officials and communities organized (One UN DRM JP)
- Community Based Disaster Mitigation projects in Muzaffarabad and Neelum (UNDP)
- Prepared Monsoon Contingency Plan
- School Safety Awareness-raising Campaign launched in 2 districts – Muzaffarabad and Neelum (40 schools) (One UN DRM JP)
- Conducted structural and non-structural vulnerability survey of critical buildings (One UN DRM JP)
- Established DRM Coordination Forum
- Facilitation in cash grant programme for flood affected communities in collaboration with NADRA
- Establishment of one State-level Warehouse with funding from WFP
- Revision and Updating of Consolidated State and District DRM Plans

#### **Future Plans and Needs:**

**Risk Assessments:** MHVRA and Seismic

Micro zonation studies are important tools for uncovering the risks posed by possible natural disasters before they actually occur. AJK is an area prone to a number of sudden-onset disasters, and can benefit immensely from such key studies, which might indicate the level of damage / threat to life. Keeping this in mind, SDMA has prioritized conducting a geological survey of Zalzal Lake and of the Noon-Boota Landslide.

Zalzal Lake was a lake created by the 2005 earthquake in the Hattian District of AJK. It currently has the potential of being breached which may result in the destruction of the adjacent Hattian town and surrounding areas (Karli, Haryala, Bail, BatShehr, DakhanPaddar). The construction of a spillway may be required along with other structural / non-structural measures, to mitigate this risk. Noon-Boota landslide occurred at village Kindri, district Hattian. This active landslide has the capability to destroy an entire adjacent village comprising 450 houses. Structural / non-structural measures are required to mitigate the risk from this landslide.

Other than this there are several old and vulnerable buildings in major cities of AJK that require hazard assessments. Implementation of policies and strategies and demolishing and alternate accommodation projects should be initiated. Technical assessments of the vulnerability of critical public buildings; e.g. schools, hospitals, government offices and various housing types should be conducted.

**Requirements:** Geological Study and preparation of PC-1 regarding breach of Zalzal Lake issue and construction of spillway along with other engineering structural and non-structural measures. Geological study and preparation of PC-1 and structural and non-structural measures for the Noon Boota landslide. Preparation of multi hazard indication maps / risk maps of three districts (Hattian, Neelum & Bagh). Technical Vulnerability Assessment of Critical Buildings, land use planning and formulation and implementation of building codes.

***Institutional Strengthening:*** SDMA plans to strengthen the existing SEOC at Muzaffarabad. This includes strengthening institutional mechanisms and conducting capacity building trainings for staff, as well as simulation drills. Furthermore it plans to establish 4 district EOCs and procure necessary equipment and furniture for these. SDMA is also planning to provide District DRM Coordinators in eight of the remaining districts. In addition three warehouses are also planned to be established at Neelum, Bagh, and Haveli respectively. These will help to stockpile essential goods and relief items in case of emergency.

***Requirements:*** Establishment of four District Emergency Operation Centers in Neelum, Hattian, Bagh & Rawalakot. Strengthening institutional mechanism of SEOC / capacity building training workshop. Formulation of State Level Disaster Risk Reduction Force, Training on SAR, First Aid and use of technical equipment. Establishment of Disaster Management Committees at UCs level in one district i.e. Kotli. Construction of warehouses in Neelum, Bagh and Muzaffarabad.

***Capacity Building and Awareness Raising:*** SDMA plans to hold trainings and workshops for government officials, CBOs representatives, Civil Society, and other stakeholders to train them on aspects of DRM and DRR. DRR Mainstreaming is also on the agenda, and a state level inter-ministerial or departmental working group is required for this.

SDMA plans to conduct a School Safety Campaign in three districts to raise awareness about disaster risks and how to prepare and respond to them. At a later stage, SDMA envisions the creation of a State Institute of Disaster Management (SIDM) and the preparation of a Human Resource Development Plan for producing intensive research and specialists in the field of DRM/ DRR.

