

# National Monsoon Contingency

# Plan 2013



National Disaster Management Authority  
Government of Pakistan



# Contents

● <b>Pakistan's Disaster Context</b>	<b>01</b>
Monsoon Hazards	01
Emerging Trends	02
Latent Vulnerabilities	02
Data of Historical Flood Events	02
Risk Mapping	03
Weather outlook-Monsoon 2013	04
Preparedness Consultations	04
● <b>Overview of Provincial/Regional Plans</b>	<b>05</b>
Balochistan	05
Khyber Pakhtunkhwa	05
Punjab	06
Sindh	06
The State of Azad Jammu & Kashmir (AJ&K)	06
Gilgit-Baltistan	07
Federally Administered Tribal Areas (FATA)	07
Islamabad Capital Territory	07
● <b>National Contingency Plan</b>	<b>08</b>
Scenarios	08
Planning Parameters	08
Broad Contours of Plan	09
Triggers for Response	10
Coordination Mechanism	10
● <b>Stocking Level and Financial Requirements for Relief</b>	<b>11</b>
● <b>National Capacities</b>	<b>14</b>

# List of Annexes

A)	Data of Historical Flood Events	18
B)	Overall Consolidated State of Relief Items	18
C)	NDMA Food Pack	19
D)	Multi Sector Initial Rapid Assessment (MIRA)	19
E)	Coordination Architecture and Roles/Responsibilities of various Institutions	20
F)	WAPDA Flood Telemetry Network	21
G)	Flood Rescue Equipment	22
H)	Health Preparedness for 2 M Target Population	24
I)	Urban Search and Rescue Teams (USAR)	25
J)	National Highway Authority Monsoon Contingency Plan – 2013	25
K)	Pakistan Railways	27
L)	Specimen-Daily Situation Report	27
M)	Important Contact Numbers	28

# List of Acronyms

AJK	Azad Jammu & Kashmir
AHQ	Air Force Headquarters
ACNS	Assistant Chief of Naval Staff
C&W	Communication & Works Department
DDMA	District Disaster Management Authority
DELSAP	Disaster Emergency & Logistics Simulation Application
DRR	Disaster Risk Reduction
DEOC	District Emergency Operations Center
DMA	Disaster Management Authority
DMC	Disaster Management Cell
DCAS	Deputy Chief of Air Staff
EAD	Economic Affairs Division
ERC	Emergency Relief Cell
ERU	Emergency Relief Unit
FCC	Flood Communication Cell
FFC	Federal Flood Commission
FATA	Federally Administered Tribal Areas
FFD	Flood Forecasting Division
FTS	Future Tek Solutions
FWO	Frontier Works Organization
FDMA	FATA Disaster Management Authority
GB	Gilgit-Baltistan
GHQ	Army General Headquarters
GoP	Government of Pakistan
GBDMA	Gilgit-Baltistan Disaster Management Authority
HCT	Humanitarian Country Team
HH	Household
HC	Humanitarian Community
IASC	Inter-Agency Standing Committee
ICT	Islamabad Capital Territory
ICRC	International Committee of the Red Cross
IFRC	International Federation of Red Cross & Red Crescent Societies
CDMA	Capital Disaster Management Authority
IRSA	Indus River System Authority
INGO	International Non-Governmental Organization
JSHQ	Joint Services Headquarters
KPK	Khyber Pakhtunkhwa
MIRA	Multi Cluster Initial Rapid Assessment
MRE	Meal Ready to Eat

MoFA	Ministry of Foreign Affairs
MO Dte.	Military Operations Directorate
MSA	Maritime Security Agency
NCM	National Coordination Meeting
NDMA	National Disaster Management Authority
NHQ	Naval Headquarters
NHN	National Humanitarian Network
NEOC	National Emergency Operations Centre
NFI	Non Food Item
NGO	Non-Governmental Organization
NHEPRN	National Health Emergency Preparedness and Response Network
NLC	National Logistics Cell
OCHA	UN Office for the Coordination of Humanitarian Affairs
O&M	Operations and Maintenance
PCIW	Pakistan Commission for Indus Water
PCM	Policy Coordination Meeting
PDMA	Provincial Disaster Management Authority
PEOC	Provincial Emergency Operations Center
PHF	Pakistan Humanitarian Forum
PMD	Pakistan Meteorological Department
PRCS	Pakistan Red Crescent Society
SDMA	State Disaster Management Authority (AJ&K)
SEOC	State Emergency Operations Centre
SITREP	Situation Reports
SUPARCO	Space and Upper Atmosphere Research Commission
UN	United Nations
UNGA	UN General Assembly
UNICEF	UN Children's Fund
UNFPA	UN Population's Fund
USAR	Urban Search and Rescue Team
WASH	Water, Sanitation and Hygiene
WAPDA	Water and Power Development Authority
WHO	World Health Organization
FFT	Flood Forecasting Telemetry System



# PREPARING FOR RESILIENCE

Pakistan is vulnerable to hazards of multiple nature and their frequent recurrence in recent years has significantly hampered our goal of sustained economic growth by causing massive losses to lives and property. Floods have been more frequent and damaging with substantial negative effect on our economy.

Although disaster management system is still in its nascent stage, yet we have made progress in mainstreaming disaster risk reduction in development processes, which will lead to greater resilience against potential disasters. Formulation of National Disaster Risk Reduction Policy and implementation of National Disaster Management Plan which includes strengthening of flood protection and early warning systems, is likely to significantly reduce flood risk.

Keeping in view the changing climatic conditions and frequent recurrence of unpredictable and extreme weather events during the monsoon season, it is critical that relevant stakeholders, particularly at the district level, are fully prepared to handle potential disaster situation. The monsoon contingency planning process has accordingly been executed through a bottom up approach whereby the district level authorities of flood prone districts, through the provincial governments, were assisted in undertaking their hazards and risk analysis, identify their needs, plan effective deployment of available resources and prepare their Contingency Plans for likely scenarios keeping in view the available long term seasonal weather forecasts. On the basis of provincial plans, NDMA has finalized the National Plan in consultation with all stakeholders, which will provide national response back up against situations which appear to be getting beyond Provincial/ Regional capacity.

I appreciate the role of Governments of all the four Provinces, State of Azad Jammu & Kashmir, Gilgit-Baltistan, Regional Authorities of FATA & ICT, as well as all Federal Organizations / Departments who contributed their respective Contingency Plans/inputs to finalize National Monsoon Contingency Plan.

I hope that our preparedness efforts and Contingency Plans for Monsoon Season, 2013 would minimize the negative impacts of rains and protect precious lives and property.



**Major General Saeed Aleem**  
Chairman NDMA





# Pakistan's Disaster Context

## Introduction

1. Pakistan is situated in Asian monsoon zone and receives rainfall due to seasonal currents, originating from Bay of Bengal. Pakistan in the last three years has experienced erratic Monsoon behavior causing massive flooding. Experts view this trend in the larger context of climate change phenomenon that manifests itself more frequently in Pakistan. Last twenty years data indicates that monsoon precipitation impact zone has gradually shifted 80 to 100 kilometers westwards towards Indus and Kabul basins in Khyber Pakhtunkhwa, from its traditional catchment areas in Kashmir.

2. Historically, Pakistan has experienced 13 major floods since independence in 1947. The super floods of 2010 were unprecedented while 2011-Rains/Floods in Sindh province were unique in their nature and magnitude. In 2012 again the country experienced inundation of a number of districts in Sindh, Balochistan and Punjab provinces due to torrential rains and hill torrents from Koh-e-Suleiman.

3. NDMA has been undertaking contingency planning for Monsoon season on annual basis. In view of lessons learnt during past three years, our preparedness and planning process revolves around measures required at local level to enhance district level capacities, particularly of more vulnerable ones so that the actual implementation level is fully geared to meet the challenges. The process was initiated at district level in March, while assimilation of those plans took place at the provincial level, before its culmination at the national level on 26-27 June 2013, in line with the weather outlook for monsoon season, issued by Pakistan Meteorological Department on 14<sup>th</sup> June 2013.

## Monsoon Hazards

4. During the last three consecutive years, Pakistan has faced flooding due to heavy monsoon rains. The floods of 2010 were riverine in nature, kicked off from northern parts of the country due to collision of western and eastern weather systems, affecting 78 districts of Pakistan. Flood-2011 occurred only in southern part of Sindh and eastern part of Balochistan

owing to heavy monsoon rainfall, while the rest of the country remained calm. 2012 floods were caused by hill torrents from Koh-e-Suleiman Range and very heavy rainfall in southern Punjab and northern Sindh.

5. Monsoon hazards in Pakistan, particularly riverine and flash floods normally occur between July and September. Various Monsoon and hydrological hazards are as under:

- **Riverine Floods** Tend to occur in the main Indus River System and its tributaries (Ravi, Sutlej, Chenab, Jhelum, Kabul) besides the secondary rivers (Swat, Tochi, Gabmilla, Haro, Kunhar, Nari, Kech, Naulang).
- **Flash Floods** Tend to occur along the mountainous regions adjoining the Indus River Basin, Kashmir, GB, KPK, Balochistan and South Punjab.
- **Hill Torrents** Tend to affect the hilly areas of the country especially areas around Kirthar and Koh-e-Suleiman Range.
- **Urban Floods** Tend to occur as a consequence of cloud burst, heavy monsoon rains or cyclones Lahore, Rawalpindi in Punjab, Karachi and Hyderabad, Peshawar are particularly vulnerable.
- **Tropical Cyclones** Tend to visit the coastal regions of Balochistan and Sindh during the months of May, June, September and October.

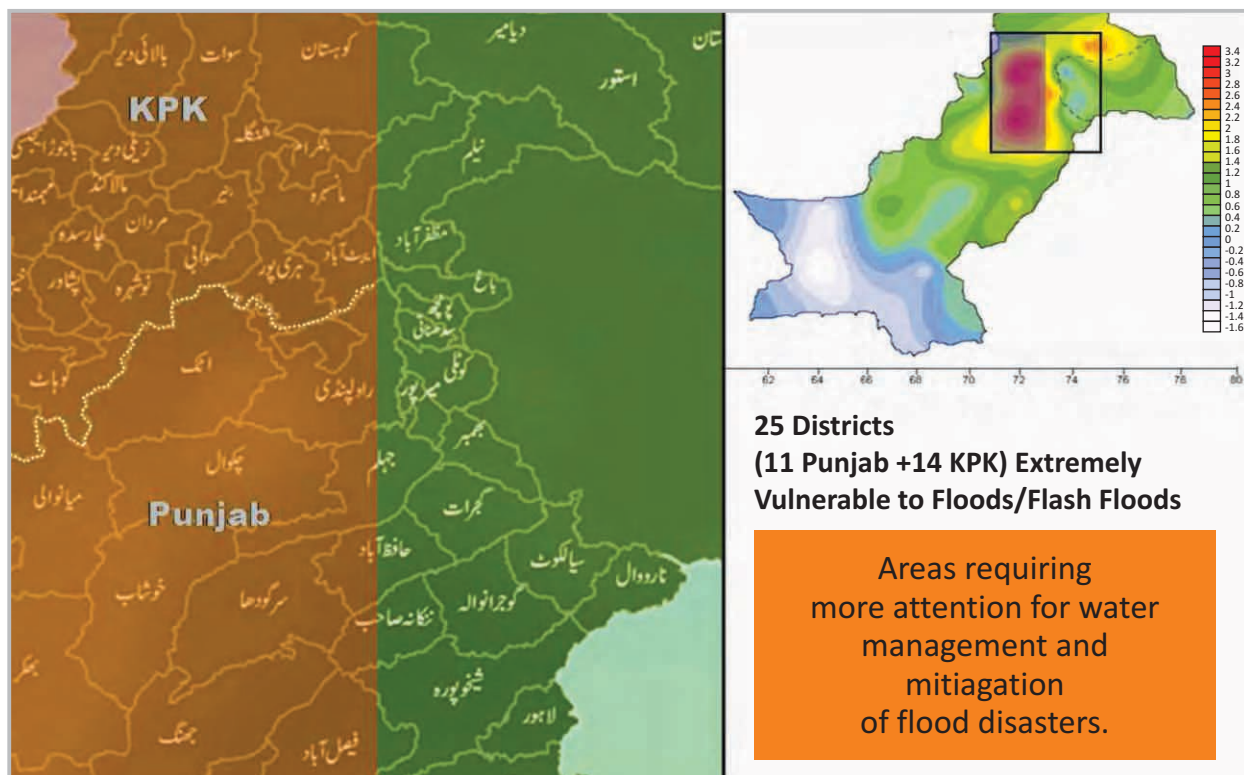
## Emerging Trends of Climate Change

- Shift in monsoon rainfall pattern from North – East to North- West.
- Rise in daily mean temperatures from 0.6 to 1.0 Celsius in the arid zones.
- Recurrence of extreme monsoon weather events like that of 1992 (Indus, Jhelum, and Chenab), 2001 (Nullah Lai flash flood), 2007 (Yemyin cyclone -coastal areas of Sindh and Balochistan), 2010 super floods (affecting 78 districts), 2011 (Heavy Rainfall in Sindh / Balochistan) and 2012 (Hill Torrents from Koh-e- Suleiman and excessive rain fall affected the confluence of the three provinces).