***Requirements:*** Awareness raising training workshops on DRM for ten DDMAAs. District level mainstreaming workshops for ten Districts. Preparation of guidebook on mainstreaming DRR in AJK context.

Capacity building training workshop for the formulation of State Level working group on mainstreaming DRR. Development of School Safety Curriculum for different disasters as a subject. Creation of State Institute for Disaster Management. Development of a Human Resource Development Plan (HRDP).

***DRM Planning:*** SDMA plans to revise and update its existing DRM Plan – AJK as well as District

DRM plans for Muzaffarabad, Bagh, Neelum and Rawalakot. It also plans to develop district DRM plans for 3 out of the 5 remaining districts in the coming period. It is expecting the support of UNDP in preparing and updating these DRM plans. Sectoral preparedness plans and other contingency documents will need to be prepared. Such plans need to incorporate Risk Assessments and Hazard Indication Maps to better inform for incorporating DRR consideration into development programmes / projects at designing and planning, implementation and monitoring and evaluation phases.

***Requirements:*** Review, update already prepared AJK DRM Plans. Revise / update District DRM plans of Muzaffarabad, Bagh, Neelum & Rawalakot. Preparation of new district DRM plans for Haveli, Hattian and Kotli. Preparation of departmental preparedness plans / contingency plans

***Early Warning Systems:*** SDMA plans to establish Community Based EWS in 3 districts – Muzaffarabad, Neelum, and Hattian in the pilot phase. Furthermore, community based simulations and drills for various types of disasters are proposed to be conducted along with technical assistance from PDMA KP for developing SMS alerts for communities.

***Requirements:*** Simulations and Drills. Establishment of community based EWS in districts Muzaffarabad, Neelum, and Hattian.

***CBDRM Interventions:*** SDMA is conducting and plans to increase the number of CBDRM activities at grass roots level in AJK. It hopes to establish UC level disaster management

committees to help improve coordination of these activities and conduct new such initiatives. CBDRM initiatives will help identify sustainable methods of conducting DRM activities at the district and village level, and also aid in community based EWS to help prepare for effective response to emergencies.

**Requirements:** CBDRM Trainings and establishment of UC level DM committees in 3 districts – Bhimber, Sudhnuti, Mirpur).

**Disaster Response Force:** Establishment of a disaster response force along with the strengthening and establishment of the search and rescue teams in the State is another area of focus by SDMA. This is to be achieved through the provision of HR, training and specialized equipment reducing response times, increasing outreach and improving the quality of services. In addition SDMA plans to establish, strengthen, train, prepare and equip water search and rescue force to better respond to emergency situations.

**Requirements:** Procurement of scuba-diving equipment, sonar radars (for locating items/persons trapped under rubble or debris), basic rescue equipment, the establishment of a water rescue training course, life-rings and jackets, search cameras, and acoustic listening devices.

## GILGIT-BALTISTAN

### **Profile and Hazard / Disaster Scenario:**

Gilgit-Baltistan is a mountainous area in the North of Pakistan, where temperatures and climate can reach extreme levels. It is prone to extreme weather, landslides/avalanches, earthquakes, lightning strikes, soil erosion, glacial lake outburst flooding, and flash floods. Major disasters include landslide in Hunza, Ganche and Gayari Landslides.

### **Institutional Arrangement – DRM:**

GBDMA is headed by a DG and currently has only one Assistant Director, one UDC, one LDC (abbreviation) and a computer operator. The PC-1 for strengthening of GBDMA has been approved and will provide for the establishment of 7 additional posts,

GBDMA and DDMA offices, support staff, communications equipment and vehicles.

### **Key DRM Initiatives – Past and Present:**

Rescue 1122 team has been established for GBDMA but is in urgent need of reinforcement, training, and equipment.

### **Future Plans and Needs:**

GBDMA is a relatively new institution, and thus has many urgent needs to strengthen its capacity. The prioritized needs are as below:

### **Multi Hazard Early Warning System:**

MHEWS is one of the most essential tools to safeguard the life of people and moveable property where disasters are to be expected, and to forecast disasters and minimize losses.

**Building needs:** The staff of GBDMA is currently performing duties in a rented building which is not sufficient to fulfill the needs.

**Human Resource:** IT experts search and rescue experts, Deputy Directors, Assistant Directors, Computer Operators, and support staff are extremely essential for smooth running of office work during pre and post disasters.

**Communication and Transportation:** 4x4 vehicles, trucks, tractors, boats, satellite phones, and walkie talkies.

**Computers:** Laptops, desktops, and printers are required for all DRM related offices. As electricity availability is scarce, laptops are a priority, along with mobile Internet options.

**Heavy Machinery:** Karakoram Highway, the life line of GB connecting it with rest of the country remained blocked for more than one and half month during the flash floods of 2010, resulting in severe shortages of fuel, LPG, food and non-food items. To cope with such situations the GBDMA and DDMA need excavators and tractors with blades to clear roads and ensure road links within and outside the province.

**Agriculture Sector:** Food and Cash for

work programme along with restoration / reconstruction of water channels was a great step in reconstruction of damaged water channels in 2010. Such type of activities are welcomed in future as well.

**Emergency Reserved Stock:** Food and Non Food Items should be in the warehouse of GBDMA because if there is any type of disaster in Gilgit Baltistan then GBDMA can respond to the situation efficiently.

**Training:** As GBDMA is a newly established organization without sufficient resources, NDMA and UN Agencies have to play a proactive role for appropriate capacity building of the organization to cope with disaster in one of the most hazard prone region of Pakistan.

**Disaster Response Force:** Establishment of a disaster response force along with the strengthening and establishment of the search and rescue teams in the province is another area of focus by GBDMA.

**Energy Crisis:** Adopt possible measures to conserve energy at all levels, and use all available sources to enhance production of energy.

## Federally Administred Tribal Areas

### Profile and Hazard / Disaster Scenario:

The Federally Administered Tribal Areas are located along the western border of KP province. The region has been at the forefront

of the Government of Pakistan's operations against militants since 2008. It is also prone to many of the natural disasters experienced in other parts of the KP province such as floods, flashfloods, earthquakes, landslides, etc.

### Institutional Arrangement – DRM:

The FDMA is responsible for conducting DRM activities in FATA. It has a special Emergency Response Cell at FDMA-HQ established after the 2010 Monsoon Floods

### Key DRM Initiatives – Past and Present: Development of disaster management plan:

The plan outlined the DRM Strategy for the province and made provisions for developing EWS, response mechanisms, and DRR Mainstreaming at institutional levels. A consultative process with all relevant stakeholders and a community-based approach was utilized to prepare the document, which was extensively reviewed. Development of School Safety Action Plan, Institutional Set Up and Structure of Inter departmental policy coordination group on disaster risk reduction in FATA in collaboration with United Nations Educational, Scientific and Cultural Organization (UNESCO): Features of this plan included developing a School Disaster Response Plan, capacity building of teachers, training material development, awareness raising of students, DRM drills in schools and establishing effective coordination mechanisms.



Consultative workshop, Federally Administred Tribal Areas

DRR capacity building trainings at school level assisted by United Nations (International) Children's Fund (UNICEF): DRR Mainstreamed into regular functions of Education department and teachers curriculums. Training manuals developed for this purpose and teachers of 630 schools trained.

#### **Future Plans and Needs:**

**Institutional Strengthening:** FDMA is planning to establish field offices in the region to improve coordination and response in times of disasters. It is also appealing to partner organizations and donors to assist in capacity building of FDMA staff. Furthermore, it plans to replicate the provincial Emergency Operations Centers in other provinces at FDMA to improve communication and coordination.