- Receding Hindu Kush, Karakoram and Himalayan Glaciers causing uncertain river flows in the Indus River System.

to be done. This has been identified as a priority area in the National Disaster Management Plan, on the basis of which land use planning and

### Monsoonal Weather Systems-Rainfall Shift Monsoon-Rainfall Trend (Westward Shift)



- Sea water intrusion into the Indus delta, causing loss of precious agricultural land, flora and fauna.

## Latent Vulnerabilities

- 2011 monsoon rain induced floods in southern Sindh, which does not directly fall in monsoon zone, had exposed a large segment of population who were traditionally considered to be safe from adverse effect of monsoon.
- New areas of eastern Balochistan and northern Sindh have been impacted by floods in 2010, 2011 and 2012 consecutively, thereby compounding their vulnerabilities.
- Population pressures have resulted in encroachments on river flood plains, thereby enhancing risks and vulnerabilities.
- Detailed flood plains mapping covering entire Indus River System, its tributaries and nullahs is yet

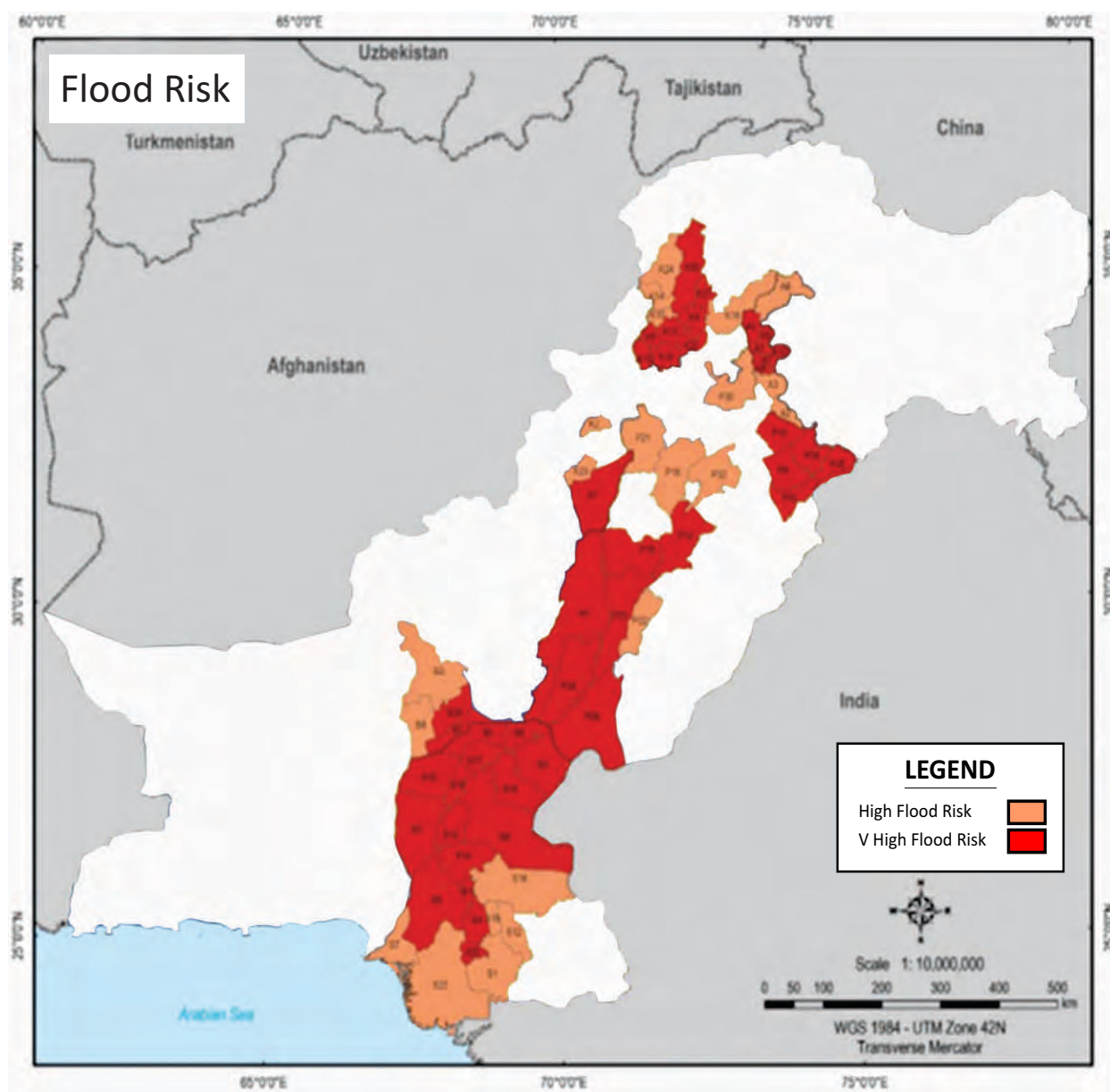
demarcation of waterways should be done to reduce risks from flood hazard.

- Widespread environmental degradation has reduced the flood water absorption capacities of catchment regions and accentuated downstream vulnerabilities.
- Limited capacity in weather and flood forecasting, particularly for flash floods, necessitates preparedness to meet unpredictable challenges.
- Insufficient surface storages/reservoirs to manage heavy river flows necessitate more extensive flood protection measures downstream.

## Data of Historical Flood Events

- The 63 years data of losses from floods in Pakistan have been covered in a table attached at "Annex A".

## Risk Mapping: Districts Vulnerable to Floods



B7	Jaffarabad	P9	Gujranwala	S5	Jacobabad	A5	Muzaffarabad
B20	Nasirabad	P10	Gujrat	S6	Jamshoro	A6	Neelum
K 2	Bannu	P12	Jhang	S7	Karachi	A7	Poonch
K4	Buner	P18	Leiah	S8	Kashmore	A8	Sudhnoti
K7	D.I. Khan	P21	Mianwali	S9	Khairpur	A9	Hattian
K5	Charsadda	P23	Muzaffargarh	S10	Larkana	A10	Haveli
K17	Mardan	P25	Narowal	S11	Mityari		
K18	Nowshera	P28	Rahim Yar Khan	S13	Naushahro Feroze		
K19	Peshawar	P29	Rajanpur	S17	Shikarpur		
K20	Swat	P33	Sheikhupura	S18	Sukkur		
K21	Shangla	S2	Dadu	S20	T. M. Khan		
K22	Swabi	S3	Ghotki	S22	Thatta		
P7	D.G. Khan	S4	Hyderabad	A1	Bagh		

## Weather Outlook-Monsoon Season 2013

Pakistan Meteorological Department (PMD) has issued the seasonal weather outlook for monsoon in Pakistan for the period from July to September 2013 as follows:

***"On all Pakistan basis this year's Monsoon rains are likely to be normal ( $\pm 10\%$  of the long period average), which means that the overall availability of water in the country from Monsoon rains would be satisfactory. However, erratic spread of Monsoon on temporal and spatial scale is likely to be prevalent feature."***

Main features of seasonal outlook are as under:-

- Onset of the monsoon is likely to be in the last week of June, 2013 and the ***rainfall during July will be below normal.***
- Rainfall will increase gradually during August over central parts of the country. However, ***during last phase of the monsoonal rainfall (September), more than normal rainfall will occur over plain monsoonal areas of Punjab and Sindh.***
- ***Rainfall activity would mainly concentrate over central and southern parts of the country.*** Therefore, effective water management practices may be adopted to fill the main reservoirs at optimum level.
- ***Flash flooding over foothills of Suleiman Range cannot be ignored during month of September, 2013.***
- Maximum day temperature will be slightly on higher side during summer season throughout the country.

**Note:** *This is a seasonal forecast with confidence level of 80%* and meant for the planning purpose only. Normal rainfall for the period July to September of Pakistan is 137.5 mm.

**SUPARCO's** analysis from its satellite imageries indicates at least 17% higher snow cover in 2013 as compared to previous years (2008 till 2012) and higher temperatures will result in increased river flows compared to previous years.

## Preparedness Consultations

- A number of consultation sessions and coordination meetings have been organized at all levels. However, high level meetings were organized recently in all provinces and regions to review level of preparedness of line departments and districts, consult relevant agencies on contingency plans and resolve outstanding issues. These high level meetings were held in respective Provinces/Regions which were chaired at the highest level while Chairman, NDMA along with his team and representatives of relevant federal agencies, provincial line departments, divisional / district authorities also participated.
- The first high level review meeting was organized in Muzaffarabad on 14<sup>th</sup> May, 2013. Meeting for Sindh was held at Karachi on 14<sup>th</sup> June, 2013. For Punjab and Khyber Pakhtunkhwa meetings were held on 17<sup>th</sup> June, 2013 in Lahore and Peshawar, respectively. Balochistan's contingency planning and preparedness meeting was held on 22<sup>nd</sup> June, 2013 at Quetta, while FATA and Islamabad Capital Territory's preparedness and contingency planning for monsoon season was reviewed in a meeting held on 24<sup>th</sup> June, 2013 at NDMA.
- In order to further consolidate and coordinate national preparedness for upcoming monsoon season, NDMA organized a two days National Conference on 26<sup>th</sup> & 27<sup>th</sup> June 2013 at Islamabad. All relevant federal and provincial agencies and stakeholders including humanitarian community shared their respective contingency plans during the conference. Based on the inputs from respective PDMA's, government departments and technical agencies NDMA has finalized the National Contingency Plan.