**Requirements:** Capacity building of FDMA staff and FATA Secretariat. Trained and skilled Search and Rescue teams. Procurement of necessary equipment for Search and Rescue teams. Establishment of warehouses consisting of food and non-food items.

**CBDRM Interventions:** FDMA plans to introduce and strengthen CBDRM initiatives in the region to make DRM activities more sustainable. It envisions providing communities with the ability to be first responders to disasters through the creation of Search and Rescue teams from the community and provision of CBDRM toolkits to these teams.

**Requirements:** Stockpiling of Community DRM Toolkits.

**Early Warning Systems:** FDMA plans to establish a robust EWS for various disasters in the region. For this it has requested the assistance of humanitarian organizations as well as government authorities such as the PMD. PMD has a radar system used for weather forecasting that has not yet been extended to FATA. Other than this, Community based EWS are also planned for effective early warning and response.

**Requirements:** Establishment of EWS. Extension of Radar System (Pakistan Meteorological Department) to FATA. Strengthening of communication system at FDMA HQ and Agency Level.

**Risk Assessments:** FDMA plans to conduct Hazard Mapping and Risk Assessments at all levels / tiers. For this purpose, it aims to utilize existing capabilities and findings from the PCNA (Post Crisis Needs Assessment) conducted by FDMA in collaboration with UN, EU, ADB, and World Bank.

**Requirements:** Comprehensive hazard mapping of FATA region

### **Islamabad Capital Territory (ICT):**

**Profile and Hazard / Disaster Scenario:** Islamabad, the capital city of Pakistan, is located in the northeast of the country, close to the Himalayan mountain range. The Islamabad Capital Territory includes Islamabad city, the Margalla Hills, and surrounding rural areas. ICT is headed by the Chief Commissioner and is empowered as a provincial government as per the President's order number 80 after 1980. Although ICT is a well-planned city, it is still prone to a range of hazards and natural and human induced disasters. During the monsoon season, the main drainage channel – Nullah Lai, is prone to overflowing due to the effects of hill torrents. Urbanization has compounded this problem with illegal encroachments along this drainage system. Islamabad also lies on an earthquake fault line, the potential impact of which is exacerbated by the prevalence of poorly constructed buildings. The city is also prone to fires, accidents, terrorist attacks, disease epidemics and has experienced several plane crashes.

#### **Institutional Arrangement – DRM:**

Prior to June 2012, there are two main authorities responsible for DRM in the capital territory: The ICT Civil Administration (Chief Commissioner's Office) and the Capital Development Authority (CDA). In terms

of coordinating Disaster Response, the ICT Administration has the sole responsibility and authority to do so. CDA is responsible for the development of the capital city (Islamabad proper / urban areas) and this includes Disaster Management.

A DDMA in ICT was established on the 15th June 2012. The DDMA-ICT will provide HR / Financial Resources, Contingency Planning exercises, Trainings, Drills and Mock Exercises, and serve as an Emergency Operations Center.

**ICT Administration:** Prior to the establishment of DDMA-ICT, the disaster management setup of ICT Administration was led by 3 key positions: Incident Commander, Coordinator Health Emergency Services, and the In-charge Control Room. The Incident Commander was responsible for coordination of Disaster Response in case of a disaster / emergency. These activities included Area Cordon-off (Police / Civil Defence), Area Clearance (Bomb Disposal Squad), Evacuation (Fire Brigade / Ambulances), Traffic Management (Traffic Police), HR requirements (Assistant Deputy Commissioner), and the establishment of Mobile control rooms, mobile hospitals, and logistics and media camps (site manager).

The Coordinator – Health / Emergency Services is responsible for the establishment of Incident Rooms and Integrated Incident Rooms (ED Hospital + ED PIMS), and the Monitoring of Emergency Services.