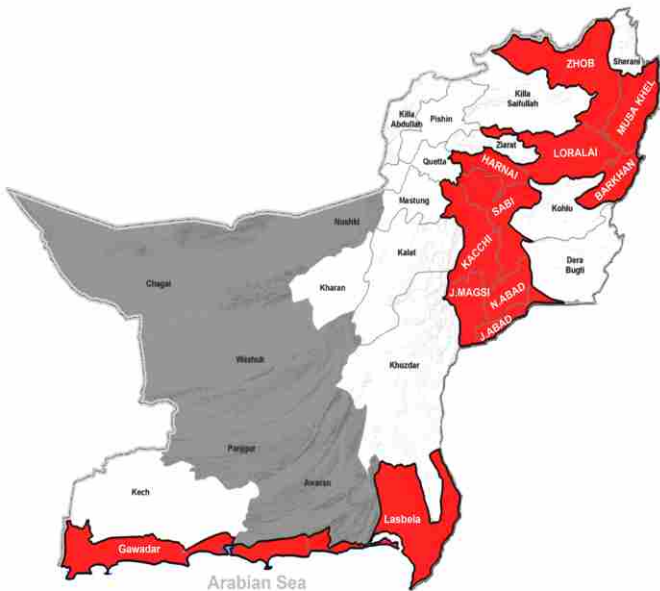


# Overview of Provincial / Regional Plans

Provincial/regional plans have been prepared by respective governments through PDMA's. Salient features of provincial / regional level of preparedness and plans are given in ensuing paragraphs.

# Balochistan

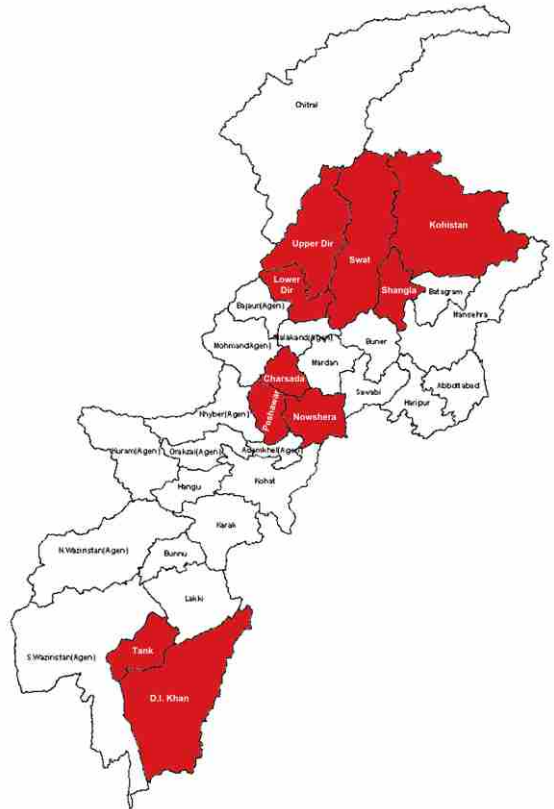
- Preparations are based on worst case scenario based on experience of Yemyin Cyclone 2007 in Balochistan.
- 14 out of 30 districts have been identified as most vulnerable to monsoon hazards and are indicated in red colour on the map.
- Plan anticipates relief caseload of **150,000 Households (HH) (104,600 population)** in worst case scenario based on - 2007 Yemyin Cyclone in 14 districts, while moderate case scenario is based on Floods-2012, for which Balochistan anticipates a caseload of **69,325 HHs** (485,275 population) in Eastern Districts of Naseerabad Division.
- Resource mapping has identified a gap of 71,589 in shelters.



- Safe evacuation sites have been identified and evacuation plan for vulnerable districts prepared along with an elaborate coordination mechanism.

# Khyber Pakhtunkhwa

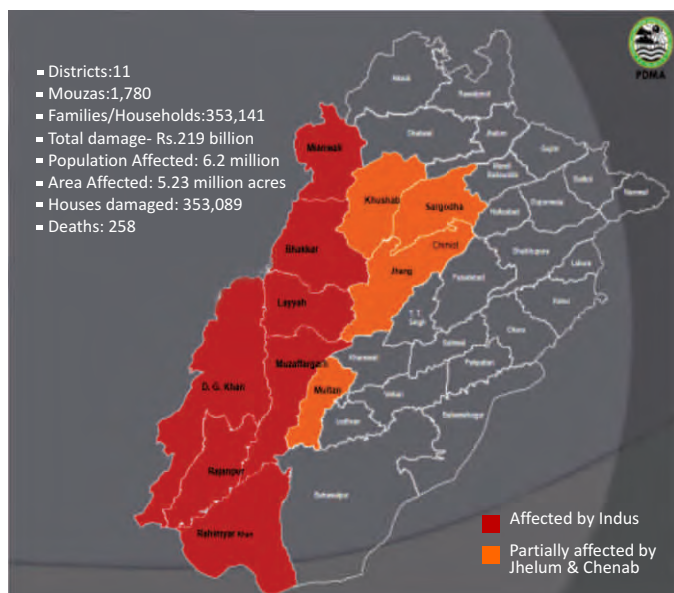
- **Preparations are based on experiences of Floods 2010.**
- 10 out of 25 districts have been identified as most vulnerable to monsoon hazards.



- Plan anticipates relief caseload of **564,521, 188,040 and 94,020 HH** in **worst, medium and low intensity floods scenarios** respectively.
- Resource mapping has **identified gap** for **worst (45,995), medium (15,995) and low floods (5,995)** scenarios.
- Early warning system has been specified and safe evacuation sites have been identified along with evacuation plans for vulnerable districts.
- Contingency Funds have been allocated for floods to PDMA and DDMA's in the province.
- Roles and responsibilities of various government departments have also been identified in detail.

## Punjab

- **Preparations are based on worst case scenario of Floods 2010.**
- 11 Out of 25 districts have been identified as vulnerable to monsoon hazards.



- Plan anticipates **relief caseload** of worst floods 2010 which is **353,141 HHs/families**.
- A Disaster Emergency & Logistics Simulation Application Punjab (DELSAP) has been prepared and incorporated in PDMA plan.
- Safe evacuation sites have been identified and evacuation plans for vulnerable districts prepared.
- Roles and responsibilities of various governments departments have been identified in detail.

## Sindh

- **Preparations are based on worst case scenario of Floods 2010 and Heavy Rains 2011.**
- All 27 districts have been identified as vulnerable to monsoon hazards.
- Plan anticipates **relief caseload** of **3.174 million population(453,429 HHs)**.
- 1,536 relief camps have been identified throughout the province along with evacuation plan for vulnerable districts.
- Plan outlines coordination mechanism, roles and responsibilities of different government departments and SOPs for response mechanism.



## AJ&K

- **Preparations are based on worst case scenario of experience of Floods / Rains 1992.**
- Vulnerabilities to monsoon for all 10 districts have been identified.



- Plan anticipates **caseload of 2,905 HH.**

- Safe camp sites have been identified and evacuation plan for vulnerable districts prepared.

## Gilgit Baltistan

- **Preparations are based on Flash Flood scenario** with back ground information of Floods 2010, 2011 and 2012.
- No caseload has been identified and therefore, no



gap has been mentioned.

- Detailed responsibilities of government departments have been covered in detail.
- Threat to all 7 districts has been identified.

## FATA

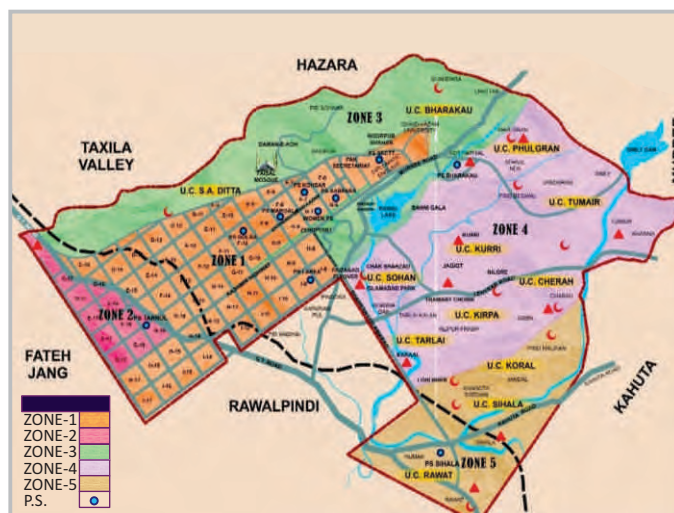


- **Preparations are based on worst case scenario of Floods 2010.**

- Vulnerabilities to monsoon for all 10 districts have been identified in detail.
- Plan anticipates **relief caseload of 55,893 HHs in worst case.**
- Plan outlines coordination mechanism, roles and responsibilities of different government departments and SOPs for response mechanism. (Summary of relief items with Provinces is attached at "Annex B").

## Islamabad Capital Territory

- Schools have been planned as relief camps in case of emergency.
- Provision of relief has been planned by the district administration from government funding.



- Vulnerable areas include Katchi Abadi along Nullas F-6, F-7, G-7, G-8, G-10, I-11 and settlements along Korang River downstream of Rawal Dam.



# National Contingency Plan

## Scenarios

- Two scenarios have been considered for the purpose of calculating caseloads for the National Contingency Plan as under:-
- Likely Scenario.** While the possibility of riverine floods, as per PMD forecast is fairly low, the likelihood of hill torrents, flash floods and a freak phenomenon of heavy rainfall within a short span of time cannot be ruled out. Such a scenario bears potential to adversely impact the mid regions of the country as in year 2012. The areas likely to be affected are Southern Punjab, Northern Sindh and



Eastern Balochistan including the districts of Rajanpur, DG Khan, Muzaffargarh, Nasirabad, Jaffarabad, Kashmore, Shikarpur, Jacobabad and surrounding areas. Therefore, the likely scenario is premised on the case load of 2012 floods with requisite cushion ( 50 % of 2012 Floods Caseload) to address an unpredictable spike in monsoon

rains. Caseloads of recent floods are indicated below.

Year	Balochistan	KPK	Punjab	Sindh	FATA	AJ&K	GB	Total
2007	1.7 M	-	-	-	-	-	-	19.06M
2010	0.9 M	2.9 M	7.32 M	6.74 M	0.24 M	0.8 M	0.16 M	8.38 M
2011	0.18 M	-	-	8.2 M	-	-	-	4.77 M
2012	0.8 M	-	0.8 M	3.17 M	-	-	-	

- Worst Case Scenario.** The worst case scenario is premised on the worst flood of the province / region which are Cyclone 2007 for Balochistan, 2011 heavy monsoon rains for Sindh and Floods 2010 for the rest of the country. The caseloads for worst case scenario are as under:-

Province	Benchmark Year	Caseload
Balochistan	2007	1.7 M
Punjab	2010	7.32 M
KPK	2010	2.9 M
Sindh	2011	8.2 M
AJ&K	2010	0.8 M
GB	2010	0.16 M
FATA	2010	0.24 M
<b>Total</b>	<b>-</b>	<b>21.32 M</b>

Source : DNA 2010, 2011

## Planning Parameters

- As per PMD forecast rainfall activity would mainly concentrate over central and southern parts of the country. Rainfall will increase gradually during August over central parts of the country. During last phase of the monsoon rainfall (September), more than normal rainfall will occur over plain monsoon areas of Punjab and Sindh. However, the forecast for year 2013 is marginally better as compared to the year 2012. **Following conclusions can be drawn from the seasonal forecast and level of preparedness:-**
  - Riverine floods are less likely.
  - Possibility of rain induced emergencies, especially around the confluence of Punjab, Sindh and Balochistan, due to hill torrents from Koh-e-Suleimen cannot be ruled out.
  - Level of preparedness of flood protection



structures, as indicated by FFC and Irrigation Departments has marginally improved.

- o Level of preparedness of Disaster Management Authorities, especially of Districts that are vulnerable to floods, have been improved through capacity building programs organized from April to July 2013. **Hence for likely scenario, case load of 2012 has been taken as the base line for the provinces of Balochistan, Punjab and Sindh and adequate preparedness to take on a low level disaster in the remaining country.**
- o However, in order to cater for unexpected spike in monsoon rain and consequent flooding, capacity needs to be built to enable transition to a potentially more acute emergency. For this purpose an additional capacity equaling 50% case load of 2012 will have to be catered for, as national reserve, within NDMA.
- o Provinces / Regions are expected to meet the needs of their respective case loads, for the likely scenario, from within their own resources. NDMA and other agencies will facilitate in generating additional resources in case the magnitude of disasters exceeds local / provincial capacities.
- o The contingency planning will cater for the humanitarian needs of the affected population for four weeks i.e. the time required to mobilize additional resources, if needed.
- o Following aspects have also been factored into calculating the case loads :-
  - ♦ The preparatory measures on DRR, undertaken so far, are likely to considerably reduce / mitigate the likelihood of floods and its adverse consequences.
  - ♦ The national capacities for production of Shelter, Food, Non Food Items and Water and Sanitation have been taken into account in determining stocking levels to be maintained for four weeks.
  - ♦ UN system has indicated that, owing to donor fatigue, their stocking position within the country is fairly low and therefore any support in the initial phases of a disaster may not be of the desired level.
- o The calculations of essential relief commodities have been made on following rationales :-
  - ♦ **Shelter.** 50% of affected population is likely to be either shifted in built up structures e.g. Schools, Government Buildings etc, as already earmarked or hosted by their relatives / local communities and therefore shelter

arrangements in the shape of tents / tarpaulins etc will be needed for remaining population .

- ♦ **Mosquito Net.** One large mosquito net each for two persons will be needed for entire affected population.
- ♦ **Blankets.** Owing to weather dictates in the period July to October, a summarized blanket requirement is estimated at only 25% of the affected population.
- ♦ **Food.** The entire affected population i.e. each household based on average of (7 x persons per family) will have to be provided food for four weeks i.e. 2 x food packs (53Kg ) each per household.
- ♦ **Water.** The provision of safe drinking water will primarily be ensured through water purification tablets for 75% population while limited number of filtration plants for the remaining 25% population will be catered for in large camps. Provision of mineral water bottles etc, being an expensive option, may be resorted to for a short period only under an extreme emergency situation. Provinces / Regions are expected to cater for the needs of their likely scenarios. The calculations reflected in this document, cater for NDMA reserve capacity only.
- ♦ **Transportation.** The transportation cost has been calculated for the existing / proposed reserve stocks of NDMA only. The actual cost may be at variance from the reflected costs, depending upon the intensity and geographic spread of the disaster.

## Broad Contours of the Plan

- Respective DDMA's, backed by PDMA's would be the first responders in case of flood situation.
- Early warning of approaching weather system will be provided by PMD / FFD and communicated to all concerned by DDMA's. DDMA's are expected to translate weather forecast and flood warnings into usable early warning for vulnerable communities and ensure its timely dissemination to all concerned.
- Threatened population will be evacuated by DDMA's as per prepared plan.
- DDMA's would be responsible for provision of search and rescue, medical and emergency responses.
- Camps will be established at pre-selected sites by DDMA's.

- All Provinces must be ready to handle the initial caseloads within their own mechanism and resources.
- DDMA's would be responsible for effective and transparent relief distribution including relief provided by PDMA's or NDMA.
- All stake holders would take necessary actions to facilitate early recovery and rehabilitation of affected population.
- In case the Provinces fall short of meeting the humanitarian needs, NDMA will assist by making available the required stocks from national reserves, prepositioned across the country.
- When required Armed Forces may be requested for assistance by the respective district / provincial / national level disaster management authorities at any stage, particularly for rescue, evacuation and emergency relief phases.
- Special requirements of Aviation / Naval support by any agency will be coordinated through NDMA.
- Resources of government departments and agencies such as, Pakistan Red Crescent Society and domestic philanthropy may be requisitioned, if the intensity of the situation so entails for an effective response.
- The international community and the United Nations would only be requested for assistance through NDMA if and when the situation develops beyond national coping capacity.
- The process to initiate request for any external assistance including UN will be initiated by NDMA, in consultation with concerned provincial Government, MoFA, EAD and other agencies, as a last resort only and with prior approval of GoP.

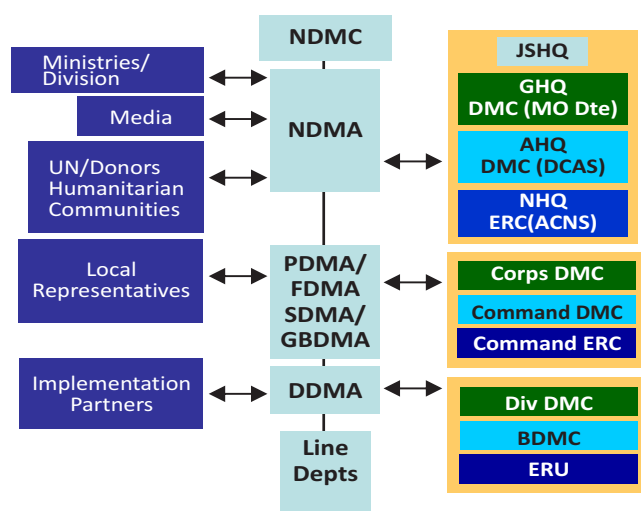
## Triggers for Response

NDMA will intervene in following circumstances:

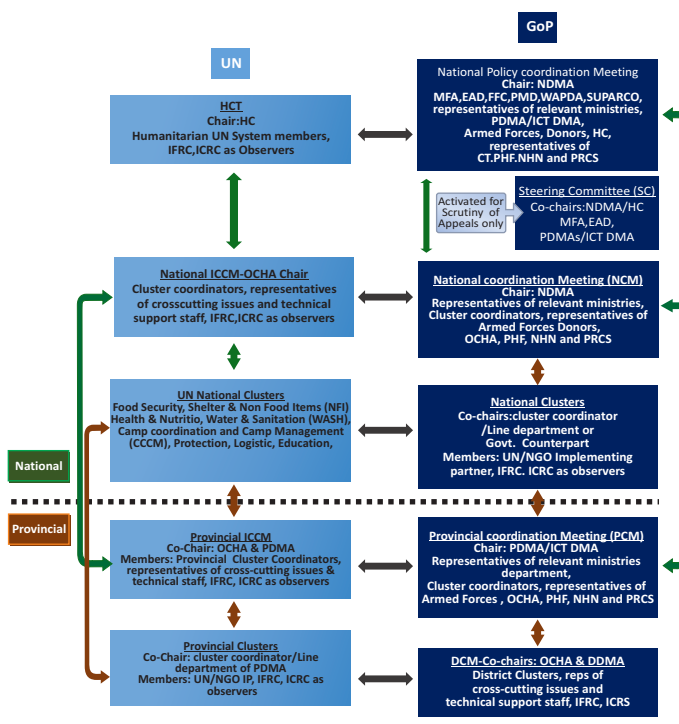
- DDMA's are unable to cope with the situation and have used up all of their resources while PDMA's are nearing depletion of the indicated stocks.
- One or more provinces/regions of Pakistan are affected by a high intensity disaster.
- The magnitude of the disaster, even if localized, is severe enough to warrant a national response to cope with the situation.
- Multi Sector Initial Rapid Assessment (MIRA) indicates large scale damages / losses warranting national intervention (Details of MIRA mechanism are at "Annex D").

## Coordination Mechanism

- NDMA will coordinate with key national stakeholders including PMD, FFC, Armed Forces, Federal Agencies, PDMA's and Provincial Governments for management of the entire spectrum of national disaster responses.
- System of coordination of NDMA is depicted below.



- NDMA has following interface with federal, provincial and international organization (Details are at "Annex E").



# Stocking Levels and Financial Requirements for Relief

## Likely Scenario

**Provinces/Regions (Vulnerable Population-5.488M )**

### Balochistan (Caseload – 0.8 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	5,911	57,143	51,232	486.7 M
Food Packs(100% Caseload for four weeks)	Nil	228,572	228,572	914.3 M
Blankets(25% Case load)	6,000	200,000	194,000	97 M
Mosquito Nets (50% Case load)	Nil	400,000	400,000	120 M
<b>Total</b>				<b>1,618 M</b>

### Khyber Pakhtunkhwa (Caseload – 0.658 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	16,229	47,000	30,771	292.3 M
Food Packs(100% Caseload for four weeks)	Nil	188,000	188,000	752 M
Blankets(25% Case load)	5,300	164,500	159,200	79.6 M
Mosquito Nets (50% Case load)	1,905	329,000	327,095	98.13 M
<b>Total</b>				<b>1,222.03 M</b>

### Punjab (Caseload – 0.8 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	20,964	57,143	36,179	343.7 M
Food Packs(100% Caseload for four weeks)	4,461	228,572	224,111	896.44 M
Blankets(25% Case load)	15,500	200,000	184,500	92.25 M
Mosquito Nets (50% Case load)	Nil	400,000	400,000	120 M
<b>Total</b>				<b>1,452.39 M</b>

### Sindh (Caseload – 3.17 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	19,455	226,429	206,974	1,966.3 M
Food Packs(100% Caseload for four weeks)	10,400	905,714	895,314	3,581.3 M
Blankets(25% Case load)	46,000	792,500	746,500	373.3 M
Mosquito Nets (50% Case load)	1,350	1,585,000	1,583,650	475.1 M
<b>Total</b>				<b>6,396 M</b>

### FATA (Caseload – 0.024 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	Nil	1,714	1,714	16.3 M
Food Packs(100% Caseload for four weeks)	Nil	6,858	6,858	27.4 M
Blankets(25% Case load)	Nil	6,000	6,000	3 M
Mosquito Nets (50% Case load)	Nil	12,000	12,000	3.6 M
<b>Total</b>				<b>50.3 M</b>

### Azad Jammu & Kashmir (Caseload – 0.02 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	1,900	1,429	+471	Nil
Food Packs(100% Caseload for four weeks)	Nil	5,714	5,714	22.9 M
Blankets(25% Case load)	9,500	5,000	+4,500	Nil
Mosquito Nets (50% Case load)	Nil	10,000	10,000	3 M
<b>Total</b>				<b>25.9 M</b>

### Gilgit-Baltistan (Caseload – 0.016 M)

Items	Held	Need	Gap	Cost
Shelters(50% HH)	Nil	1,143	1,143	10.86 M
Food Packs(100% Caseload for four weeks)	375	4,572	4,197	16.8 M
Blankets(25% Case load)	3,810	4,000	190	0.095 M
Mosquito Nets (50% Case load)	Nil	8,000	8,000	2.4M
<b>Total</b>				<b>30.16 M</b>

### National Reserve Stocks (For 2.744 M which is 50% of all Provincial /Regional case load)

Items	Held*	Need	Gap	Cost
Shelters	92,998	196,000	103,002	978.52 M
Food Packs	Nil	784,000	784,000	3,136 M
Blankets	111,486	686,000	574,514	287.3 M
Mosquito Nets	56,104	1,372,000	1,315,896	394.8 M
Water (Calculation underneath)	-	-	-	346.39M
Transport	-	-	-	216.65M
				<b>5,359.7 M</b>

\*Includes NDMA and ERC stocks

### Water

Items	Held	Need	Gap	Cost
Purification Plants	42	422	380	247 M
Purification Tablets	1.3 M	24.696 M	23.396 M	46.79 M
Misc.	-			50 M
<b>Total</b>				<b>346.39 M</b>