The In-charge Control Room is responsible for coordination with Allied Services (IESCO, CDA, SNGPL, PTCL etc.), Calling of Representatives (Police, CDA, Health, Food, Civil Defence, Red Crescent, PHF, Edhi, etc.), the Provision of Logistics Support, water, food, (LG & RD Dept.), Dissemination of Information to Govt./Media, and involvement of other agencies (NDMA, PDMA, UN/INGOs, philanthropists)

CDA is the sole agency responsible for carrying out development activities in Islamabad. In addition it deals with aspects of

DM and has experts on board with integrated services available for disaster response. CDA has recently launched Fire Safety and Building Codes within ICT. CDA teams are fully trained in CPR (Adult & Infant), physical examination, vital signs assessments, victim shifting protocol, splinting, shock treatment and Search and Rescue techniques. CDA has implemented Building Safety Regulations 2010-11 and all buildings now have to obtain NOC from Fire and Audit as of January 2011 onwards.

#### **Key DRM Initiatives – Past and Present:**

- CDA is holding visits of the prevailing building structures and is examining the upcoming structures for their accordance with CDA Building Standards for fire prevention & life safety. CDA is also examining upcoming structures for their concordance with CDA Building Standards.
- CDA has responded to all Fire Incidents including UBL Fire, Beverley Center, Gakkar Plaza, NATO containers fire etc.
- CDA's Urban Search and Rescue have responded to and are responsible for managing Road Traffic Accidents, Building Collapse, Terrorist / Bomb blast incidents, Flood Incidents / Dewatering from buildings and houses, Air Plane crashes (Air Blue, Bhoja Air), Animal and Bird Rescue, Mock Drills, and Emergency and Disaster Based Community Awareness trainings.
- Development of USAR teams which have undergone extensive trainings on the job, in house, and foreign in mountain rescue, confined space rescue, water rescue, fire training, simulation training, and basic and advance S&R techniques.

#### **Future Plans and Needs:**

**Institutional Strengthening:** There is a need within DDMA-ICT to develop established protocols and capacity building initiatives for government personnel. DDMA-ICT



plans to carry out drills and mock exercises for its teams so that gaps and bottlenecks of existing emergency services can be identified. Resources and further trainings are requested by the organization for this purpose. In addition to this, the creation of an Emergency Operations Center under DDMA-ICT has been identified as one of the priority activities.

**Requirements:** Establishment of State-of-the-art District Emergency Operation Center under DMA Availability of Human / Financial Resources.

**DRM Planning:** DDMA-ICT needs to carry out extensive Hazard and Vulnerability Risk Assessments (such as Seismic surveys) for rural and urban areas in ICT, to help inform DRM plans and contingency exercises. There is a need to carry out seismic surveys for buildings, which may not be seismic, resistant. In addition, DDMA-ICT has to make ICT a central hub for providing technical and material assistance to smaller provinces such

as AJK and Gilgit-Baltistan.

**Requirements:** Disaster Assessment and Planning - MHVRA maps, seismic surveys, land-use planning, Mass Casualty Management Plans, etc.

**Awareness:** DDMA-ICT hopes to play its part in creating awareness about the DRM risks and hazards in the ICT region amongst government officials, policymakers / politicians, businesses, media and the general public. This includes awareness about the existing capacities in DRM available within ICT. Workshops and seminars, as well as integration into educational institutions / curriculum are important avenues for doing this.

**Requirements:** Public Awareness workshops and seminars.



Consultative workshop, Islamabad Capital Territory



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## **GENDER & DI SASTER**



## Gender and Disaster

Evidence indicates that both men and women benefit from gender balanced approaches to disaster risk reduction and management. Like other countries, In Pakistan women have limited access to resources; little awareness of their rights, limited mobility with little exposure to environments outside their community or at times even the household, low levels of literacy, and few life skills. This makes women highly vulnerable in periods of disaster where even greater challenges are faced in accessing basic resources. Stakeholders agree that to reduce the vulnerability of women and children in times of disaster, greater efforts must be made to understand the nature of barriers they confront and investment allocated to address these.