### Total Needs

Items	Caseloads	Items			
		Shelters	Food Packs*	Blankets	Mosquito Nets
BALUCHISTAN	0.8M	57,143	228,572	200,000	400,000
KPK	0.658M	47,000	188,000	164,500	329,000
PUNJAB	0.8M	57,143	228,572	200,000	400,000
SINDH	3.17M	226,429	905,714	792,500	1,585,000
FATA	0.024M	1,714	6,858	6,000	12,000
AJ&K	0.02M	1,429	5,714	5000	10,000
GB	0.016M	1,143	4,572	4000	8000
<b>TOTAL</b>	<b>5.488M</b>	<b>392,001</b>	<b>1,568,002</b>	<b>1,372,000</b>	<b>2,744,000</b>
NDMA (@ 50%)	2.744M	196,000	784,000	686,000	1,372,000
<b>GRAND TOTAL</b>	<b>8.232M</b>	<b>588,001</b>	<b>2,352,002</b>	<b>2,058,000</b>	<b>4,116,000</b>

\*Food Packs – 2 packs for each Household. Contents of food pack at Annex C



## Total Deficiency

Provinces	Caseloads	Items			
		Shelters	Food Packs*	Blankets	Mosquito Nets
BALUCHISTAN	0.8M	51,232	228,572	194,000	400,000
KPK	0.658M	30,771	188,000	159,200	327,095
PUNJAB	0.8M	36,179	224,111	184,500	400,000
SINDH	3.17M	206,974	895,314	746,500	1,583,650
FATA	0.024M	1,714	6,858	6,000	12,000
AJ&K	0.02M	+471	5,714	+4,500	10,000
GB	0.016M	1,143	4,197	190	8,000
<b>TOTAL</b>	<b>5.488M</b>	<b>327,542</b>	<b>1,552,766</b>	<b>1,285,890</b>	<b>2,740,745</b>
NDMA (@ 50%)	2.744M	103,002	784,000	574,514	1,315,896
<b>GRAND TOTAL</b>	<b>8.232M</b>	<b>430,544</b>	<b>2,336,766</b>	<b>1,860,404</b>	<b>4,056,641</b>

\*Food Packs – 2 packs for each Household. Contents of food pack at Annex C

## Financial Needs

Provinces	Items						
	Shelters	Food Packs	Blankets	Mosquito Nets	Water	Amount Req.	Allocation/Availability
BALUCHISTAN	486.7 M	914.3 M	97 M	120 M	-	1,618 M	3.8 M
KPK	292.3 M	752 M	79.6 M	98.13 M	-	1,222.03 M	1.95 M
PUNJAB	343.7 M	896.44 M	92.25 M	120 M	-	1,452.39 M	3.8 B
SINDH	1,966.3 M	3,581.3 M	373.3 M	475.1 M	-	6,396 M	-
FATA	16.3 M	27.4 M	3 M	3.6 M	-	50.3 M	-
AJ&K	-	22.9 M	-	3M	-	25.9 M	3 M
GB	10.86 M	16.8 M	0.095 M	2.4M	-	30.16 M	7 M
<b>TOTAL</b>	<b>3,116.16 M</b>	<b>6,211.14 M</b>	<b>645.245 M</b>	<b>822.23 M</b>	-	<b>10,794.78 M</b>	-
NDMA	978.52 M	3,136 M	287.3 M	394.8 M	346.39 M	5,359.7 M*	1.3 B
<b>GRAND TOTAL</b>	<b>4,094.68 M</b>	<b>9,347.14 M</b>	<b>932.545 M</b>	<b>1,217.03 M</b>	<b>346.39 M</b>	<b>16,154.48 M</b>	-

\* Figure includes transportation of NDMA stocks (Rs 216.65 M)

## Worst Case Scenario

Provinces/Regions (Vulnerable Population – 21.32 M )

### Total Needs

Provinces	Caseloads	Items			
		Shelters	Food Packs	Blankets	Mosquito Nets
BALUCHISTAN	1.7 M	121,429	485,714	425,000	850,000
KPK	2.9 M	207,143	828,572	725,000	1,450,000
PUNJAB	7.32 M	522,857	2,091,428	1,830,000	3,660,000
SINDH	8.2 M	585,714	2,342,858	2,050,000	4,100,000
FATA	0.24 M	17,143	68,572	60,000	120,000
AJ&K	0.8 M	57,143	228,572	200,000	400,000
GB	0.16 M	11,429	45,714	40,000	80,000
<b>TOTAL</b>	<b>21.32 M</b>	<b>1,522,858</b>	<b>6,091,430</b>	<b>5,330,000</b>	<b>10,660,000</b>

Note: Depending upon the existing stocking levels for 'Likely Scenario' the actual need for worst case scenario is likely to reduce considerably.

### Water

Items	Held	Need	Gap	Cost
Water Filtration Plants	42	3,280	3,238	2104.7 M
Tablets	1.3 M	191.88 M	190.58 M	381.16 M
Misc	-	-	-	50 M
<b>Total</b>	-	-	-	<b>2535.86 M</b>

## Financial Needs

Provinces	Items						
	Shelters	Food Packs	Blankets	Mosquito Nets	Water	Amount Req.	Allocation/Availability
BALUCHISTAN	1097.42 M	1942.9 M	209.5 M	255 M	-	3,504.82 M	3.8M
KPK	1813.7 M	3,314.3 M	360 M	434.4 M	-	5,922.4 M	1.95M
PUNJAB	4768 M	8,347.9 M	907.3 M	1098 M	-	15,121.2 M	3.8B
SINDH	5380 M	9,329.8 M	1002 M	1229.6 M	-	16,941.4 M	-
FATA	162.9 M	274.3 M	30 M	36 M	-	503.2 M	-
AJ&K	524.8 M	914.3 M	95.3 M	120 M	-	1,654.4 M	3M
GB	108.6 M	181.4 M	18.1 M	24 M	-	332.1 M	7M
<b>TOTAL</b>	<b>13855.42 M</b>	<b>24,304.9 M</b>	<b>2622.2 M</b>	<b>3197 M</b>	<b>2535.86M</b>	<b>47,976.39 M*</b>	<b>-</b>

\*Figure includes Transportation Charges of NDMA stocks (Rs. 1461.01 M)

**Note:** In case preparation for Likely Scenario is complete, the actual need for “Worst Case Scenario” would be (Rs. 47,976.39 - Rs. 16,154.48 M) Rs 31,825 M

# National Capacities

## Mitigation

- **Ministry of Water and Power.** The ministry is responsible for the overall flood management and impact mitigation efforts through its attached departments (FFC, WAPDA, PCIW and IRSA). The Ministry deals with monitoring of preventive and preparedness measures as well as resource allocation for the flood protection works.
- Federal Flood Commission implements Floods Risk Mitigation projects which include flood protection works as well as flood forecasting/warning system improvements. As part of preparedness measures for Monsoon Season 2013, FFC has undertaken the following:-
  - o Countrywide monitoring of flood works.
  - o Comprehensive Flood Management Plan for 10 years initiated.
  - o In case of Exceptionally High Floods, part of the discharges are managed by breaching the bunds on the pre-determined sites for safety of the main Hydraulic Structures (Bridges & Barrages) and main cities.
- **Water & Power Development Authority (WAPDA).** Reinforces floods impact mitigation through operational management of major water reservoirs i.e. Tarbela, Mangla Dams and Chashma Barrage. It reinforces national floods early warning system through deployment of flood telemetry system. Details of Flood Telemetry & HF Radio

Systems are at “Annex F”.

- **Pakistan Commissioner for Indus Waters (PCIW).** PICW is responsible for making arrangements with India for advance information on flood inflows from the eastern rivers. PCIW has requested India to provide advance information on inflows in:
  - o Chenab, Ravi, Beas, Sutlej.
  - o Inflows and reservoir levels of Bhakra, Pong and Thein dams; and Salal Hydroelectric Plant on Chenab.
- **Indus River System Authority (IRSA).** Defines the dam / water storage and release policy as part of its mandate during the Rabi & Kharif seasons.
- **Provincial Irrigation Departments.** Undertake implementation of flood protection works, monitor flow in flood prone rivers and water channels, reinforce floods early warning and execute technical responses, O&M of existing flood protection infrastructure besides restoration and repair of damaged flood protection works.

## Early Warning

- **PMD** has a broad mandate of supporting agro-based economic activities, air and maritime traffic safety, disaster mitigation efforts and disseminating weather forecasts to numerous end users. PMD will ensure the following during monsoon season:
  - o Inform public on the weather forecast and issue

warning in case of potential threat.

- o Collect rain data on a regular basis, consolidate and share it with all concerned.
- o Disseminate flood information to the National/ Provincial DMAs on a daily basis during flood season.
- o Share weather forecasts and early warning information with NDMA, F/G/S/PDMAs, and the media on a regular basis in the monsoon period.
- o Coordinate with FFC, FWC, WAPDA, PCIW, FFD, and SUPARCO in the monsoon period to generate flood warning where warranted.
- **FFD** is an affiliated organization of PMD. It disseminates flood early warning and river flow updates to relevant national, provincial and district governments and national Response Agencies, especially in the context of monsoon season.
- **SUPARCO** deploys its satellite imagery capacities for disaster impact mitigation and also for early warning of disaster occurrence and trends monitoring. SUPARCO will play the following role during monsoon season:-
  - o Provide remote sensing and satellite maps before and during disasters in order to show their impact.
  - o Provide remote sensing and satellite maps for hazard risk zones to enable relevant agencies to take measures for minimizing damage to population and property.
  - o Assist post-disaster damage assessment.

## Response Agencies

- **Armed Forces.** Mobilize and deploy resources when called upon by district / provincial / national DMAs and provide assistance in search & rescue, evacuation, camps establishment and management, provision & distribution of relief to the affected populations and provision of emergency medical services. The Corps / Army flood control centers will also share information on resource deployment and flood management with respective PDMAs / NDMA on daily basis. Summary of Flood relief equipment available is at "Annex G".
- **Maritime Security Agency.** Reinforces early warning and contributes to seaborne /coastal search & rescue and relief operations.

- **Pakistan Coast Guards.** Augments coastal search & rescue and relief operations on required basis.
- **Emergency Relief Cell (Cabinet Division).** ERC maintains stocks of emergency relief stores and is mandated to complement national efforts in the area of relief besides coordinating disbursement of compensation for losses on such occasions at federal level. ERC has the 6<sup>th</sup> Aviation Squadron for rescue and relief operations.
- **National Health Emergency Preparedness and Response Network (NHEPRN).** NHEPRN is a coordinating body working under Ministry of National Health Services & Coordination, responsible to coordinate with all stake holders for the provision of health care services during emergency situation through provincial health departments and humanitarian partners. For a case load of 4.77 M affected population, around 2.39 M (50% of case load) is likely to be in need of health care services to be provided by Provincial Health Departments as first responders. In current scenario NHEPRN does not hold any significant stocks of its own to mount any effective response at the federal level to back up the provincial efforts, which needs to be developed. However, WHO has shown its commitment for the provision of essential medical care for 02 M affected people if needed. Details of stocks, of WHO and Humanitarian Cluster are reflected at "Annex H".
- **Emergency Services - Rescue 1122.** Rescue 1122, where available, will provide valuable support in rescue and relief of affected communities. Rescue 1122 is well organized in Punjab, covering all Districts which is now being expanded to Tehsil level. It has been established in Peshawar and Mardan Districts of KPK with plans to expand to other Districts. AJK and GB have also introduced the services on limited scale. Govt. of Balochistan is also planning to introduce a rescue service.
- **Urban Search and Rescue (USAR) Teams.** USAR teams positioned across the country have specialized capacity for search and rescue, particularly in collapsed structures. Urban search and rescue is considered a "multi hazard" discipline, as it is needed for a variety of emergencies, or disasters, including floods, earthquakes and technological accidents etc. NDMA has facilitated in raising and training of three heavy and three medium USAR teams in the country. At present these are located at Islamabad, Karachi, Mardan (Rescue 1122), Gilgit and Lahore (Rescue 1122) with one under the Army. Details

attached at “Annex I”.

- **PRCS.** Disaster Management is the core area of work of the PRCS. PRCS works as auxiliary to the government and supplements its efforts in providing humanitarian services to the most vulnerable. PRCS is spread over the entire country with main branches in all Provinces and Regions. These branches are further subdivided into district branches: 2 in Gilgit Baltistan, 3 in AJ&K, 24 in KP, 34 in Punjab, 13 in Balochistan and 16 in Sindh. PRCS has well-stocked stores capable of catering for 28600 Households. Some of the major resources / stocks held with PRCS are:-

- Ambulances - 103 (9 in Islamabad, 10 in KP, 27 in Punjab, 26 in Sindh, 18 in Balochistan, 2 in GB, 10 in AJ&K, 1 in FATA)
- Blood Banks - 7
- Health Units - 130
- Tents - 39601
- Blankets - 239078

- **National Highways Authority (NHA).** NHA is responsible for building and maintaining highways and motorways in Pakistan. It ensures road access during monsoon season. As part of preparedness measures for Monsoon Season 2013, measures taken by NHA are attached as “Annex J”.
- **Pakistan Railways.** Pakistan Railways is an important organ which ensures access during monsoon season. To deal with a possible flood situation, Flood Emergency Centers have been established on 7-Operating Divisions of Pakistan Railways (Peshawar, Rawalpindi, Lahore, Multan, Sukkur, Quetta and Karachi) w.e.f.15 June 2013 and are working round the clock in three shifts in the control offices of the respective divisions. Some of the measures taken by Pakistan Railways are attached at “Annex K”.
- **NLC.** Plans and organize movement of logistics from base(s) to affected areas on request from NDMA and designates a representative to the NEOC. If needed, it can engage private transport agencies for ensuring smooth transportation of relief goods to affected areas.
- **United Nations System and Humanitarian Community** The Humanitarian Country Team (HCT) for Pakistan, in adherence to the IASC guidelines has developed a Preparedness and Response Plan for Monsoon Season-2013. As part of preparedness activities the UN System has following stocks:-

- o Tents - 16392 tents
- o Tarpaulin - 77892
- o Blankets - 213,730
- o As the food is perishable, stock piling for contingency is not undertaken.
- o For water borne rescue operations and other related activities 32 boats are available.

## Roles & Tasks of DMAs

### • NDMA

- o National Emergency Operations Center (NEOC) is activated at NDMA, Islamabad for monitoring of the situation and coordination of possible response during monsoon season-2013, on 24/7 basis. The NEOC is always be manned by a duty officer, who functions under the overall supervision of Director (Response), NDMA. The contact details of NEOC are as follows: **Tel # 051-9205037 and 111-157-157. Fax # 051-9205086.**
- o Coordinate emergency response of the federal government in the event of a national level disaster through the National Emergency Operations Centre (NEOC).
- o Require any government department or agency to make available such staff or resources that are available for the purpose of emergency response, rescue and relief.
- o Organize initial and subsequent assessment of disaster affected areas and determine the extent of loss /damage and volume of relief required.
- o Coordinate and inform all concerned departments to get prepared for emergency response. Keep print and electronic media updated on a regular basis.
- o Coordinate with Armed Forces.
- o Coordinate with I/NGOs, UN bodies and philanthropist Organizations for resource mobilization.
- o Mobilize and deploy resources, e.g., search and rescue medical teams in the affected areas.
- o Supply of food, drinking water, medical supplies and non-food items to the affected population.
- o Prepare a transition plan from relief to recovery Program.
- o Organize regular media and public information briefings.



- o Prepare Situation Reports (SITREP) on daily and weekly basis and circulate to all concerned as per “Annex L”.
- o Consistent with the needs and national policies NDMA also coordinates responses of UN Agencies and the larger humanitarian community.
- **Provincial/Regional DMAs**
  - o The Provincial Emergency Operations Centers (PEOC) are activated at respective PDMA during monsoon season to respond to any threatening disaster situation or disaster.
  - o Coordinate emergency response in the event of a disaster, through the Provincial/Regional Emergency Operation Centre (P/R/EOC).
  - o Disseminate early warning information to all stakeholders.
  - o Conduct rapid assessment and launch quick response.
  - o Collect information on damage status through DDMA and promptly plan for the resource requirement for relief operation and share it with NDMA.
  - o Provide food, drinking water, medical supplies, and non-food items to the affected population.
  - o Keep NEOC abreast of the latest situation.
  - o Warn all concerned departments to prepare for emergency response.
  - o Coordinate with NDMA and Armed Forces and keep them informed on the situation and resource mobilization.
  - o Keep print and electronic media updated on a regular basis.
  - o Coordinate with districts to mobilize community volunteer groups for emergency operations.
  - o Organize regular media and public information briefings.
  - o Forward Situation Reports (SITREP) on daily and weekly bases to all concerned .
  - o Organize initial and subsequent assessment of disaster affected areas and determine the extent of loss/ damage and volume of relief required.
- **DDMAs**
  - o DDMAs shall activate District Emergency Operations Centers (DEOCs).
  - o In the event of a disaster, organize emergency response through the District Emergency Operation Centre (DEOC).
- o Setup early warning mechanisms and dissemination of proper information to public, prepare district level response plans and guidelines, establish stockpiles of relief and rescue materials; provide information to provincial authority on different aspects of disaster management.
- o Inform P/R/SEOC and NEOC of the situation.
- o Organize evacuation on priority basis.
- o Conduct initial and subsequent assessment of disaster affected areas and determine the extent of loss and damage.
- o Collect information on damage status and promptly plan for the resource requirements for relief operation and share it with the PDMA and NDMA.
- o Provide food, drinking water, medical supplies, and non-food items to the affected population.
- o Deploy medical, search and rescue and emergency response teams immediately.
- o Set up relief camps and provide relief in the camps.
- o Coordinate with F/G/S/PDMAs and NDMA to deploy resources for emergency response.
- o Mobilize community volunteer groups for emergency operations.
- o Liaise with NGOs, philanthropist Organizations for resource mobilizations for response.
- o Develop a complaint mechanism system and set up the complaint mechanism cell in the DEOC and at the sub district level.
- o Hold regular media and public information briefings.
- o Forward Situation Reports (SITREP) on daily and weekly basis to all concerned.
- o Maintain a database of the Registration of all relocated population in camps and overall affected population on gender segregated basis.
- o Prioritize vulnerable segments of society in their relief operations.
- o Facilitate early return of relocated population and help in restoring their lives and livelihoods.
- **Important Contact Numbers:** “Annex M”

# Annexes

## Annex A

### Data of Historical Flood Events

Sr. No.	Year	Direct Losses (US\$ million)	Lost lives (No)	Affected villages (No)	Flooded area (Sq-km)
1	1950	227	2,190	10,000	17,920
2	1955	176	679	6,945	20,480
3	1956	148	160	11,609	74,406
4	1957	140	83	4,498	16,003
5	1959	109	88	3,902	10,424
6	1973	2,388	474	9,719	41,472
7	1975	318	126	8,628	34,931
8	1976	1,621	425	18,390	81,920
9	1977	157	848	2,185	4,657
10	1978	1,036	393	9,199	30,597
11	1981	139	82	2,071	4,191
12	1983	63	39	643	1,882
13	1984	35	42	251	1,093
14	1988	399	508	100	6,144
15	1992	1,400	1,008	13,208	38,758
16	1994	392	431	1,622	5,568
17	1995	175	591	6,852	16,686
18	2010	10,000	1,985	17,553	160,000
19	2011	3730	516	38,700	27,581
20	2012	2640	571	14,159	4,746
Total		25,293	11,239	180,234	599,459

Source: FFC

## Annex B

### Overall Consolidated State of Relief Items

Relief Items	NDMA	Provincial/Regional DMAs							ERC	PRCS	Total Pakistan	UN & INGOs	Grand Total
	Held	KP Held	Punjab Held	Balochistan Held	Sindh Held	GB Held	AJK Held	FATA Held					
Wash													
Jerry Cans (Plastic)	1,129			1,000			1,500			107,468	111,097	88,500	111,097
SHELTER													
Tents	92,998	16,229	20,964	5,911	19,455		1,900		8,380	39,601	205,438	16,392	221,830
Shelters/Tarpaulins	573	245			790					79,054	80,662		80,662
Non Food Items(NFI)													
Blankets/Quilt	111,486	5,300	15,500	6,000	46,000	3,810	9,500		19,000	239,078	455,674	213,730	669,404
Sleeping Bags	2,903			1,348			1,500				5,751		5,751
Food													
Ration Bags	-		4,461	3,811	200	375					8,847		8,847
Health													
Mosquito Nets	50,000	1,905			1,350				6,104	27,086	86,445	8,571	95,016

## Annex C

### Food Pack (7x Pers/ 2weeks)

Serial	Goods/Items	Quantity	Caloric Value	
			Per Day/Person Approx.	14 Days Value 7 Persons Approx.
1	Atta	40kg	1490	146,000
2	Ghee/Oil	3kg	272	26,571
3	Sugar	3kg	116	11,386
4	Dal Chana	2kg	28	2,786
5	Dal Moong (Washed)	1kg	144	14,063
6	Dal Masoor	1kg	37	3,626
7	Chili Powder	200gm	6	600
8	Milk Powder	910gm	46	4,600
9	Tea	475gm	-	-
10	Mixed Pickle	500gm	7	675
11	Salt	800gm	-	314,700mg Sodium
12	Masala Mix	100gm	5	500
13	Match Box	4 Nos	-	-
	<b>Total</b>	<b>53 kg</b>	<b>2,151 calories</b>	<b>210,807 calories Approx.</b>

- Note:** 1. International Calorie Standard-Adults 2500, Child 1800 - Average 2100 Approx (Dependent upon Food Quality)
2. NDMA Food Pack calorie value-2151.
3. Same Food Pack being recommended to provincial and regional DMAs.

## Annex D

### Multi-Sector Initial Rapid Assessment (MIRA)

1. The Multi-sector Initial Rapid Assessment (MIRA), a tool jointly devised by NDMA and OCHA, is the first step of the Assessment and Monitoring Framework and is designed to identify strategic humanitarian priorities after the onset of natural disasters or complex emergencies. On the basis of situation overview and a field assessment on community level, the full MIRA report should be published two weeks after the event at the latest. The report should be comprehensive and allow identification of humanitarian priorities, including:-
  - a. Identify the scale, extent and nature of the disaster
  - b. Determination of priority areas and assist in the planning and deployment of resources
  - c. Identify gaps in response and rescue.
2. The Government of Pakistan decided to pilot MIRA in five of the most affected districts in floods of 2012 namely Jaffarabad and Naseerabad (Balochistan); Rajanpur (Punjab); Jacobabad and Kashmore (Sindh) and the draft consolidated report of MIRA was presented to NDMA and Humanitarian Community on 8 October 2012.