To address the above issues, NDMA created the Gender and Child Cell (GCC) with the support of UN Women in 2010. The GCC is mandated to recognize and respond to issues relating to gender and other vulnerable segments inequalities. To date, GCC initiatives have been focused on a) policy formulation, b) the capacity building of DMA staff in gender related issues and c) dissemination of gender guidelines to all DMA staff. As part of the series of consultative workshops conducted by NDMA, the GCC held seven consultative workshops from October 2011 to March 2012. These were held with Provincial / Regional DMAs in Karachi, Hyderabad, Quetta, Peshawar, Rawalpindi, Lahore, and Multan in order to develop a policy for social protection. The outcome covers four areas: gender equality, child protection, the elderly and the people with special abilities. The policy also identifies responsible agencies / actors in gender and disaster management in Pakistan. In addition, the policy deals with each of the areas with reference to institutional processes / capacity, implementation, and data management.

The National Social Protection Policy recommends a series of interventions at the program level. These are to:

- Prepare gender sensitive disaster management strategies
- Examine the DRM plans with gender lens to address social protection concerns
- Increase the involvement of vulnerable groups in disaster management planning and implementation
- Set targets to ensure DRM resources and funding is directed to women and other vulnerable groups
- Ensure equal access and opportunities to economic resources in the stages of emergency relief, early recovery and rehabilitation
- Undertake an external gender responsiveness audit of all DMAs to identify gaps and suggest remedial measures
- Mainstream gender concerns in DRR and DRM
- Institutionalize gender support interventions through a thematic working group, the MOU for which has already been signed between NDMA and UN WOMEN
- Institutionalize GCC at provincial levels (Sindh, KP and Balochistan already notified GCC in their respective PDMA's)

GCC with the technical support of UN Women is working towards the strengthening of policy interventions focusing on women and children and institutional / organizational capacity building in this area at both national and provincial / regional levels.

### The way forward:

The GCC concluded the series of workshops with a summary of core actions to be taken over 2012-2014. These are for the:

- Institutionalization of GCC Provincial / Regional DMAs

- Distribution of guidelines to Provincial / Regional DMAs outlining integration of vulnerable groups perspective into planning and implementation
- Capacity building and mainstreaming vulnerable groups perspective at all level i.e. national, provincial, district and community
- Strengthening of linkages between NDMA and Provincial / Regional DMAs with technical partners and stakeholders working with vulnerable groups. This is with a view to forming national and provincial strategies to address the barriers women and other vulnerable groups confront in periods of emergencies
- Monitoring, evaluation and knowledge sharing mechanisms to enhance vulnerable groups resilience in the aftermath of disasters
- Sensitizing media on gender sensitive disaster reporting
- Provide targeted support to Disaster Safety Net, covering risk transfer of the vulnerable segments of the society
- Provide institutional, technical and financial support to mainstream girls and women in disaster response force
- Awareness raising on social protection concerns by way of holding workshops / conferences / campaigns / seminars / symposiums etc
- Any other activity falling in the purview of both NDMA and UNWOMEN



Community in Sindh, Post 2011 Floods

# CONCLUSION AND Way FORWARD







## Conclusion and Way Forward:

The report finds that although extensive headway has been made in the way of legislation and the setting up of a comprehensive structure for disaster management in Pakistan, much work is still needed before this system can be deemed to be fully functional and effective throughout the country.

An extensive capacity building programme is still required for PDMA and DDMA across the Pakistan; this is particularly needed for GBDMA, which was found to be in the very early stages of setup. The exception to this is PDMA Punjab and PDMA KP, which are now looking to acquire more specialized staffing and software to incorporate within its already relatively well functioning systems of response and management. It is advised that institutions specializing in search and rescue operations be brought in to facilitate this process of upgrading. In this way, Punjab Emergency Services (PES) may be used as a model academy for disaster response providing practical training for DMA staff and other emergency services. This would not only further build the capacity of DMAs and enable a comprehensive training programme to take place in a more cost effective manner with all necessary equipment and specialized staffing already available.

The large mismatch between policy and implementation was also highlighted by the DMAs requesting further coordination to close the gap between planning at the national level and implementation at the district level. These gaps and further communication gaps between the federal, provincial and district level staff were starkly demonstrated in the response to the 2010 floods. This response was fragmented and slow, illustrating the need for improved early warning systems, stronger guidance to be provided from the national level and for better systems of information management to be developed. It is advised that proper communication systems be set up to ensure that future response is as integrated as possible with the same message being portrayed in every district and province. This need was again shown following the 2010 and 2011 floods during the recovery period, with district

level staff requiring more comprehensive orientation on the availability of government compensation programmes post-disaster, and how to assist people in accessing these. It is advised that national level HR to be used to lead and conduct an internal programme of capacity building on government policy, programmes and access to these. This programme can also be used to close the gap and encourage further cooperation between DDMA, PDMA and NDMA.

It is encouraged to hold biannual forums to include DMAs at all levels to review progress against set performance targets / milestones for institutional capacity building and share best practices. It is advised that every DMA be provided with a set of achievable targets as part of an over-all programme of capacity building and adequate investment and HR time be set-aside for this. Furthermore it is advised that a second programme be conducted to increase contact between district level DMAs and communities. This can be implemented through trained DMA staff being used to conduct regular sessions on aspects of disaster management, informing communities of government programmes in this area and distributing information on this. It is also encouraged that DDMA staff be included in community level NGO / INGO programmes in this area. As the first line of response, communities should be fully aware of available facilities, systems of support and key contacts within DDMA, this was a need highlighted by seven of the eight provinces / regions.

Better guidelines also need to be prepared on disaster response, currently disaster management plans are available for a number of districts but these primarily outline the hazards, risks and needs but do not relate them to response. It is advised that a comprehensive multi hazard risk assessment be carried out by relevant technical agencies starting from the hazard prone districts and linked to national level studies by the national studies and research carried out by the Federal Flood Commission etc. It is further advised that in order to use the information compiled in

these manuals to be developed to enable best practices and procedures to be followed so that all staff are clear on how to utilize systems and resources. In the case of rapid assessments, efforts should be made to coordinate with NDMA for guidance on the type of information required and the best means to obtain this including accepted sources for the same.

Disaster preparedness also needs to be mainstreamed into development programmes conducted at all levels. These programmes can be in the area of community safety nets, the strengthening of infrastructure, raising awareness on the need for better systems of natural resource management and encouraging the development of multiple income sources to increase coping strategies at the household level. Further activities need to take place to include disaster awareness as part of the school curriculum with practical activities and drills on this, in particular in areas where there is a high risk / frequent occurrence of these. Building codes and land use planning

must also be reviewed along with system development for enforcement of regulations.

The One UN DRM JP and its thirteen UN agencies have been supporting the Government of Pakistan to undertake DRR interventions. It is encouraged that the Government continue to support the interventions of the UN to help them overcome resource gaps. A permanent fund for disaster management that would be immediately accessible following an event should also be considered. This would be useful in the stages of emergency response, one of the most critical areas for the saving of lives.

It is encouraged that in this respect, the way forward for disaster prevention and management, is to view these aspects beyond the scope of this report, and not as a separate sector, but as part of a holistic programme to strengthen development programmes, coping strategies and local level institutions.



Education on DRR, in Government School, Punjab

Urban Search and Rescue Training

# Disaster Risk Management Needs Report 2012



**National Disaster Management Authority (NDMA)**  
**Prime Minister's Secretariat, Islamabad**  
[www.ndma.gov.pk](http://www.ndma.gov.pk)