# Annex E

## Coordination Architecture and Roles/Responsibilities of Various Institutions

1. GoP does not have laid down procedures, responsibilities and guidelines for the preparation and launch of appeals for humanitarian assistance. UN is the main international facilitator in provision and coordination of relief to disaster affected areas / regions on launching of appeal for International Humanitarian Assistance, therefore, comprehensive documents are available on the subject on UNOCHA and Future Tek Solutions (FTS) websites. However, GoP has launched International Humanitarian Assistance Appeal for affectees of Floods in 2010. Therefore, ensuing paras are written from experience of NDMA and UN guidelines available on UNOCHA / FTS sites.
2. **Available Humanitarian Coordination Infrastructure.**
  - a. In accordance with UN GA resolution 46/182, **GoP is primarily responsible for leading the response** “to take care of victims of natural disasters and other emergencies on its territory. **GoP may request International Humanitarian Assistance any time after the onset of a disaster.** On request of GoP for International Humanitarian Assistance, role of the humanitarian community is to support national response efforts in keeping with Inter Agency Standing Committee (IASC) guidelines, humanitarian principles, as well as need based, protection and gender sensitive approaches.
  - b. For this, an ***understanding on humanitarian partnership in natural disasters between the GoP and Humanitarian Country Team (HCT)***

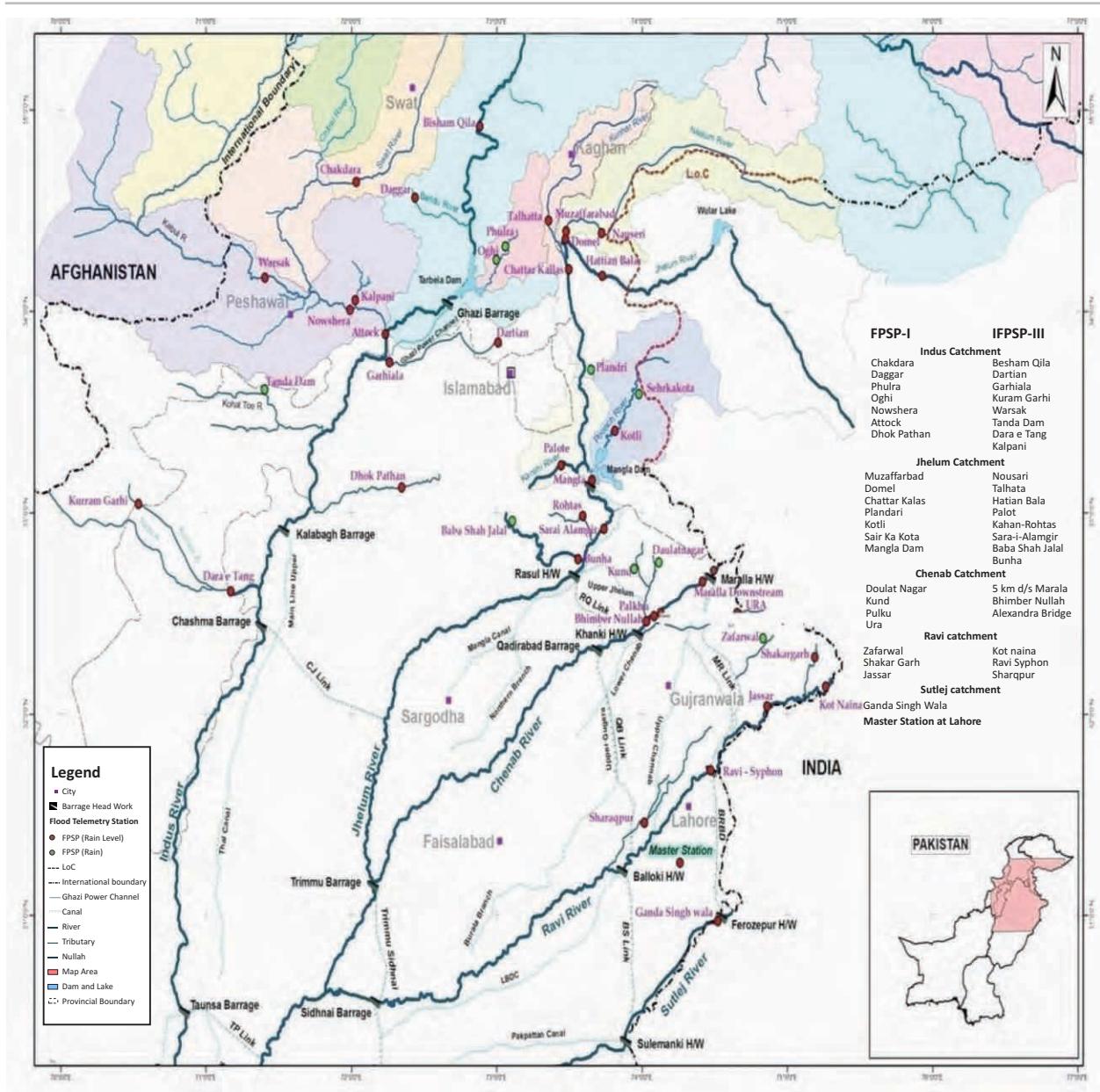
**exists.** Based on this understanding, an elaborate **Coordination Architecture** between UN and GoP has been formulated. Roles of various tiers of coordination mechanism are as under:-

- 1 **Policy Coordination Meeting (PCM).** It is the highest Humanitarian Response coordinating body which directs and coordinates complete spectrum of disaster management in pre, during and post disaster phases. On occurrence of disaster, this forum analyse the extent of damage, available resources to coup with the disaster and decides whether to launch humanitarian appeal or not. It is chaired by NDMA and constituted by Ministry of Foreign Affairs (MoFA), Economic Affairs Division (EAD), PDMA, Armed Forces of Pakistan, Donors, HC / RC of UNOCHA.
- 2 **Steering Committee.** This committee is activated only when PCM agrees to launch the Humanitarian Assistance Appeal to international community. Main function of this committee is to verify / scrutinise the projects on need / requirement basis. It is co-chaired by NDMA and HC of UNOCHA and comprises representatives of MoFA, EAD and respective Provincial / Regional DMA etc.
- 3 **National Coordination Committee.** This serves as adviser to PCM on all operational issues and it is activated on finalising decision for launch of appeal for International Humanitarian Assistance.
4. **National Clusters.** NDMA officers co-chair with OCHA nominated representatives to indicate and plan projects in required areas / fields as per priority of need and requirement determined by PCM.



# Annex F

## WAPDA Flood Telemetry Network



# Annex G

## Flood Rescue / Earth Moving Equipment

### Army

Items	Formations									
	Mangla Corps	Multan Corps	Lahore Corps	Khi Corps	Pindi Corps	Peshawar Corps	Quetta Corps	Gujranwala Corps	Bhawalpur Corps	Total
Boats	178	129	169	173	42	74	18	133	101	1017
OBM 15 HP	74	37	44	30	4	2	-	81	48	320
OBM 25 HP	22	37	28	155	6	21	-	23	27	319
OMB 30 HP	38	27	24	13	8	97	18	19	13	257
OBM 40 HP	18	31	5	-	1	9	-	24	12	100
OBM 45 HP	-	-	22	-	2	-	-	-	5	29
OBM 55 HP	6	21	16	-	2	-	-	15	9	69

### Rescue 1122

S. No.	District	Boats 18ft-23ft	OBM Engines	Life Jackets	Life Rings	W.R. Truck
1	Lahore	5	3	877	20	3
2	Rawalpindi	3	2	36	14	0
3	Faisalabad	2	3	41	14	0
4	Multan	12	13	52	26	0
5	Gujranwala	5	5	34	8	0
6	Sargodha	4	4	33	8	0
7	Bahawalpur	2	2	20	8	0
8	D.G. Khan	9	9	23	15	0
9	R.Y. Khan	4	5	26	8	1
10	Sahiwal	1	1	58	8	0
11	Sialkot	10	11	57	13	0
12	Jhang	13	13	102	1	0
13	Khanewal	2	2	48	12	0
14	Rajanpur	15	15	43	12	0
15	Muzaffargarh	19	24	67	2	0
16	Gujrat	4	3	24	4	0
17	Bahawalnagar	2	2	22	12	0
18	Attock	0	1	12	4	0
19	Jhelum	5	6	51	1	0
20	T.T. Singh	1	1	20	5	0
21	Pakpattan	1	2	32	2	0
22	Mianwali	6	6	42	6	0
23	Kasur	21	23	72	16	0
24	Lodhran	1	1	44	8	0
25	Layyah	3	5	49	11	0
26	Chakwal	0	0	37	13	0
27	Khushab	20	20	118	6	0
28	Okara	0	0	23	14	0
29	M.B. Din	1	2	30	8	0
30	Hafizabad	3	3	81	19	0
31	Nankana Sb	1	1	30	12	0
32	Sheikhupura	4	4	47	7	0
33	Bhakkar	2	2	56	32	0
34	Narowal	1	2	19	6	0
35	Vehari	3	4	43	17	0
	<b>Total</b>	<b>185</b>	<b>200</b>	<b>2,369</b>	<b>372</b>	<b>04</b>

## Water Borne Rescue Equipment - NDMA

S. No.	Description of Items	Quantity
1.	Under Water Flash Lights	4
2.	Portable Sonar	3
3.	Life Jackets	28
4.	Life Buoy	8
5.	Foot Pump	3
6.	SCUBBA cylinders (80 cubic feet/PSS)	6
7.	Portable Compressor	3
8.	Regulators	6
9.	Depth Gauge	3
10.	Pressure Gauge	
11.	Wet suits 8.5 mm (Top, bottom, Hood, Gloves, Booties)	7
12.	Buddy Lines	4
13.	GPS	3
14.	120 feet diving ropes (Nylon)	120/ feet
15.	Fiber glass boats (8 men)	4
16.	OBM 15 hp	16
17.	OBM 35/40 hp	2
18.	Under Water Camera with Monitor	3
19.	Face Mask	7
20.	Fins (Pairs)	7

## Provinces

	Balochistan	KPK	Punjab	Sindh	AJ&K	FATA	GB
Boats	6	101	1455	173	-	-	-
OBM	-	121	1085	204*	-	-	-
Life Jackets	-	739	2502	646	-	-	-
De-Watering Pumps	-	5	1366	586			

\* With Army

## UN System

S. No.	Cities	Boats
1	Sukkur	18
2	Karachi	4
3	Multan	7
4	Quetta	1
5	Peshawar	2
	<b>Total</b>	<b>32</b>

## Earth Moving Equipment

	Balochistan	KPK	Punjab	Sindh	AJ&K	FATA	GB
Excavators	06	10	10	45	9	-	-
Dozers	31	35	148	71	22	-	-
Road Rollers	44	-	-	-	11	-	-
Cranes	-	1	9	1	2	-	-
Mini Trucks	70		175	41	-	-	-
Dumpers	7	3	22	16	-		

# Annex H

## Health Preparedness Stocks

### Health Preparedness for 2 M Target Population - WHO

Province	Worst Case Scenario	Female	Male	Women of child bearing age	Prog women	Children U 5	Scenario	Female	Male	Women of child bearing age	Pregnant women	Children under 5 years
	Health Target # Pop	51%	49%	22%	3%	17%	Health Target # Pop	51%	49%	22%	3%	17%
AJK	30,000	15,300	14,700	3,366	101	5,100	15,000	7,650	7,350	1683	50	2,550
Balochistan	100,000	51,000	49,000	11,220	337	17,000	269,680	137,537	132,143	30258	908	45,846
GB	50,000	25,500	24,500	5,610	168	8,500	30,000	15,300	14,700	3366	100.98	5,100
KPK	190,000	96,900	93,100	21,318	640	32,300	475,000	242,250	232,750	53295	1,599	80,750
Sindh	250,000	127,500	122,500	28,050	842	42,500	500,000	255,000	245,000	56100	1,683	85,000
Punjab	380,000	193,800	186,200	42,636	1,279	64,600	750,000	382,500	367,500	84150	2,525	127,500
<b>Total</b>	<b>1,000,000</b>	<b>510,000</b>	<b>490,000</b>	<b>112,200</b>	<b>3,366</b>	<b>170,000</b>	<b>2,039,680</b>	<b>1,040,237</b>	<b>999,443</b>	<b>228852</b>	<b>6,866</b>	<b>346,746</b>

### Health Cluster-Contingency Stock for Monsoon Response - 2013

Items	Stock No	How many people?	Location of stock item
Trauma kits - WHO	3	300 trauma interventions	WHO Warehouse Islamabad
Diarrheal kit - WHO	66	33000 Diarrheal interventions	WHO Warehouse Islamabad
Anti-snake venom - WHO	3000	For 3000 individuals	WHO Warehouse Islamabad
Mosquito Nets (UNICEF)	8571	29999	Contingency stock in maintained in Karachi warehouse (50%)& Islamabad (50%) warehouse
Clean Delivery Kits (UNICEF)	1088	1088	-do-
New born care Kits (UNICEF)	1088	1088	Do-
Hygiene UNFPA	1997	1997	Islamabad Warehouse
Newborn-UNFPA	6396	6396	Islamabad Warehouse
RH Kit 3 (Post Rape Treatment)-UNFPA	12	120,000 people for 3 months	10 Islamabad and 2 Karachi warehouse
RH Kit 4 (Oral and Injectable contraceptives)-UNFPA	23	230,000 people for 3 months	20 Islamabad and 3 Karachi warehouse
RH Kit 5 (Treatment of STIs)-UNFPA	40	400,000 people for 3 months	Peshawar warehouse
RH Kit 6(A,B)-Clinical Delivery Assistance for health facilities-UNFPA	2	60,000 people for 3 months	Peshawar warehouse
RH Kit 8 (Management of miscarriages for health facilities)-UNFPA	25	750,000 people for 3 months	Peshawar Warehouse
RH 2A (Clean Delivery kits)-UNFPA	4252	In a pop of 10,000, 1 kit sufficient for 200 deliveries for 3 months	Islamabad Warehouse



## Annex I

### Urban Search and Rescue Teams (USAR)

1. USAR focuses on locating and rescuing people trapped following a major structural collapse. Urban search and rescue is considered a “multi hazard” discipline, as it is needed for a variety

of emergencies, or disasters, including floods, storms, earthquakes and technological accidents etc.

2. With material support of NDMA in raising and training, three Heavy and three medium USAR teams have been trained in Pakistan for USAR tasks. In addition, a heavy team ex Pakistan Army is also being maintained by GHQ at Rawalpindi. Necessary detail are as under:-

S. No.	Location	Managed by	Raising Year	Type	Contact Number
1	Islamabad	CDA	2009	Heavy (88 persons)	Col (R) Kazim 03334259601
2	Karachi	City District Govt	2009	Heavy (84 persons)	Mr Naeem Yousaf 03133389670
3	Lahore*	Rescue 1122		Heavy	Dr Farhan Khalid 03336132788
4	Rawalpindi	475 Army Engineers Brigade Group	2009	Medium (54 persons)	Maj Adeel 03464350107
5	Mardan	Rescue 1122	2012	Medium (54 persons)	Dr Haris 03068182390
6	Gilgit	GBDMA	2012	Medium** (25 persons)	Mr Sher Aziz 03442020020

\* 160 persons trained and available at Lahore.

## Annex J

### National Highway Authority Monsoon Contingency Plan-2013

- NHA has undertaken following measures:-

- o Prepared Strategic Flood Plan.
- o Activated Flood Emergency Cells in Head Office, Regional Offices and Maintenance Units.
- o Operations Wing is working 24/7 for prompt restoration works, availability of adequate machinery/manpower/ material to cope with any emergency situation with sufficient financial resources.
- o Issuance of daily occurrence reports and Comprehensive Situation Report.
- o In order to establish prompt reporting and monitoring mechanism, Flood Emergency Cells have been established at HQ NHA and in all regional offices with immediate effect. Following officers have been nominated as focal persons:-

- ♦ **Mr. Ikramus Saqlain Haider**

Off: 051-9032815

Mob: 0300-8543978

Fax: 051-9261208

- ♦ **Mr. Aftab Ullah Babar**

Deputy Director Off: 051-9032832

(Structures) Mob: 0300-5861006

Fax: 051-9261208

- o Telephone numbers of Flood Emergency Cell, Fax, e-mail have been passed on to Metrological Department, FFC, NDMA, District Administration, C&W, Irrigation and Pakistan Army for prompt communication and sharing of data.
- o Regional GMs have been nominated as focal persons and in charge of their respective zone. They will be responsible for efficient and effective handling of emergency in coordination with all stakeholders i.e. Local Administration, Army authorities, FWO, C&W and Irrigation Department, etc.
- o GMs will ensure that Flood Emergency Cells are manned round the clock and contractors with sufficient machinery, equipment, material and other resources are available for deployment within shortest possible time i.e. 30 minutes to 1 hour time to meet any eventuality. They will ensure that the flood emergency is promptly responded and traffic restored immediately in coordination with all stakeholders such as Army authorities, FWO, C&W, Irrigation Department, etc.
- o Road users would be informed through electronic and print media about the NHA road network condition i.e. damages, road portion closed for traffic, availability of alternate route, deviation plans, etc.
- o Breaching sections have been identified by Army at critical points. All Regional General

- o In the light of past flood experience since 2010, following points have been identified as vulnerable and will be kept under close vigilance and monitoring:-

- ◆ N-95 (Fatehpur to Kalam Section)
- ◆ N-90 (Shangla to Besham Section)
- ◆ N-35 (between Thakot & Raikot)
- ◆ N-15 (Balakot-Jalkhad-Chilas)
- ◆ N-5 (Peshawar-Nowshera-Khairabad) KPK
- ◆ Sindh (Kot Sabzal-Ranipur , Hala)

- ♦ Sindh (Karachi-Thatta)
- ♦ N-55 (Ramak-Karak) KPK
- ♦ Punjab (DG Khan-Ramak)
- ♦ Sindh (Kashmore-Ghouspur-Shikarpur-Larkana-Dadu)
- ♦ N-65 (Sukkur-Jacobabad-Dera Allah Yar)
- ♦ N-50 (D.I.Khan-Mughalkot)
- ♦ N-70 (Muzaffargarh, DG Khan, Sakhi Sarwar)
- ♦ M-I (Jindi Nullah and Indus River)



## Annex K

### Pakistan Railways

- Pitching stone reserves at different locations have been recouped and loaded in Railway Wagons and placed at suitable places to meet with any emergency.
- Temporary spans of varying length have been placed at critical sites to meet with any emergency on Peshawar, Rawalpindi, Lahore, Multan, Sukkur and Karachi Division.
- Flood imprest material for labour has been recouped to deal with breaches.
- Steps taken for restoration of damages resulting from Floods 2010 are:-
  - Damaged tracks and embankments have been repaired through departmental resources.
  - Breaches have been repaired through departmental resources for safe train operation.
  - Required material and equipments have been positioned at safe places near vulnerable sites in case of emergent repairs.
  - Flood Emergency Cell has been set up in the Divisional Control Office headed by an officer round the clock.
  - During the flood season, Engineering Officers and their Subordinates would trolley over there sections frequently and comply with all instructions issued to them for patrolling of track and watching bridges.

## Annex L

### Specimen-Daily Situation Report

#### 1. Daily Situation Report

Province	Death	Injured	Persons Affected	Houses Damaged		Villages Affected	Crops Affected (Acres)	Cattle Heads Perished	Relief Camps Established	Persons in Relief Camps
				Partially	Fully					
Punjab										
KP										
Sindh										
Balochistan										
GB										
AJK										
Islamabad										
FATA										
Total										

#### 2. Daily Situation Report-Relief

Province	District	Tehsil	Camp Location	Food Items	Shelter /NFIs	Miscellaneous Aid Provided	Population /Beneficiaries Reached	Need for additional relief with location
1								
2								
3								

S. No.	Stores/Activities	Food Items	Shelter	NFIs
1.	Balance with Regional/ Provincial DMAs			
2.	Likely Receipts			

Date/ Time  
Prepared By



# Annex M

## Important Contact Numbers

S. No.	Designation	Office
<b>NDMA</b>		
1	Major General Muhammad Saeed Aleem , Chairman	051-9222373, 051-9212444
2	Muhammad Ashraf, Member (S&S)	051-9209338
3	Brig Mirza Kamran Zia, Member Operation	051-9214295
4	Muhammad Idrees Mahsud, Member (DRR)/ Director (DRR-I)	051-9210316
5	Khalil Ahmad Chaudhary, Director (Administration/Procurement)	051-9204429
6	Hafiz Shakeel Ahmad, Deputy Director (Administration)	051-9213574
7	Lt Col Raza Iqbal, Director (Response)	051-9205035
8	Major Javaid Akhtar, Deputy Director (Response- I)	051-9213083
9	Major Tahir Islam, Deputy Director (Response- II)	051-9202523
10	Syed Junaid Akhlaq, Director (R&R)	051-9207066
11	Dr. Sabina Imran Durrani, Deputy Director (R&R)	051-9215844
12	Syed Sib-e-Abbas Zaidi, Director (DRR-II)	051-9215338
13	Lt Col (R) Muhammad Ali Haider Amin Kazi, Manager Logistic	051-9215392
14	Akbar Bacha, Assistant Director Logistic	051-9215392
15	National Emergency Operation Centre (NEOC)	051-9205037, 8008-32021(Pascom), 111-157-157(UAN)
<b>PDMA/SDMA/GBDMA, FDMA</b>		
16	Mr Syed Rizwan Mehboob, DG PDMA, Punjab	042-99204403-4
17	Mr Syed Suleman Shah, DG PDMA, Sindh	021-99251458-9
18	Mr Syed Zaheer Ul Islam, DG PDMA, KP	091-9213867
19	Mr Muhammad Khalid Baloch, DG PDMA, Balochistan	081-2880245
20	Mr Saeed Ramzan, DG GBDMA, Gilgit	05811-920874
21	Mr Faheem Ahmed Khan, DG SDMA, AJ&K	05822-921536
22	Mr Arshad Khan, DG FDMA, Peshawar	091-9218603
23	Mr Shams Ul Haq, Director E&DM, CDMA, Islamabad	051-9253215, 051-9253214
<b>Other Departments</b>		
24	Mr. Ikramus Saqlain Haider, Director (RAMS), HQ NHA	051-9032815
25	Mr. Aftab Ullah Babar, Director (RAMS) , HQ NHA	051-9032832
26	Mr. Alamgir Khan, Chief Engineer Flood, FFC	051-9244613
27	Mr. Arif Mehmood, DG, PMD, Islamabad	051-9250367
28	Dr Muhammad Hanif , Director National Forecasting Centre	051- 9250595
29	Mr. Mohammad Riaz, Chief Meteorologist (FFD) Lahore	042-99200208
30	Syed Raghav Hussain Shah, Chairman, WAPDA, Lahore	042-99202222-3
31	Col (R) Dr. Shahid Sharif, Director, NHEPRN	051-9255708
32	Dr Barjees Mazhar Kazmi, Executive Director NHEPRN	051-925509 – 2, 051-9255802
33	Director Operations HQ Pakistan Maritime Security Agency, Karachi	021-48508850
34	Lt Col Amjad Hussain, General Staff Officer 1(Ops), Pakistan Coast Guard	021-99215243
35	Col (R) Muhammad Ahsan, General Manager, NLC Rawalpindi	8000- 34876
36	Mr. Aftab Akbar, Director General Operations, Ministry of Railways	051- 9203886, 0321-5019977
37	Mr Asif Mateen Zaidi, Deputy General Manager Pakistan Railway Lahore	042-99201600, 0300-2692334



## Notes:









