

National Monsoon Contingency Plan 2014



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National Disaster Management Authority
Government of Pakistan



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This publication has been drafted by

Brigadier Mirza Kamran Zia **Lieutenant Colonel Raza Iqbal**
Member Operations, NDMA Director Response, NDMA

Under the patronage of
Major General Muhammad Saeed Aleem
Chairman NDMA

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ACRONYMS

AJK	Azad Jammu & Kashmir
DDMA	District Disaster Management Authority
DELSAP	Disaster Emergency & Logistics Simulation Application
DRR	Disaster Risk Reduction
DEOC	Disaster Emergency Operations Centre
DMA	Disaster Management Authority
EAD	Economic Affairs Division
ERC	Emergency Relief Cell
FCC	Flood Communication Cell
FFC	Federal Flood Commission
FATA	Federally Administered Tribal Areas
FFD	Flood Forecasting Division
FWO	Frontier Works Organization
FDMA	FATA Disaster Management Authority
FFT	Flood Forecasting Telemetry System
GB	Gilgit - Baltistan
GoP	Government of Pakistan
GBDMA	Gilgit-Baltistan Disaster Management Authority
HCT	Humanitarian Country Team
HH	Household
IASC	Inter Agency Standing Committee
ICT	Islamabad Capital Territory
ICTDMA	Islamabad Capital Development Authority
IRSA	Indus River System Authority
INGO	International Non-Governmental Organization
KP	Khyber Pakhtunkhwa
MIRA	Multi Cluster Initial Rapid Assessment
MRE	Meal Ready to Eat
MoFA	Ministry of Foreign Affairs
MSA	Maritime Security Agency
NDMA	National Disaster Management Authority
NFI	Non Food Item
NGO	Non-Governmental Organization
NHEPRN	National Health Emergency Preparedness and Response Network
NLC	National Logistics Cell
NEOC	National Emergency Operations Center
PCIW	Pakistan Communication for Indus Water
PDMA	Provincial Disaster Management Authority
PEOC	Provincial Emergency Operations Center
PMD	Pakistan Meteorological Department
PRCS	Pakistan Red Crescent Society
SITREP	Situation Reports
SUPARCO	Space and Upper Atmosphere Research Commission
USAR	Urban Search and Rescue Team
WAPDA	Water and Power Development Authority

LIST OF BASIC TERMS

Capacity

The combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personnel or collective attributes such as leadership and management. Capacity may also be described as capability.

Capacity Building

Efforts aimed to develop human skills or societal infrastructure within a community or organization needed to reduce the level of risk. In extended understanding, capacity building also includes development of institutional, financial, political and other resources, at different levels of the society.

Climate Change

The climate of a place or region is changed if over an extended period (typically decades or longer) there is a statistically significant change in measurements of either the mean temperature or variability of the climate for that region.

Coping Capacity

The means by which people or organizations use available resources and abilities to face a disaster. In general, this involves managing resources, both in normal times as well as during crises or adverse conditions.

Disaster

A serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources. It results from the combination of hazards, conditions of vulnerability and insufficient capacity to reduce the potential negative consequences of risk.

Disaster Risk Management (DRM)

The comprehensive approach to reduce the adverse impacts of a disaster. DRM encompasses all actions taken before, during, and after the disasters. It includes activities on mitigation, preparedness, emergency response, recovery, rehabilitation, and reconstruction.

Disaster Risk Reduction

The measures aimed to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.

Early Warning

The provision of timely and effective information, through identified institutions, to communities and individuals so that they could take action to reduce their risks and prepare for effective response.

Emergency Management

The management and deployment of resources for dealing with all aspects of emergencies, in particularly preparedness, response and rehabilitation

Forecast

Estimate of the occurrence of a future event. This term is used with different meanings in different disciplines.

Hazard

Potentially damaging physical event or phenomenon that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include natural (geological, hydro meteorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location, intensity, frequency and probability.

Hazard Analysis

Identification, studies and monitoring of any hazard to determine its potential, origin, characteristics and behavior.

Land-Use Planning

Branch of physical and socio-economic planning that determines the means and assesses the values or limitations of various options in which land is to be utilized, with the corresponding effects on different segments of the population or interests of a community taken into account in resulting decisions. Land-use planning can help to mitigate disasters and reduce risks by discouraging high-density settlements and construction of key installations in hazard-prone areas, control of population density and expansion, structural and non-structural mitigation measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards.

Natural Hazards

Natural processes or phenomena occurring on the earth that may constitute a damaging event. Natural hazards can be classified by origin namely: geological, hydro meteorological or biological. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing.

Preparedness

Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.

Prevention.

Activities to ensure complete avoidance of the adverse impact of hazards.

Public Awareness.

The processes of informing the general population, increasing levels of consciousness about risks and how people can reduce their exposure to hazards. This is particularly important for public officials in fulfilling their responsibilities to save lives and property in the event of a disaster.

Recovery

Decisions and actions taken after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk.

Relief / Response

The provision of assistance during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected. It can be of an immediate, short-term, or protracted duration.

Resilience / Resilient

The capacity of a community, society or organization potentially exposed to hazards to adapt, by resisting or changing in order to maintain an acceptable level of functioning. Resilience can be increased by learning from past disasters for better future protection and to improve risk reduction measures.

Retrofitting (or Upgrading)

Reinforcement of existing buildings and structures to become more resistant and resilient to the forces of natural hazards.

Risk

The chances of losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between hazards and vulnerable social conditions. Risk is expressed as Risk = Hazards x Vulnerability. Some experts also include the concept of exposure to refer to the physical aspects of vulnerability.

Risk Assessment / Analysis

A methodology to determine the nature and extent of risk by analyzing potential hazards and evaluating existing vulnerability that could pose a potential threat to people, property, livelihoods and the environment.

FOREWORD

Pakistan, by virtue of its unique geographical layout is susceptible to a number of hazards. Amongst these floods are the most recurrent ones. Their frequency and effects have significantly hampered our goal of sustained economic growth.

Over the past 67 years, Pakistan has suffered a cumulative financial loss of more than US\$ 37.554¹ billion with around 11,572 people having lost their lives and a total area of 603,942 sq km affected due to 21 major flood events. Owing to global climate change there has been a remarkable increase in frequency of floods and variation in monsoon behaviour in the country. Past four consecutive years of flooding in Pakistan has strengthened the need for integrated plans on country wide basis for better flood management. Some progress has been made in mainstreaming disaster risk reduction in development processes. Formulation of National Disaster Risk Reduction (DRR) Policy and implementation of National Disaster Management Plan (NDMP) are a major part of this progress. Strengthening of flood protection and early warning systems as highlighted in the NDMP will significantly reduce flood risks.

In order to ensure high level of preparedness to meet the challenge of climate change and frequent recurrence of unpredictable and extreme weather events during the monsoon season, all relevant stakeholders were involved in the planning process. A bottom up approach was adopted, wherein the district authorities were involved through the provincial governments in undertaking their hazards and risk analysis, identifying needs and gaps, planning for effective deployment of available resources and preparing their Contingency Plans for likely scenarios. On the basis of provincial plans and input from all stake holders, NDMA has finalized the National Monsoon Contingency Plan which will guide national response against situations which are beyond the Provincial/ Regional response capacities.

In this regards, the efforts of Provincial / State/ Regional Governments as well as all Federal Organizations / Departments need to be appreciated. Their cooperation and support has contributed tremendously in finalization of National Monsoon Contingency Plan.

We hope that our joint efforts with improved levels of preparedness would help minimize the negative impacts of monsoons this year.

Major General Muhammad Saeed Aleem
Chairman NDMA

¹Source FFC Annual Flood Report



Geographic and Climatic Profile

Located in South Asia, Pakistan shares borders with Iran to the southwest, Afghanistan to the west and north, China to the northeast, and India to the east. The Arabian Sea marks the southern boundary. The country has a total area of 881,912 square km, including Kashmir and the Gilgit-Baltistan.

Pakistan has a diverse landscape spread over nine major ecological zones. Its territory encompasses portions of the Himalayan, Hindu Kush, and Karakoram mountain ranges, making it home to some of the world's highest mountains, including K2 (8,611 m), the world's second highest peak. Inter-mountain valleys make up most of the Khyber Pakhtunkhwa (KP) and rugged plateaus cover much of Balochistan in the west. In the east are located irrigated plains that lie along the River Indus and cover much of Punjab and Sindh. Both provinces have desert areas as well: Cholistan and Thal in Punjab and Tharparkar in Sindh. The country's main river is the Indus (2,749 km within Pakistan) and its tributaries: the Chenab (730.6 km), Ravi (680.6 km), and Jhelum (611.3km). The navigable portions of these rivers are generally small and unconnected as a result of seasonal variation in water flows and the presence of a substantial irrigation infrastructure.

Most of Pakistan has a generally dry climate and receives less than 250 mm of rain per year, although the northern and southern areas have a noticeable climatic difference. The temperatures vary with elevation from 30° C to -10° C during

the coldest months in the mountains and Northern Areas to 50° C in the warmest months in parts of Punjab, Sindh, and Balochistan. Mid-December to March is dry and cool, April to June is hot with 25-50 percent humidity, July to September is the wet monsoon season, and October to November is the dry post-monsoon season with high temperatures nationwide.

Impacts of Climate Change on Pakistan

Global weather and climate change is now widely regarded as “the greatest challenge facing the world”. The increases in global temperatures and the associated changes in precipitation, glacier melt and sea level rise are going to have considerable direct and indirect impacts on the globe. Therefore the response to climate change is both imperative and urgent. Climate change is expected to result in changes in land and water resources that will subsequently affect agricultural productivity. Dry land areas, including arid and semi-arid regions like Pakistan are most vulnerable to these climatic changes as these regions are already facing significant water shortages and temperatures are already close to the tolerance limits. Given the fact that Pakistan largely depends upon a single river system of Indus, and if the hydrology of the upper Indus Basin alters due to climate change, it will have serious consequences on people living in the entire river basin.

The German watch Climate Risk Index ranks countries according to relative and absolute number of human victims, and relative and absolute economic damages due to weather-related extreme events (storms, floods, heat waves etc.) and it analyses to what extent countries have been affected by their impacts. As per its Global Climate Risk Index 2014 the

countries affected most in 2012 were Haiti, the Philippines and Pakistan as shown in the Table below:-

Ranking 2012/ (2011)	Country	CRI Score	Death Toll	Deaths per 100,000 Inhabitants	Absolute Losses (in Millions US\$ PPP)	Losses per Unit GDP in %	Human Development Index
1(37)	Haiti	6.83	128	1.23	1220.66	9.53	161
2(4)	Philippines	10.33	1408	1.47	1205.48	0.29	114
3(3)	Pakistan	12.67	66.2	0.37	6087.82	1.11	146
4(22)	Madagascar	15.67	113	0.50	356.98	1.69	151
5(131)	Fiji	17.00	17	1.89	135.55	3.18	96
6(36)	Serbia	17.67	28	0.39	1325.06	1.7	64
7(131)	Samoa	18.33	6	3.28	220.91	19.57	96
8(49)	Bosnia and Herzegovina	21.67	13	0.33	920.21	2.92	81
9(95)	Russia	22.17	716	0.50	1365.20	0.05	55
10(29)	Nigeria	22.33	405	0.25	837.45	0.19	153

Realizing the importance of the climate change issue, Pakistan has formulated National Climate Change Policy which was approved in September, 2012 and immediate, short and medium term action plans are being developed by Climate Change Division to effectively implement the policy. For awareness raising and capacity building in climate change research and adaptation measures in the country, Climate Change Division has been conducting various capacity building workshops and seminars in the country. Besides national level efforts Pakistan has been actively participating in the global climate change mitigation and adaptation efforts.

NDMA has taken appropriate strategic level institutional and policy measures for disaster risk reduction adapting a multi-hazard approach. These efforts include:

- Formulation of a National Disaster Risk Reduction Policy which lays emphasis on risk knowledge, prevention & mitigation and preparedness.

- NDMA, with the technical assistance of Japanese experts, has also formulated a prospective ten years' National Disaster Management Plan (NDMP) for the country which covers the complete spectrum of disasters including pre, during & post disaster phases. This plan would steer the institutional and technical direction of disaster risk management in Pakistan. 118 strategic interventions have been identified under the plan and priority actions / programs would be implemented through short, medium and long term action plans by all relevant stakeholders.
- NDMA is also undertaking capacity building trainings for the government officials, private sector, media, NGOs and community organizations through National Institute of Disaster Management.

PART I MONSOON CONTINGENCY PLAN

Monsoon Induced Floods

Pakistan is situated in Asian monsoon zone and receives rainfall due to seasonal currents originating from Bay of Bengal which results in highly unpredictable weather systems. Pakistan in the last four years has experienced erratic Monsoon behaviour 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 zones has gradually shifted 80 to 100 kilometres westwards towards Indus and Kabul basins in Khyber Pakhtunkhwa, from its traditional catchment areas in Kashmir. The major rivers (Indus, Jhelum, Chenab, Ravi, Sutlej) and secondary rivers (Kabul, Swat etc.) cause floods leading to loss of lives, damaging irrigation and communication network and land erosion along the river banks. In the upper part of the Indus Basin (Punjab & Khyber Pakhtunkhwa), floodwater spilling over the high banks of the rivers generally returns to the river. However, in the lower parts of the country (Sindh Province), the River Indus flowing at higher

elevation than adjoining areas spills flood water which does not return to the main river channel which in turn leads to extensive inundation and damages. Sequentially construction of flood embankments has been done almost along the entire length of River Indus in the Sindh Province and on many vulnerable locations in the upper parts of the country. Occurrence of breaches in these flood embankments lead to inundation in the adjoining areas.

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 etc.) besides the secondary rivers (Swat, Tochi, Gabmila, Haro, Kunhar, Nari, Kech, Naulang).

• Flash Floods / Hill Torrents

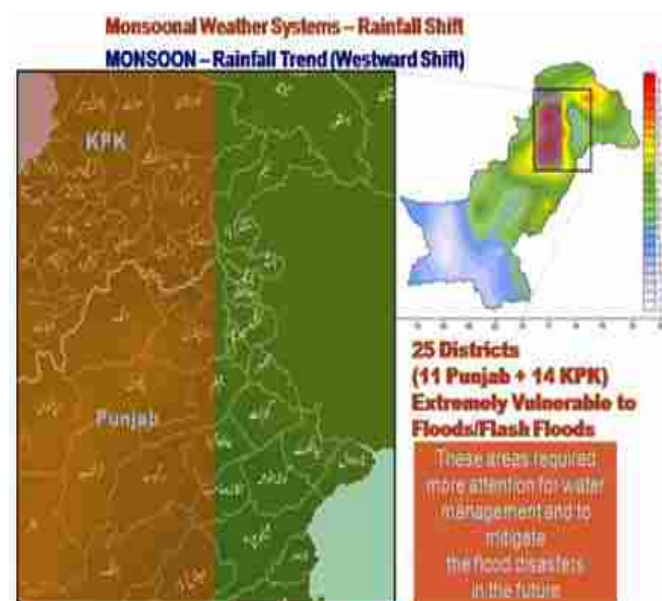
Tend to occur along the mountainous regions adjoining the Indus River Basin, Kashmir, GB, KP, Balochistan and South Punjab as well as FATA, Kirthar and Koh-e-Suleman.

• Urban Floods

Tend to occur as a consequence of cloud burst, monsoon rains, cyclones (Lahore, Rawalpindi and Sialkot in Punjab, Karachi and Hyderabad in Sindh, Peshawar in KP, Mula River impact on Jhal Magsi etc).

• Tropical Cyclones

Tend to visit the coastal regions of Balochistan and Sindh including Thatta & Badin districts of Sindh. (May, Jun and Sep, Oct).



Latent Vulnerabilities

- 2011 monsoon rain induced floods in southern Sindh (does not directly fall in monsoon zone) have exposed a segment of vulnerable population who were deemed to be significantly safe.
- 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 (Indus, Chenab, Sutlej and Jhelum) thereby enhancing risks and vulnerabilities.
- Detailed flood plains mapping covering entire Indus River System, its tributaries and nullahs etc. needs to be done as already identified by NDMA as a priority area in the National DRR Policy
- Land use planning and 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 necessitates more extensive flood protection measures downstream.

Risk Mapping - Districts Vulnerable to Floods

Risk mapping for districts vulnerable to floods is attached at Annex A.

LESSONS LEARNT FROM MONSOON 2013 AND ACTIONS RECOMMENDED

Encroachments on Water Ways / Courses

Improper / ill-maintained drainage was reflected as main cause of flooding in Gujranwala / Sialkot divisions and urban flooding of Lahore. All PDMA was requested to take up case with Provincial Irrigation Department and TMAs for eradication of identified encroachments, improvement of drainage systems, and enforcement of building codes. Provincial departments were also requested to ensure that DRR guidelines and building codes notified by Planning Commission should be implemented. Where required, redesigning / realignments of structures would be carried out in consultation with relevant stake holders. Encroachments, settlements in waterways (Kacha areas) obstructing water ways, to be addressed through respective District Administrations. Greater role of City / District governments and concerned Federal / Provincial departments was also emphasized besides suggestion to undertake risk analysis of urban areas for urban flooding. Heavy rains and improper drainage system of cities especially Karachi, Lahore, and Sialkot caused urban flooding. Following has been highlighted to concerned:-

- Risk assessment for all major cities for urban flooding to be carried out by respective DMAs.
- Availability of requisite quantity of dewatering equipment be ensured.
- **Construction of Check Dams / Improvement of Flood Protection Arrangements**
Flood protection bunds were breached at various places due to flood water. FFC was asked to inspect the existing arrangements and necessary improvements were asked to be affected before the monsoon 2014.

Land Use Plan

Floods in major rivers remained confined to "Kacha / Bella" areas and no flood was experienced outside the flood protection bunds. However, illegal inhabitation and cultivation inside the river banks remains a point of concern. Respective authorities were urged to enforce existing laws prohibiting such encroachments. De-silting and maintenance of all water courses necessary for drainage of flood water needed to be ensured.

Breaching Sections

Flooding caused by overflow of nullahs in Gujranwala Division was aggravated due to blockage of drainage and inadequate culverts especially along railway line and GT road. Therefore, concerned were asked to carry out necessary survey for identifying new breaching section as a temporary measure and as a permanent / long term measure plan bridges / culverts at these sites.

Synchronization of Water Discharge at Jinnah Barrage

Issue of un-manageable flooding caused by un-sync water discharge from Tarbela with flow of Kabul River needed to be addressed and FFC was asked to approach WAPDA for settlement of this issue.

Damage Assessment and Passage of Information

Damage assessment of affected area is crucial for need assessments and subsequent recovery and rehabilitation of affected population. A standardized reporting format for Situation Reports (SITREP) has been provided to all for uniformity in reporting.

Communication of Actionable Information to DDMA

The weather advisories of PMD and FFD being trickled down to district level need to be translated into actionable information by providing details of areas threatened, advice for evacuation and preventive measures.

Capacity Building of DDMA

DDMA are the backbone of disaster management system and are the first responder in event of any disaster. Capacity of DDMA needs to be built. NDMA is conducting Capacity Building Training of Vulnerable Districts for enhancing capacity of DDMA through UN Humanitarian partners and NIDM. PDMA were asked to provide necessary financial and material resources to DDMA before monsoon so that necessary stores could be made available / stocked with district authorities for desired response.

Dissemination of Information / Media Handling

Disaster Management also involves provision of accurate information to decision makers and also to the general public through media. To avoid incorrect transmission of information, there is a need of pro-active flow of information from DDMA to PDMA and NDMA. PDMA need to ensure nomination of a media focal person at PDMA and DDMA levels, 24/7 Manning of Emergency Operation Centre at NDMA, PDMA and DDMA level during flood season, timely and accurate Provision of SITREPS, exchange of important telephone / cell numbers (to be included in plans), proactive passage of information, dedicated telephone lines for communication between all EOCs and Key Departments and UAN for masses by PDMA / DDMA. NDMA has activated its UAN 111-157-157.

Inadequate Reaction Time for Evacuations / Response

Non availability of in/out flow data of reservoirs by India reduces reaction time for evacuation of threatened population e.g. at Head Marala. PCIW is raising the issue with India for provision of river inflow / outflow data at reservoirs and gauging and stations at the earliest. While PMD is making efforts to improve the Radar coverage of catchment areas across border.

Availability of Planning Data

Basic data is of prime importance to mount effective response at all tiers of DM system. Lack of secondary data related to population, infrastructure, resources etc. at National / Provincial level was observed during planning stage of Monsoon 2013. Therefore, all concerned are requested to prepare resource data and secondary data of population, roads / bridges, medical facilities, educational facilities and government buildings.

Standardised Food Pack

NDMA has finalized a food pack in consultation with WFP. This pack is sufficient for a family of 7 persons for duration of 1 week. Provincial / Regional DMAs have been asked to standardise their food packs in line with NDMA food packs to facilitate planning and distribution of relief.

Funds for Maintenance of Flood Relief Equipment

Timely release of funds for maintenance of flood relief equipment held by Pak Army on behalf of PDMA has been emphasised.

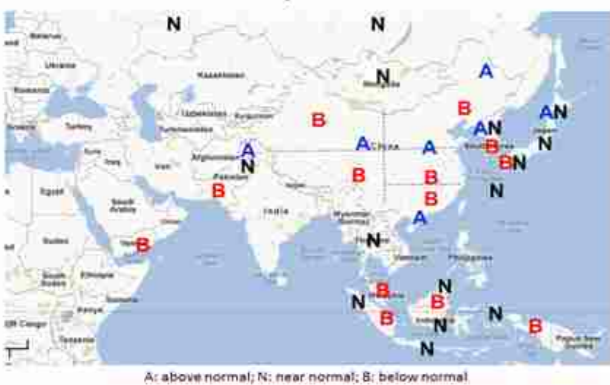
Role of UN Agencies / INGOs

As per government policy, the initial response must always be from the government and partners / donors would intervene only after the appeal by the federal government. The UN in-country stocks are low, therefore, reliance should be on building own capacities by all stakeholders.

WEATHER OUTLOOK MONSOON SEASON 2014

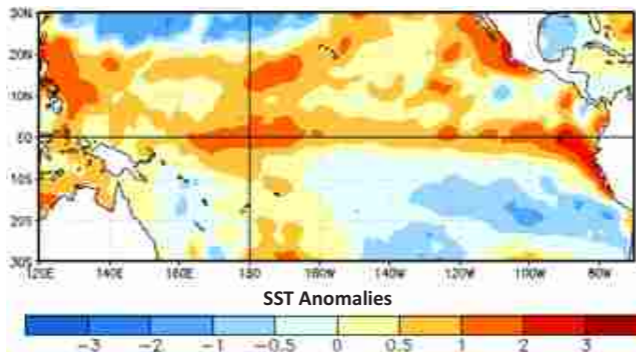
Pakistan Meteorological Department (PMD) has issued the seasonal weather outlook for monsoon in Pakistan for the period from July to September 2014 reads, "Pakistan Summer Monsoon rainfall is invariably affected by the global, regional and local climatic conditions prevailing prior to the season. The emerging climatic features linked to El-Nino development have fairly large potential to suppress Pakistan Summer Monsoon. Analysis of their combined effect indicates that total amount of rainfall averaged over Pakistan during monsoon season (July-September) 2014 will remain slightly below normal, which means that overall availability of water in the country from monsoon rainfall would be satisfactory." Main features of seasonal outlook are as under:-

2014 JJA Deterministic Precipitation Prediction from Feedback



Onset of monsoon is likely to be in the last week of June, 2014 and the rain fall during July will be below normal.

El Nino
This year a moderate El Nino affect is likely to be observed. El Nino is warming of sea surface waters in the central and eastern tropical Pacific Ocean. El Niño events occur about every 3-7 years.



(Image Left)
Average sea surface temperature (SST) anomalies (°C) for the week centered on 28 May 2014. Anomalies are computed with respect to the 1981-2010 base period weekly means.

Rainfall will increase gradually in August over Northern parts of the country. During August and September, monsoon will remain by and large normal. However, north-eastern parts of the country are expected to receive slightly above normal precipitation during the period. An effective water management practices may be adopted to fill the main reservoir(s) at optimum level.

- At occasions, the interaction of easterly and westerly systems may result in heavy downpour causing localized urban / flash flooding.
- Monsoon rainfall would be unevenly distributed during July to September.

Note: This outlook is prepared at 80% confidence level and is meant for the planning purpose only. The area weighted normal rainfall (Long Period Average) of Pakistan for Monsoon season is 140.9 mm. Keeping in view, the changing interactive behaviour of different meteorological parameters, the mid-season review and monsoon update will be issued in the first week of August.

- As per SUPARCO the snow cover impacting river flows is likely to be 18% less this year.
- Average sea surface temperature (SST) anomalies (°C) for the week centered on 28 May 2014. Anomalies are computed with respect to the 1981-2010 base period weekly means.

REVIEWING PREPAREDNESS

Supply Chain Management

NDMA has established an effective mechanism of supply chain management, engaging suppliers at one end and delivering the relief goods at the other. The transportation, communication and monitoring of logistic operations have been adequately institutionalized.

Stockpiling

Building reserve stocks of essential Non Food Items is one of the major functions of DM institutions in the country. PDMA and DDMA manage their own stockpile keeping in view their expected needs being the first responders. Provinces / Regions are expected to meet at least 50% of deficiency gaps in case loads highlighted in contingency plans. While for the remaining, NDMA and other agencies facilitate in generating additional resources in case the magnitude of disaster exceeds local / provincial capacities. To this end, NDMA has successfully built up strategic reserves at the national level to cope with any unforeseen event and these stocks have been positioned at strategic locations across the country for timely response.

Construction of Strategic Warehouses / Shifting of Stocks

In order to augment the logistic capacity of DMAs, NDMA managed to mobilize the resources with the valuable assistance of WFP for establishing nine strategic warehouses across the country. Presently, warehouses at Muzaffargarh and Quetta have been completed and the same have been handed over to respective PDMA. These warehouses would ensure effective disaster response by way of up-scaling preparedness level with respect to stockpiling of a range of emergency relief goods. This would in turn facilitate field coordination and easy access to the disaster prone communities. In addition, to enhance the storage / logistic capacities of districts, 36 Flospans have been installed/ constructed in different districts while a

further 24 Flospans are planned to be installed this year. Details of Humanitarian Response Facilities in Pakistan are attached as Annex B.



Strengthening / Enhancing Human Resource Capacities

Since 2013, NDMA has embarked upon a capacity building program in collaboration with UNOCHA and respective PDMA for DDMA of vulnerable districts. These trainings aim at enhancing the response capacities of districts and provincial administration and increase their understanding about humanitarian issues. So far 29 trainings have been conducted and 1092 Government officials from various departments have been trained.

Simulation Training and Exercise

A simulation training and exercise was conducted by NDMA with the help of WFP, as a pilot project, for 3 districts of Punjab. This exercise was instrumental in enhancing the capacity of different stake holders and helping them in understanding and practicing various aspects of disaster management like early warning, planning / coordination / managing responses to urban and rural flooding including: rescue, evacuation / relocation, camp management, logistic needs and damage assessment.

THE CONTINGENCY PLANNING PROCESS

- A bottom up approach in monsoon contingency planning was adopted by NDMA in which district level authorities were encouraged through the respective provincial governments, to undertake their respective hazard and risk assessment, identify needs, plan effective deployment of available resources, prepare their Contingency Plans for likely and worst case scenarios.
- NDMA formally initiated the process in January 2014 with the Monsoon Review Conference and requested the provinces to complete the process by first week of June 2014 particularly at district level which is the actual implementation level for response to any disaster situation. PDMA's were required to assimilate the district plans into a comprehensive provincial contingency plan. The provincial authorities remained engaged with the district authorities during the process to assist in formulation of their plans.
- A number of consultative sessions and coordination meetings were organized at all levels. However, high level meetings in all provinces and regions to review levels of preparedness of line departments, districts were held to consult relevant agencies on contingency plans and resolve outstanding issues. These high level meetings were chaired by the respective Chief Ministers or Chief Secretaries while Chairman, NDMA along with his team and representatives of relevant federal agencies, provincial line departments, divisional / district authorities participated.
- In order to further consolidate and coordinate national preparedness for upcoming monsoon season, NDMA organized a two days National Conference on monsoon preparedness on 30th June - 1st July 2014 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 Monsoon Contingency Plan.

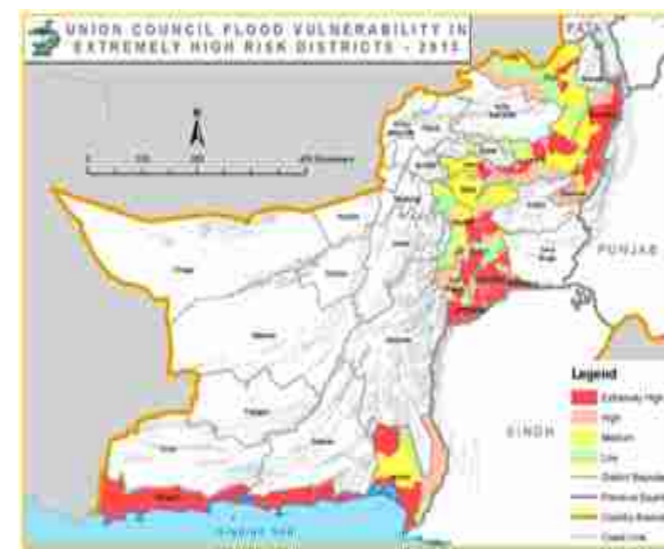


OVERVIEW PROVINCIAL / REGIONAL PLANS

- Provincial / regional plans have been prepared by respective Governments. Salient features of provincial / regional level of preparedness and plans are given in ensuing paras (Consolidated states of relief items and rescue equipment are attached at Annex C & D respectively).

Balochistan

- PDMA has identified two scenarios worst case scenario based on Cyclone YEMYAN (caseload – 75,000 HHs) and Moderate case scenario based on floods 2012 (caseload – 35,000 HHs) PDMA has identified 93 extremely high vulnerable and 103 highly vulnerable union councils in 26 districts. Their stocks indicate



1,082 shelters, 1,700 mosquito nets, 4,187 blankets, 700 jerry cans, 31 dewatering pumps and 29 boats. The gaps identified include 13918 shelters, 15,000 Kitchen sets, 13,300 mosquito nets, 10,813 blankets, 14,300 jerry cans, 29 dewatering pumps and 21 boats. Stock piling has been done in Quetta, Loralai, Sibbi, Nasirabad, Khuzdar, Lasbela and Gwadar. Evacuation plan and safe sites in all vulnerable districts already identified. An SMS alert system has also been designed that for the dissemination of Early

Warnings and other precautionary messages to the vulnerable communities

In case of Drought like Situation

Provincial Food Department would ensure wheat availability and availability of other food items while Agriculture & Live Stock Department would arrange / preposition livestock fodder, agriculture inputs and vaccination and Health Department would arrange for medicine / vaccines. Similarly PHE Department has been tasked to plan / arrange for potable drinking water.

Khyber Pakhtunkhwa

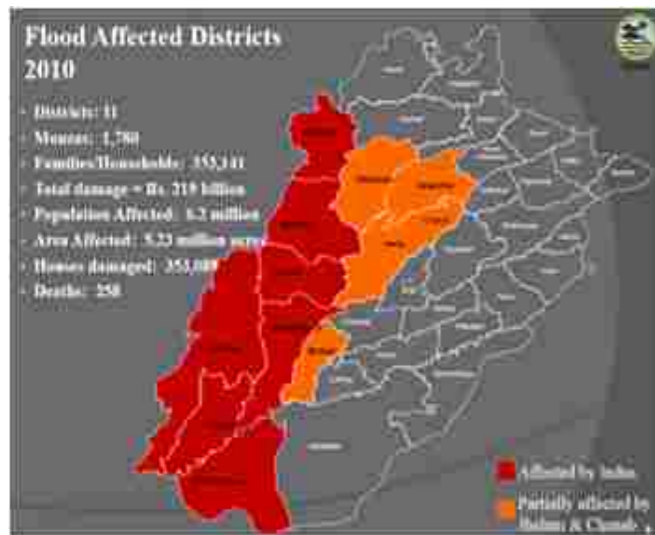
- PDMA has identified 10 most vulnerable districts, 9 moderately vulnerable districts and 6 least vulnerable districts for monsoon contingency plan. Their planned relief caseload is 37,339 HHs in case of low level floods.
- Total stock held with PDMA, KP are 13195 tents, 30739 blankets, 3279 kitchen sets and 5578 mosquito nets and the identified gaps are 34060 kitchen sets, 34572 hygiene kits, 65926 jerry cans and 73705 buckets for low level floods. PDMA needs Rs 1180.497 million for management of floods at low level floods (Rs 594.01 million for off camp population and Rs 586.483 million for in



camp population). PDMA has also requested for allocation of Rs 500 Million each to Irrigation and C&W Department for mitigation and rehabilitation work and Rs. 565.209 Million for procurement / stocking of NFIs, Tents and hygiene kit for low impact scenario.

Punjab

- All the risk prone districts have been identified and divided into three categories i.e. 12 High risk, 14 medium risk and 10 low risk districts. Districts for various flood disaster (riverine, urban, flash floods and urban floods) have been identified and categorized. Detailed work plan with roles and responsibilities of each department has been described in detail and various templates of reports / returns are included with organization diagrams and contact numbers.
- PDMA Punjab has reported that all the vulnerable points along the Nullahs Aik, Deg, Palkhu, Basanter, Nikki Deg & Bein have been identified and work is in progress and that all the five breaches of Nullahs Aik have been plugged. Necessary directions have also been issued to all concerned to remove encroachments along



irrigation system/structures/water bodies and de-silting and cleansing work on 18 drains of Gujranwala Division has started.

- PDMA's stock position includes 29,769 Tents, 5,768 Mosquito Net, 225 Blankets, 35 De-watering Set, 74 Out Board Motor Engines (OBMs), 2,502 Life Jacket.

Sindh

- Likely scenario has been worked out on likely case loads of floods 2010, 2011, 2012 and 2013 (6,287,782) with requisite cushion to address an unpredictable spike in monsoon rains. Worst case Scenario is based on worst case loads of



years 2010 and 2011 (13,770,000). PDMA has made contingency plan on the basis of 6 Divisions (Larkana, Sukkur, Hyderabad, Mirpur Khas, Bhambhore and Karachi) The plan contemplates District Administrations / DDMA's, backed by PDMA would be the first responders in case of emergency and shall handle relief activities for the initial 10-15 days. PDMA will assist by making available the required stocks to districts as per their need.

- PDMA stocks indicate 25,000 tents, 50,000 mosquito nets, 20,000 plastic sheets, 10,000 jerry cans, 50 dewatering pumps and 25,000 water filters. For likely scenario, PDMA has identified gap of 473,981 tents, 1,047,962 food baskets, 473,981 mosquito nets.

FATA

- FDMA has planned caseload on the worst case scenario of 55893 households, the medium case scenario of 29779 households and the low case scenario of 17551 households. Consolidated needs and requirements include 9846 tents and 7480 MT for the worst case scenario, 4967 tents and 3876 MT in case of medium case scenario and 2931 tents and 2279 MT in case of low case scenario. Relevant sites for camp management have been identified in all agencies by Political



administration in consultation with FDMA.

- FDMA stocks indicate 1200 tents at Peshawar and 28 mobile health units available. There are no funds placed at disposal of FDMA for monsoon management. Irrigation department has identified / prioritized 101 vulnerable sections for monsoon emergency measures and need RS 29.5 million. FDMA is also currently engaged in DP management and is being supported by NDMA and other agencies.

Gilgit - Baltistan

- GBDMA plan caters for threat of Debris Flow and flash flooding in the areas of Gilgit - Baltistan. To reduce the effects of monsoon flooding, GB govt has carried out rehabilitation of protective walls around power stations, community



infrastructures, protection of govt and private installation and establishment of early warning systems. GBDMA has developed a procedure for transition from normal situation to full scale activation for disaster. Roles and responsibilities of various departments have been elaborated in detail through flow charts, names and phone numbers of important persons for each district.

- GBDMA has identified that, besides other things, they need 2100 CGI sheets, 1400 winterized tents, 4900 tents, 21000 blankets and 7000 quilts.

Azad Jammu and Kashmir

- SDMA has worked out anticipated caseload of 10,449 families for upcoming monsoons.
- Available resources of SDMA include 1500 tents, 1500 sleeping bags, 800 plastic mats, 6000 blankets, 1000 jerry cans and 2 generators. SDMA maintains stockpile of food items for 100 families' and Non-food items for 800 families in



central warehouses at Muzaffarabad. They have indicated requirements of 19055 tents, 50816 Mattresses, 19055 Plastic Sheet, and 76224 Blankets while requirement of food is about 3046.89 (MTs) for three months.

Islamabad Capital Territory

- In ICT the effect of Monsoon is likely to be lesser in intensity because of natural drainage.



Schools, being in recess during the period, have been planned as relief camps in case of emergency.

- Provision of relief has been planned by the District administration from Government funding.

NATIONAL MONSOON CONTINGENCY PLAN 2014

Scenarios

The scenarios considered for the purpose of calculating caseloads are as under:-

Likely Scenario

PMD Forecast projects relatively weaker monsoon as compared to 2013. The level of preparedness of Provincial Irrigation Departments and other agencies is generally satisfactory. Therefore, case loads of 2013 can serve as a good guide on what is expected in 2014 monsoons. It is also feared that due to weak monsoon in the Southern Pakistan a likely El Nino phenomena could also develop that can exacerbate already water stressed conditions in South Eastern Sindh. Hence the need to factor in a possibility of moderate drought conditions in non-irrigated distts of Sindh in particular, and areas of Cholistan in Punjab and Southern Balochistan, in general. Besides, owing to Pakistan's past experience and the Global Climate Change phenomenon, recurrence of extreme events, floods and droughts alike, during monsoons cannot be totally ruled out. Foregoing, the likely scenario for Punjab, Sindh and Balochistan has been based on caseloads of 2013. However, since the case loads for remaining country (Gilgit - Baltistan, FATA, Khyber Pakhtunkhwa and AJK) in 2013 were insignificant, therefore, the preparedness level for these areas has been made for a low level scenario to ensure a meaningful level of preparedness. A 50% cushion has been proposed to be built in the national capacity to respond to a freak phenomenon and ability to transit to a higher level of emergency including drought like situation. The historical data of past floods and caseload for monsoon 2014 is appended below:-



Year	Punjab	Sindh	Balochistan	KP	AJ&K	FATA	GB	Total
2007	-	-	1.7 M	-	-	-	-	
2010	7.32 M	6.74 M	0.9 M	2.9 M	0.8 M	0.24 M	0.16 M	19.06M
2011	-	8.2 M	0.18 M	-	-	-	-	8.38 M
2012	0.8 M	3.17 M	0.8 M	-	-	-	-	4.77 M
2013	0.8 M	0.168 M	0.52 M	0.001 M	-	-	-	1.489
2014	0.8 M	0.52 M	0.168 M	0.145 M	0.04 M	0.012 M	0.008 M	1.693 M

PLANNING PARAMETERS

- The Monsoon Contingency Plan 2014 is based upon PMD weather forecast for Monsoon 2014 and SUPARCOs prediction of reduced glacial cover and hence lesser impact on river flows.
- The case loads have been planned on 2013 floods i.e. relatively lower levels as compared to preceding years for following reasons:
 - The forecast for year 2014 appears marginally better as compared to the year 2013 with lesser probability of floods.
 - Riverine floods are presumably less likely but intense rain fall in North Eastern catchments can cause difficulties in the eastern rivers of Chenab, Ravi and Sutlej.
 - Rain induced emergencies especially around the confluence of Punjab, Sindh and Balochistan due to hill torrents from Koh-e-Suleiman and Khirthar Ranges might be lesser but cannot be ruled out altogether.
 - Levels of preparedness of DMAs especially of Districts that are vulnerable to floods has improved through capacity building programs organized over last two years.
- The preparatory measures on DRR undertaken so far are likely to considerably reduce / mitigate the likelihood of floods and its adverse consequences. Levels of preparedness of flood protection structures, as indicated by FFC and Irrigation Departments, has marginally improved.
- Provinces / Regions are expected to meet the needs of likely scenario from within their own resources. NDMA and other agencies will facilitate in generating additional resources in case the magnitude of disaster exceeds local / provincial capacities.
- Capacity to transit to potentially more acute emergency is being retained through National Reserve Stocks maintained by NDMA.
- The national capacity for production of shelter, NFI, Health and WASH stocks has been taken into account in determining stocking levels to be maintained for four weeks i.e. the time required to mobilize the additional resources, should the magnitude of disaster dictate such a need.
- UN system has indicated that, owing to donor fatigue and utilization of stocks in displaced persons situation, the stocking position within the country is low and therefore any support in the initial phases may not be of the desired level.
- 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 Nets

One large mosquito net each for two persons will be needed for entire affected population.

Blankets

Owing to weather dictates from July to October, a summarized blanket requirement has been 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 up to four weeks i.e. 4 x food packs (29 kg each) per household (details of food pack at Annex E).

Water

The provision of safe drinking water will primarily be ensured through water purification tablets for

90% population while limited number of filtration plants for the remaining 10% 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 not been calculated because of variance between origin and destination, impact of intensity and geographic spread of the disaster on communication infrastructure.

Note: The aforementioned gap analyses takes into account the stocking levels of all DMAs and government agencies. However, the gap analysis at national level done by NDMA is based upon aforementioned rationale and therefore it may be at variance from the gap analyses of some provincial / regional DMAs.

Triggers for Response

NDMA will intervene in following circumstances:

- DMAs are unable to cope with the situation and have used up all of their resources while PDMA's have consumed 50% of their indicated stocks.
- Any one or more provinces 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.
- MIRA indicates large scale damages / losses warranting national intervention (Details of MIRA mechanism are at Annex F).

STOCKING LEVELS AND FINANCIAL REQUIREMENTS

Likely Scenario

Need & Gap Analysis - NFIs

Provinces / Regions	Caseload	Items								
		Shelters			Blankets			Mosquito Nets		
		Held@	Need	Gap	Held	Need	Gap	Held	Need	Gap
Balochistan	0.168 M	1,082	12,000	10,918	4,187	42,000	37,813	1,700	84,000	82,300
Punjab	0.8 M	29,769	57,143	27,374	11,465	200,000	188,535	5,768	400,000	394,232
Sindh	0.52 M	25,000	37,143	12,143	Nil	130,000	130,000	50,000	260,000	210,000
KP	0.145 M [^]	13,195	10,357	-	30,739	36,250	5,511	5,578	72,500	66,922
FATA	0.012 M [^]	Nil	858	858	Nil	3,000	3,000	Nil	6,000	6,000
AJ&K	0.04 M [^]	1,500	2,858	1,358	6,000	10,000	4,000	Nil	20,000	20,000
GB	0.008 M [^]	3,639	571	-	3,417	2,000	-	Nil	4,000	4,000
TOTAL	1.693 M[^]	74,185	120,930	52,651	55,808	423,250	368,859	63,046	846,500	783,454
NDMA (@50%)	0.8465 M	72,086	60,465	-	84,302	211,625	127,323	46,104	423,250	377,146
GRAND TOTAL	2.5395 M	146,271	181,395	52,651	140,110	634,875	496,182	109,150	1,269,750	1,160,600

[^] 5% of 2010 Case load * Food Packs (29 kg) – 4 packs for each Household for four weeks, @ includes NDMA and ERC stocks

Need & Gap Analysis - Food Packs

Provinces / Regions	Caseload	Food Packs		
		Held	Need	Gap
Balochistan	0.168 M	75,000	96,000	21,000
Punjab	0.8 M	6,937	457,143	450,206
Sindh	0.52 M	Nil	297,143	297,143
KP	0.145 M	150	82,858	82,708
FATA	0.012 M	Nil	6,857	6,857
AJ&K	0.04 M	Nil	22,857	22,857
GB	0.008 M	318	4,572	4,254
TOTAL	1.693 M	82,405	967,430	885,025
NDMA (@50%)	0.8465 M	Nil	483,715	483,715
GRAND TOTAL	2.543 M	82,405	1,359,313	1,368,740

Food packs being perishable items may not be kept in stock but contingent funds to be made available with respective Authorities.

Need & Gap Analysis - Water

Items	Held	Need	Gap	Cost
Purification Plants	92	131	39	25.4 M
Purification Tablets (for 10 days)	0.42 M	7.65 M	7.23 M*	25.31 M
Total				50.71 M

* may be procured

Financial Needs

Province	Items					Amount Req.
	Shelters	Food Packs	Blankets	Mosquito Nets	Water	
Balochistan	131.02 M	44.6 M	34.03 M	41.15 M	-	250.8 M
Punjab	328.5 M	955.8 M	169.7 M	197.2 M	-	1,651.2 M
Sindh	145.72 M	630.83 M	117 M	105 M	-	998.55 M
KP	Nil	175.6 M	4.96 M	33.46 M	-	214.02 M
FATA	10.3 M	14.6 M	2.7 M	3 M	-	30.6 M
AJ&K	16.3 M	48.5 M	3.6 M	10 M	-	78.4 M
GB	Nil	9.1 M	Nil	2 M	-	11.1 M
TOTAL	631.84 M	1,879.03 M	331.99 M	391.81 M	-	3,234.67 M
NDMA	Nil	1,027 M	114.6 M	188.57 M	50.71 M	1,380.88 M
GRAND TOTAL	631.84 M	2,906.03 M	446.59 M	580.38 M	50.71 M	4,615.55 M

Worst Case Scenario

Total Needs Less Water

Provinces	Caseloads	Items			
		Shelters	Food Packs	Blankets	Mosquito Nets
Balochistan	1.7 M	121,429	971,429	425,000	850,000
KP	2.9 M	207,143	1,657,143	725,000	1,450,000
Punjab	7.32 M	522,857	4,182,857	1,830,000	3,660,000
Sindh	8.2 M	585,714	4,685,714	2,050,000	4,100,000
FATA	0.24 M	17,143	137,143	60,000	120,000
AJ&K	0.8 M	57,143	457,143	200,000	400,000
GB	0.16 M	11429	91,429	40,000	80,000
TOTAL	21.32 M	1,522,858	12,182,858	5,330,000	10,660,000

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

Water Requirement

Items	Held	Need	Gap	Cost
Purification Plants	92	3,280	3,188	2,072.2 M
Purification Tablets (for 10 days)	0.42 M	191.88 M	191.46 M	670.11 M
TOTAL				2,742.31 M

Financial Needs

Province	Items					Amount Req.
	Shelters	Food Packs	Blankets	Mosquito Nets	Water	
Balochistan	1,444.1 M	1,903.12 M	378.73 M	424.15 M	-	4,150.1 M
Punjab	5,917.1 M	8,865.5 M	1,636.7 M	1827.1 M	-	18,246.4 M
Sindh	6,728.6 M	9,947.8 M	1,845 M	2025 M	-	20,546.4 M
KP	2,327.4 M	3,517.8 M	624.8 M	722.2 M	-	7,192.2 M
FATA	205.72 M	291.2 M	54 M	60 M	-	610.92 M
AJ&K	667.72 M	970.5 M	174.6 M	200 M	-	2,012.82 M
GB	93.48 M	193.43 M	32.9 M	40 M	-	359.81 M
TOTAL	17,384.12 M	25,689.35 M	4,746.73 M	5,298.45 M	2,742.31 M	55,860.96 M



PART II DROUGHT CONTINGENCY PLAN

Profile

Drought differs from other natural disasters in the sense that the effects of drought often accumulate slowly over a considerable period of time, are less obvious and may linger on for years even after the termination of the event. Because of this, drought is often referred to as a “creeping phenomenon.” The El Niño and La Niña phenomena also cause drought conditions in Pakistan. The El Niño on record occurred in 1982-1983 and 1997-98, and meteorological droughts occurred in these years in Pakistan. During the recent past in 1998-2001, Pakistan faced one of the worst droughts in its history due to extremely low rainfall. The recorded rainfall robustly deviated in a negative direction throughout the country during these prolonged dry spells. Pakistan has a long latitudinal extent and the rainfall variability is very high. The climate of the country in the lower southern half is arid and hyper-arid. Some areas in the southern region remain drastically dry and are always vulnerable to droughts. If subsequent seasons fail to generate significant precipitation, the drought conditions emerge in these areas and become more severe.

Impact

In recent years, droughts are reported to have negatively impacted Balochistan, Sindh and Southern Punjab where average annual rainfall is as low as 200-250 mm. Drought hazard tends to visit the vulnerable regions of the country in a cyclical pattern, normally associated with the warming of equatorial Pacific and the resultant onset of the El Niño phenomenon. Underlying socio-economic vulnerabilities tend to exacerbate the drought impact; The drought situation is characterized by food insecurity, prevalence of severe malnutrition and inadequate access to health and veterinary services. Incidence of sheep pox and other diseases lead to livestock loss, thus severely undermining

rural livelihoods and coping mechanisms. Low temperatures and relatively severe winter conditions cause vulnerability to winter related ailments.

PMD Forecast 2014

As per PMD seasonal forecast the chances for less than average rainfall in the Southern arid parts of the country may lead to mild drought like situation. Forecast till August for 2014 indicates 30 % deficient rains in the drought affected areas of Sindh and parts of South Punjab. Normal to above normal winter rains and consequent hydration of water reservoirs in the vulnerable regions of Balochistan tend to mitigate drought impact.

• Priority of responses

- Access to potable water for human and animal consumption.
- Food security.
- Provision of livestock fodder.
- Access to emergency health response.
- Access to veterinary health response.
- Administering needs based nutrition supplements;
- Provision of cash compensation to build coping mechanisms of the worst affected.

• Triggers for Responses

- **Meteorological Drought**
Defined by PMD.
- **Water Scarcity**
Water stocks falling below one month's needs should trigger responses. Monitoring by the affected district government (s).
- **Food Scarcity**
Food and animal fodder stocks falling below one month's needs to trigger responses. In

this regard SUPARCO's monthly update impacting crops / fodder will also help activate responses.

• Health Emergency

- Indicators to be defined by the provincial / district health departments for activating responses.

• Animal Health Emergency

- Indicators to be defined by the provincial / district livestock departments to activate responses.

• Nutrition Emergency

- Indicators to be defined by the provincial / district health departments for activating responses. Will require technical inputs and support from relevant humanitarian partners.

▪ Recommended Preparedness Measures and Responses

• Water Scarcity

Affected districts should store 45 days potable water needs for human and animal consumption. Recommended responses include effective rain water harvesting, water tankering and tapping from surface and sub-surface sources;

• Food Scarcity

Affected districts supported by PDMA's to maintain one month's food stock for the anticipated relief caseload.

• Animal Fodder

One month stock of animal fodder to be maintained by the affected districts supported by the provincial government.

• Health Emergency

Disease monitoring, preventive and curative responses to be executed by the affected district health departments supported by the provincial government. Inventory of life saving medicines should be maintained.

• Livestock Epidemic Prevention

Provincial and affected districts livestock departments to monitor onset of contagious

diseases and trigger preventive and curative responses to pre-empt livestock loss. Adequate preventive and curative medicinal stocks to be maintained.

• Nutrition Responses

Health departments of affected districts supported by provincial health departments should monitor the situation and address acute mal-nutrition among children in particular, with the support of humanitarian partners.

• Supporting Population Migration

Affected districts and PDMA's should prepare contingency plans to support drought related population displacements to relief zones.

• Supporting Needs of the Vulnerable Groups

Should figure prominently in responses as a cross cutting theme.

• Response Articulation Arrangements

Responses will be led by NDMA at the Federal level and it will coordinate inputs of relevant ministries, departments and federal institutions. PDMA's will lead the response at the provincial level and will coordinate inputs of relevant provincial departments and agencies.

• Cash Compensation

Federal and affected provincial governments may have to facilitate in dispensing cash compensation for addressing critical lifesaving needs and to compensate for loss of livestock and livelihoods means.

PART III

Roles & Responsibility & Coordination Aspects

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 (FFC)

- Working under the ministry the FFC 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:-
- Countrywide monitoring of flood works.
- Comprehensive Flood Management Plan for 10 years initiated.
- 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, reinforces national floods early warning through deployment of flood telemetry system. Functioning of Flood Telemetry & HF Radio Systems (Annex G) and gauges used for river flow/discharge data collection and transmission besides operationalising flood control room at Tarbela, Mangla and Chasma as part of preparedness measures for Monsoon 2013.

Pakistan Commissioner for Indus Waters (PCIW)

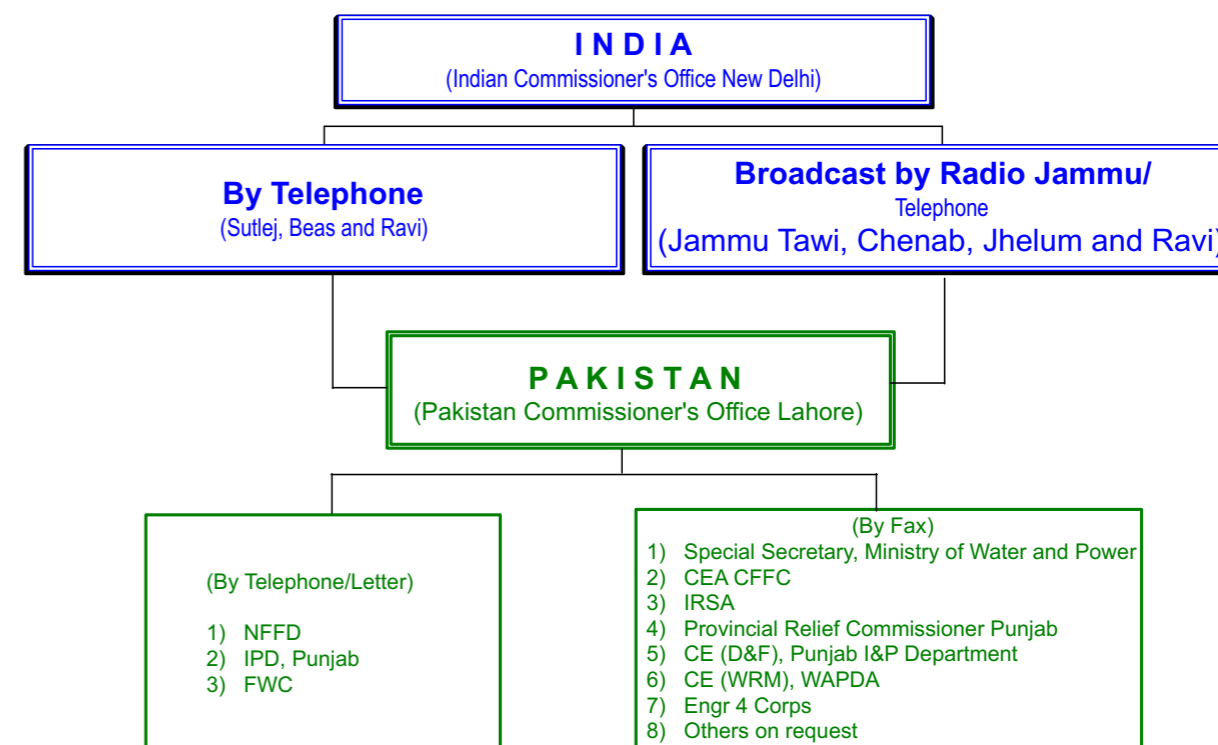
PCIW is responsible for making arrangements with India for advance information on flood inflows from the eastern rivers. PCIW has requested India to provide advance information on inflows in Chenab, Ravi, Beas, Sutlej, inflows and reservoir levels of Bhakra, Pong and Thein dams; and Salal Hydroelectric 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 works (Breaching sections are at Annex H).



PMD

- 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:
- Inform public on the weather forecast and issue warning in case of potential threat.
- Disseminate flood information to the provincial and district heads by phone and fax on a daily basis during flood season.
- Share weather forecasts and early warning information with NDMA, F/G/S/PDMAs, and the media on a regular basis in the monsoon period.
- Coordinate with the FFC, FWC, WAPDA, PCIW, FFD, and SUPARCO in the monsoon period.
- Collect rain data on a regular basis, consolidate and share it with NDMA.
- Disseminate warnings on hazards to relevant users through speedy communication in coordination with NDMA.

FFD

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

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 role of providing remote sensing and satellite maps before and during disasters in order to show their impact, providing remote sensing and satellite maps for hazard risk zones to enable relevant agencies to take measures for minimizing damage to population and property and prepare post-disaster imagery maps.

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 I.

NATIONAL RESPONSE CAPACITIES

Armed Forces

Armed Forces Mobilize and deploy resources when called upon by district / provincial / Federal management Authorities and provide assistance in saving responses including, 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 will also share information on resource deployment and flood management with Provincial / Federal Management authorities on daily basis.

Maritime Security Agency

Reinforces early warning of sea borne efforts and contributes to seaborne /coastal search & rescue and relief operations.

Pakistan Coast Guards

Coast Guard augment coastal search & rescue and relief operations on required basis.

Emergency Relief Cell (Cabinet Division)

Maintains stocks of emergency relief stores and mandated to complement Federal & Provincial Governments efforts in the area of relief at the time of needs. ERC has the 6th Aviation Squadron at its disposal with 6 serviceable helicopters out of a total of 9 for rescue and relief operations. ERC has 3,470 tents, 4000 blankets, 6,104 mosquito nets, 614 life jackets and 18 small boats in its stocks.

National Health Emergency Preparedness and Response Network (NHEPRN)

National Health Emergency Preparedness Response Network (NHEPRN) is a coordinating body working under Ministry of National Health Services & Coordination (NHRSC), 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 2.543 M affected population, health care services have been catered for around 2 M by Provincial Health Department (DoH) and Central Government. WHO has also shown its commitment for the provision of essential medical care for 2 M affected people if needed. Health related plans and stocks are reflected at Annex J.

Emergency Services - Rescue 1122

Rescue 1122 is an emergency response service that conducts search & rescue operations across Punjab. Rescue 1122 has been introduced in AJK for similar functions. Limited response system of Emergency Services Rescue 1122 has also been launched in some districts of Khyber Pakhtunkhwa which is being scaled up in other districts of KP. Moreover, the Government of Balochistan has also started establishing Rescue Service 786. Details of equipment already stated at Annex D.

Urban Search and Rescue (USAR) Teams

USAR has specialized capacity for search and rescue particularly in collapsed structure. 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. 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 already stated at Annex D.

NLC

Plan and organize movement of logistics from base(s) to affected areas on request and designate a representative to the NEOC, if needed for liaison with private transport agencies and ensuring smooth transportation of relief goods to affected areas.

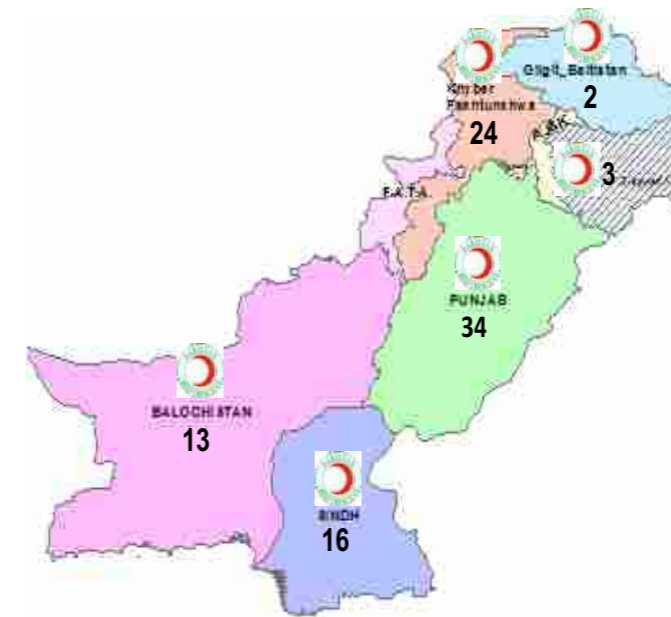
Types of Vehicles	Held	Available
Dry Cargo	407	80
Liquid Cargo	252	50

UN 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 stocks, details already covered at Annex C.

PRCS

Disaster Management is the core area of work of the Pakistan Red Crescent Society.



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.

ROLES & TASKS OF DISASTER MANAGEMENT AUTHORITIES (DMAs)

NDMA

- National Emergency Operations Centre (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 Tel # 051-9205037 and 111-157-157. Fax# 051-9205086.
- Coordinate emergency response of the federal government in the event of a national level disaster through the National Emergency Operations Centre (NEOC).
- 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.
- Organize initial and subsequent assessment of disaster affected areas and determine the extent of loss / damage and volume of relief required.
- Coordinate and inform all concerned departments to get prepared for emergency response. Keep print and electronic media updated on a regular basis.
- Coordinate with Armed Forces.
- Coordinate with I/NGOs, UN bodies and philanthropist Organizations for resource mobilization.
- Mobilize and deploy resources, e.g., search and rescue medical teams in the affected areas.
- Supply of food, drinking water, medical supplies and non-food items to the affected population. Prepare a transition plan from relief to recovery Program.
- Organize regular media and public information briefings.
- Prepare Situation Reports (SITREP) on daily and weekly basis and circulate to all concerned as per Annex M.
- Consistent with the needs and national policies NDMA also coordinates responses of UN Agencies and the larger humanitarian community.

Provincial / Regional DMAs

- The Provincial Emergency Operations Centres (PEOC) are activated at respective PDMA during monsoon season to respond to any threatening disaster situation or disaster.
- Coordinate emergency response in the event of a disaster, through the Provincial/Regional Emergency Operation Centre (P/R/SEOC).
- Disseminate early warning information to all stakeholders.
- Conduct rapid assessment and launch quick response.
- Collect information on damage status through DDMA and promptly plan for the resource requirement for relief operation and share it with NDMA.
- Provide food, drinking water, medical supplies, and non-food items to the affected population.
- Keep NEOC abreast of the latest situation.
- Warn all concerned departments to prepare for emergency response.
- Coordinate with NDMA and Armed Forces and keep them informed on the situation and resource mobilization.

- Keep print and electronic media updated on a regular basis.
- Coordinate with districts to mobilize community volunteer groups for emergency operations.
- Organize regular media and public information briefings.
- Forward Situation Reports (SITREP) on daily and weekly bases to all concerned.
- Organize initial and subsequent assessment of disaster affected areas and determine the extent of loss/ damage and volume of relief required.

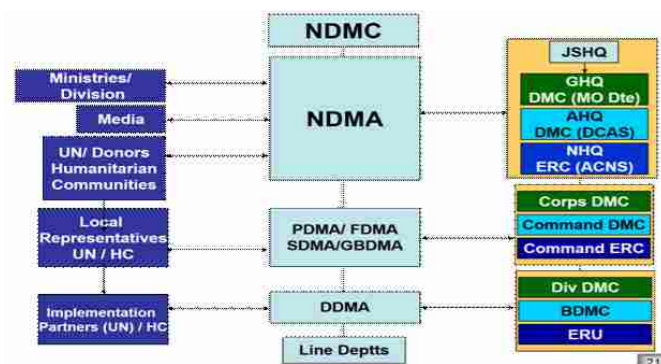
District DMAs

- DDMA shall activate District Emergency Operations Centres (DEOCs).
- In the event of a disaster, organize emergency response through the District Emergency Operation Centre (DEOC).
- 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.
- Inform P/R/SEOC and NEOC of the situation.
- Organize evacuation on priority basis.
- Conduct initial and subsequent assessment of disaster affected areas and determine the extent of loss and damage.
- Collect information on damage status and

- promptly plan for the resource requirements for relief operation and share it with the PDMA and NDMA.
- Provide food, drinking water, medical supplies, and non-food items to the affected population.
- Deploy medical, search and rescue and emergency response teams immediately.
- Set up relief camps and provide relief in the camps.
- Coordinate with F/G/S/PDMAS and NDMA to deploy resources for emergency response.
- Mobilize community volunteer groups for emergency operations.
- Liaise with NGOs, philanthropist Organizations for resource mobilizations for response.
- Develop a complaint mechanism system and set up the complaint mechanism cell in the DEOC and at the sub district level.
- Hold regular media and public information briefings.
- Forward Situation Reports (SITREP) on daily and weekly basis to all concerned.
- Maintain a database of the Registration of all relocated population in camps and overall affected population on gender segregated basis.
- Prioritize vulnerable segments of society in their relief operations.
- Facilitate early return of relocated population and help in restoring their lives and livelihoods.

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.



- In addition, NDMA has interface with federal, provincial and international organisations:-

Available Humanitarian Coordination Infrastructure

- 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.
- 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:-

• Policy Coordination Meeting

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 cope 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's, Armed Forces of Pakistan, Donors, HC / RC of UNOCHA.

• Steering Committee

This committee is only activated when PCM agrees to launch the Humanitarian Assistance Appeal to international community. Main function of this committee is to verify / scrutinize the projects on need / requirement basis. It is co-chaired by NDMA and HC of UNOCHA and comprised of MoFA, EAD and respective PDMA etc.

• National Coordination Committee

This serves as adviser to PCM on all operational issues and it is activated on finalising decision for launching of appeal for International Humanitarian Assistance.

• 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.

LEVELS OF EMERGENCY

• Level 1 (District)

- Localised emergency events which DDMA / District Level is capable of handling on its own.
- DEOC Active
- Rapid Assessment Conducted
- Initiate Relief Operations
- Coord with Line Depts / PDMA

• Level 2 (Provincial)

- Emergency / Disaster which is beyond capabilities of District Level, PDMA takes the lead role.
- PEOC Active.
- Initiate Relief Work.
- Coord with District / Provincial / National Departments /
- NDMA

• Level 3 (National)

- In case disaster / emergency is beyond capabilities of Provincial / Regional Govt, NDMA takes a lead role.
- NEOC Active.
- Coord with District / Provincial / National Depts / PDMA / Armed Forces / UN / NHN & PHF.
- Initiate Relief Work.

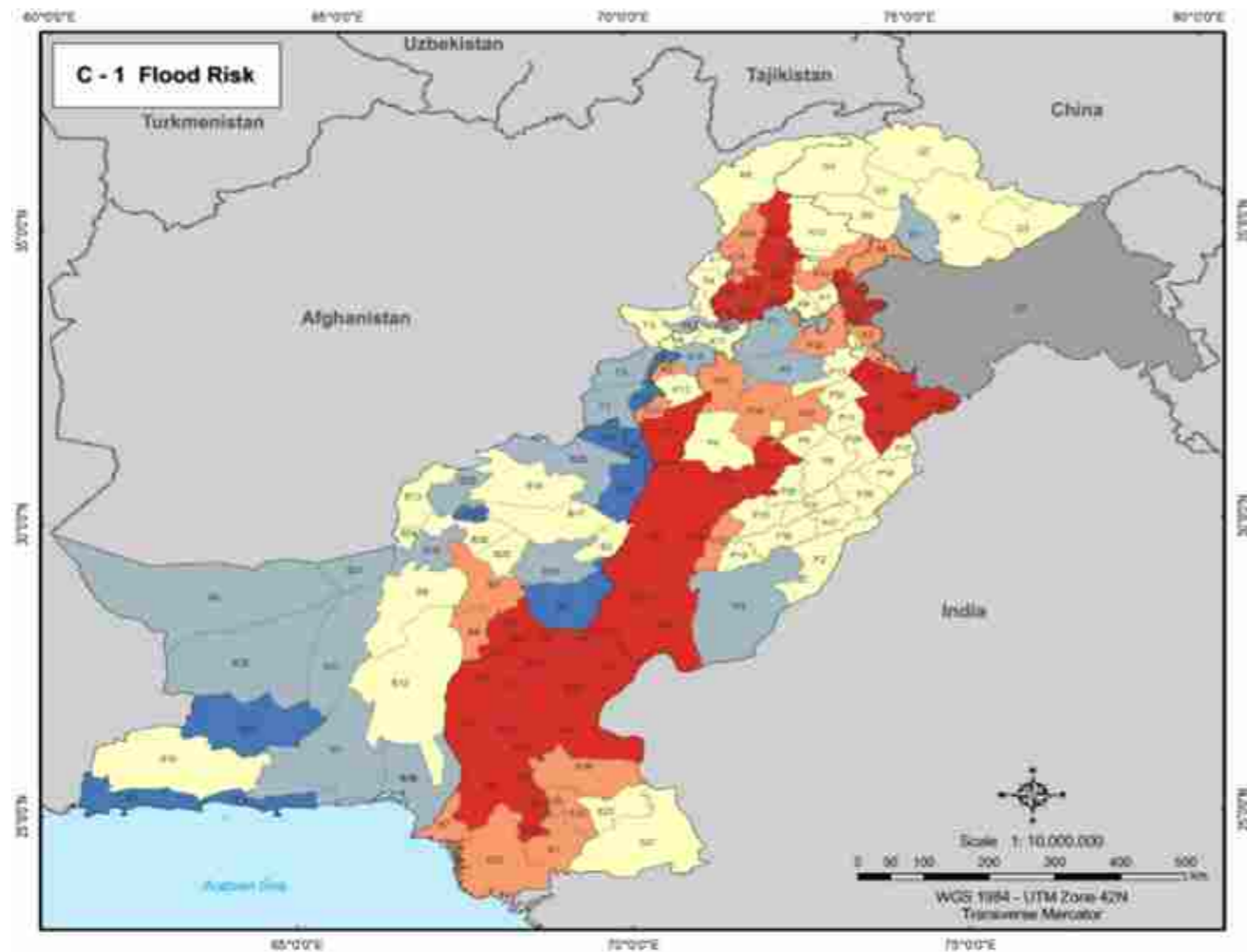
Gender and Child - Major Concerns of Vulnerable Groups

National Policy Guidelines on Vulnerable Groups in Disasters have been developed to address the needs and concerns of vulnerable groups in all phases of disasters. Comprehensive effective response, recovery and rehabilitation measures which will be ensured generally for vulnerable groups are reflected at Annex K.

Daily SITREP Format is attached at Annex L

Important Contact Numbers of DMAs / Agencies are attached as Annex M.

RISK MAPPING: DISTRICTS VULNERABLE TO FLOODS



K2	Bannu	K4	Buner	K7	D.I. Khan	K15	Malakand
B7	Jafferabad	K5	Charsada	K14	Lower Dir	K18	Nowshera
B20	Nasirabad	K6	Chitral	K17	Mardan	K20	Swat
K22	Swabi	P12	Jhang	P18	Layyah	P21	Mianwali
P34	Sialkot	P33	Sheikhupura	P32	Sargodha	P25	Narowal
P23	Muzafargarh						
P7	D.G. Khan	P29	Rajanpur	P28	Rahim Yar Khan	S20	T.M. Khan
S4	Hyderabad	S8	Kashmore	S22	Thatta	S19	T.A. Yar
S18	Sukkur	S17	Shikarpur	S14	Nawabshah	S13	Now sheraferoz
S10	Larkana	S9	Khairpur	S5	Jacobabad	S3	Ghotki
S2	Dadu	S1	Badin				
A5	Muzafarabad	A7	Poonch	A1	Bagh	A4	Mirpur
A8	Sudhnoti	A9	Hattian	A10	Haveli		

**HUMANITARIAN RESPONSE FACILITIES IN PAKISTAN
WAREHOUSES**

Ser	Location	Status
Phase -1		
1	Muzaffargarh	Construction work completed and handed over to PDMA Punjab
2	Quetta	Construction work completed and handed over to PDMA Balochistan
Phase-2		
3	Lahore	60% of Construction work completed . Project is likely to be completed in September 2014
Phase -3		
4	Hyderabad	Construction work is in progress. The project is expected to be complete by early 2015
5	Peshawar	Construction work is in progress. The project is expected to be completed by early 2015
Phase-4		
6	Sukkur	Land acquisition by PDMA is in progress.
7	Muzuffarabad	Site confirmation is under progress .
8	Gilgit	Plot levelling in its final stage.
9	Islamabad	No site has been identified so far Funding constraints by WFP

HUMANITARIAN RESPONSE FACILITIES IN PAKISTAN FLOSPANS

Ser	Province/Region	Priority Districts	Flospan planned in the year 2014
1	Punjab	Rahim Yar Khan	1
		Jhang	1
		Layyah	1
		Sub Total	3Nos
2	Sindh	Ghotki	1
		Tando Muhammad Khan	1
		Sub Total	2Nos
3	Balochistan	Turbat	1
		Sibi	1
		Ziarat	1
		Khuzdar	1
		Sub Total	4Nos
4	KP	Dir Upper	1
		D.I. Khan	1
		Tank	1
		Mansehra	1
		Dir Lower	1
		Sub Total	5 Nos
5	AJ&K	Hattian	1
		Bagh	1
		Sub Total	2 Nos
6	GB	Astore	1
		Ghanche	1
		Sub Total	2Nos
7	FATA	Bajaur Agency at Khar	1
		Mohammad Agency at Ghallani	1
		Sub Total	2Nos
8	ICT	CMT&SD Golra	4Nos
Grand Total			24 Nos

Note: Total 36 x flospans have already been installed at various districts of the country by WFP during the year 2013

CONSOLIDATED STATE OF CRITICAL RESOURCES AND MISC EQUIPMENT

RELIEF ITEMS	NDMA	PROVINCIAL / REGIONAL DMAS							ERC	PRCS	Total In country
		KP	BALOCHISTAN	PUNJAB	SINDH	AJ&K	GB	FATA			
		HELD	HELD	HELD	HELD	HELD	HELD	HELD			
Jerry Cans	1,129	8,211	700	-	10,000	1,000	-	-	-	93,515	114,555
Tents	68,616	13,195	1,082	29,769	25,000	1,500	3,639	-	3,470	35,970	182,241
Tarpaulins	720	12,075	-	-	-	-	11	-	-	83,197	96,003
Blankets/ Quilts	80,302	30,739	4,187	11,465	-	6,000	3,417	-	4,000	238,917	367,912
Sleeping Bags	6,355	-	348	-	-	1,500	-	-	-	-	8,203
Food Packs	-	150	75,000	6,937	-	-	318	-	-	-	82,405
Mosquito Nets	40,000	5,578	1,700	5,768	50,000	-	-	-	6,104	25,648	134,798

RELIEF ITEMS - UN SYSTEM

S. No.	Relief Items	Quantity
1.	Tents	1,872
2.	Plastic Sheets / Tarpaulins	43,230
3.	Blankets / Quilts	60,470
4.	Summarized Blankets	23,150
5.	Kitchen Set	10,250
6.	Sleeping Mats	4,070
7.	Rope 30 m	14,245
8.	Jerry Canes	6,400
9.	Bamboo	15,720
10.	Shelter Kit	250
11.	Solar Lamp	10,841
12.	Hand Pumps	193
13.	Water Quantity Testing & Mass Chlorination	1,000
14.	Portable Petrol / Diesel Water Pump	5
15.	Latrine Construction	4,815
16.	Solid Waste Management	600
17.	Temp. Bathing Space	100
18.	Basic Wash Kit	34,105
19.	IEC Material on use of family hygiene Kit	26,000
20.	Water facilities in target schools	200
21.	Sanitation Facilities in target schools	1,000
22.	Personal Hygiene in Schools	13,572
23.	School Bags	13,330
24.	Hygiene Kits for Women of Reproductive Age	1,678
25.	ERH Kit 3 – Rape Treatment Kit	3

FLOOD RESCUE – ARMY

Items	FORMATIONS									
	Mangla	Multan	Lahore	KHI	RWP	Peshawar	Quetta	Gujranwala	Bahawalpur	Total
Boats (All Types)	178	87	169	137	32	72	18	133	100	926
OBM (All Types)	158	134	139	235	25	114	18	162	95	1,080
Generators (All Types)	5	6	15	-	2	11	-	6	4	49
Life Jackets (All Types)	1,213	825	971	1,835	1,058	293	200	805	515	7,715
Sand Bags	-	50	2,568	-	-	1,530	-	-	50	4,198
Search Lights	57	41	-	50	7	20	10	46	21	252
Dewatering Pumps (All types)	-	5	9	131	38	-	6	-	-	189

FLOOD RESCUE - ALL STAKEHOLDERS

SER	ITEMS	AVAILABLE STOCK								ERC	TOTAL
		KP	PUNJAB	BALUCHISTAN	SINDH	AJ&K	GB	ARMY	NDMA		
1.	Boats	101	434	29*	517	-	1	926	41	18	2,067
2.	OBM	121	74	-	-	-	-	1,080	22	-	1,297
3.	Life Jackets	739	38	-	220	-	58	7,715	-	614	9,384
4.	Life Rings	-	243	-	-	-	-	-	-	-	243
5.	Search Lights	-	47	-	-	-	-	252	40	-	339
6.	De-Watering Pumps	-	1,401	-	165	-	-	189	35	-	1,790
7.	Sand Bags	-	-	-	-	-	-	4,198	-	-	4,198

* 23 Boats with Army

FLOOD RESCUE - RESCUE 1122

S. No.	Districts	Boats	OBM's	Life Jackets	Life Bouys	Nylone Rope	Vehicles						Total
							Amb.	R. V	F.V	W.B	G.D V	Off. V	
1	Lahore	9	5	45	22	40	34	5	19	2	1	4	65
2	Rawalpindi	3	3	136	9	40	14	2	10	2	1	3	32
3	Faisalabad	4	3	61	7	41	24	3	10	2	1	3	43
4	Multan	14	15	244	22	4	13	2	12	2	1	2	32
5	Gujranwala	6	6	34	13	4	12	2	8	2	1	2	27
6	Sargodha	4	4	35	6	0	7	1	5	1	1	1	16
7	Bahawalpur	2	2	27	8	0	8	1	5	1	1	2	18
8	D.G. Khan	10	10	19	8	8	8	1	5	1	1	2	18
9	R.Y. Khan	13	14	26	8	0	13	4	3	1	1	2	24
10	Sahiwal	2	1	31	0	0	7	2	3	1	1	1	15
11	Sialkot	12	16	67	16	0	7	2	6	1	1	1	18
12	Jhang	11	11	28	5	10	0	0	10	5	1	2	18
13	Khanewal	8	6	36	4	0	10	3	2	1	1	1	18
14	Rajanpur	13	14	43	9	0	7	2	3	1	1	1	15
15	Muzafargarh	18	21	60	10	0	4	1	2	1	1	1	10
16	Gujrat	4	3	32	4	2	4	1	2	1	1	1	10
17	Bahawalnagar	2	3	30	2	2	4	1	2	1	1	1	10
18	Attock	1	1	0	0	0	4	1	2	1	1	1	10
19	Jhelum	6	6	45	0	0	4	1	2	1	1	1	10
20	T.T. Singh	1	1	8	3	0	4	1	2	1	1	1	10
21	Pakpattan	2	2	20	2	0	4	1	2	1	1	1	10
22	Mianwali	6	6	30	5	4	4	1	2	1	1	1	10
23	Kasur	21	28	72	16	0	7	2	2	1	1	1	14
24	Lodhran	2	2	44	10	0	4	1	2	1	1	1	10
25	Layyah	7	8	29	7	0	4	1	2	1	1	1	10
26	Chakwal	1	1	25	13	0	4	1	2	1	1	1	10
27	Khushab	21	21	120	2	0	4	1	2	1	1	1	10
28	Okara	6	6	31	12	0	4	1	2	1	1	1	10
29	M.B.Din	4	4	24	2	0	4	1	2	1	1	1	10
30	Hafizabad	5	5	81	19	0	4	1	2	1	1	1	10
31	Nankana	6	6	28	0	2	4	1	2	1	1	1	10
32	Sheikhupura	6	8	60	11	2	6	2	2	1	1	1	13
33	Bhakkar	1	2	35	2	0	4	1	2	1	1	1	10
34	Narowal	12	13	39	6	1	4	1	2	1	1	1	10
35	Vehari	5	5	39	13	0	4	1	2	1	1	1	10
36	Chiniot	1	0	0	0	0	4	1	1	0	1	1	8
37	ESA	12	8	120	14	10	4	4	3	0	1	8	20
Total		261	270	1,804	290	170	261	58	147	44	37	57	604
Functional		236	226	1,574	260	156	261	58	147	44	37	57	604
Non-Functional		25	44	230	30	14	-	-	-	-	-	-	-

FLOOD RESCUE - UN

No.	Cities	Boats
1	Sukkur	18
2	Karachi	4
3	Multan	7
4	Quetta	1
5	Peshawar	2
	Total	32

**RESCUE EQUIPMENT
EARTH MOVING**

EQUIPMENT	BALUCHISTAN	KP	PUNJAB	SINDH	AJ&K	GB
Excavators	12*	3	18	88	9	1
Dozers	77*	5	97	57	17	-
Road Rollers	76*	-	24	-	-	-
Cargo Cranes	-	-	20	54	2	-
Dumpers	38	3	-	-	9	-

* 31 Dozers, 6 Rollers, 6 Excavators Need Repair

URBAN SEARCH AND RESCUE TEAMS (USAR)

Ser	Location	Managed By	Type	Contact Number
1.	Islamabad	CDA	Heavy	Col (R) Kazim 03334259601
2.	Karachi	City District Govt	Heavy	Mr Naeem Yousaf 03133389670
3.	Lahore*	Rescue 1122	Heavy	Dr Farhan Khalid 03336132788
4.	Rawalpindi	475 Army Engineers Brigade Group	Medium	Major Adeel 03464350107
5.	Mardan	Rescue 1122	Medium	Dr Haris 03068182390
6.	Gilgit	GBDMA	Medium**	Mr Sher Aziz 03442020020
7.	Chitral	FOCUS	Medium	Ms Nusrat 03008580857

* 160 persons trained and available at Lahore.

** Strength of team is only 25 persons.

**NDMA FOOD PACK
29 KGS- (7X PERS/ 1 WEEK)**

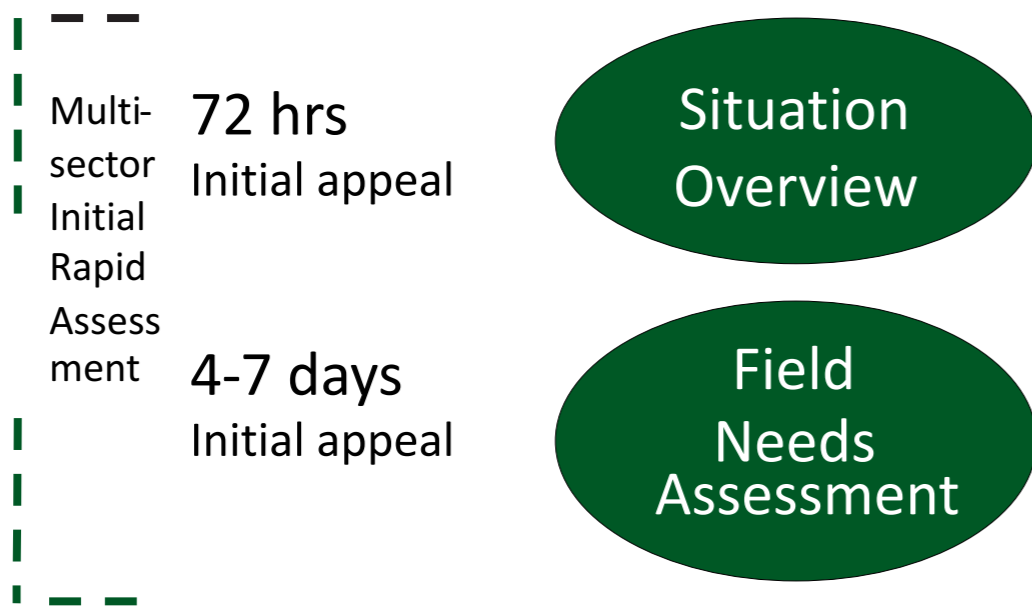
Sr.	Goods/Items	Quantity	Caloric Value
1	Atta	20 kg	73,000
2	Ghee/Oil	2 kg	13,328
3	Sugar	2 kg	5,684
4	Dal Moong (Washed)	1 kg	7,056
5	Dal Chana	1 kg	1,372
6	Dal Masoor	1 kg	3,626
7	Chili Powder	200 gm	294
8	Tea	400 gm	-
9	Mixed Pickle	330 gm	343
10	Salt	800 gm	314,700 mg Sodium
11	Masala Mix	100 gm	245
12	Match Box	100 Nos	-
	Total:	29 kg	104,948 calories Approx.

Note: The same food pack is being recommended to Provincial and Regional DMAs. The details of calories conform to international standards as below:-

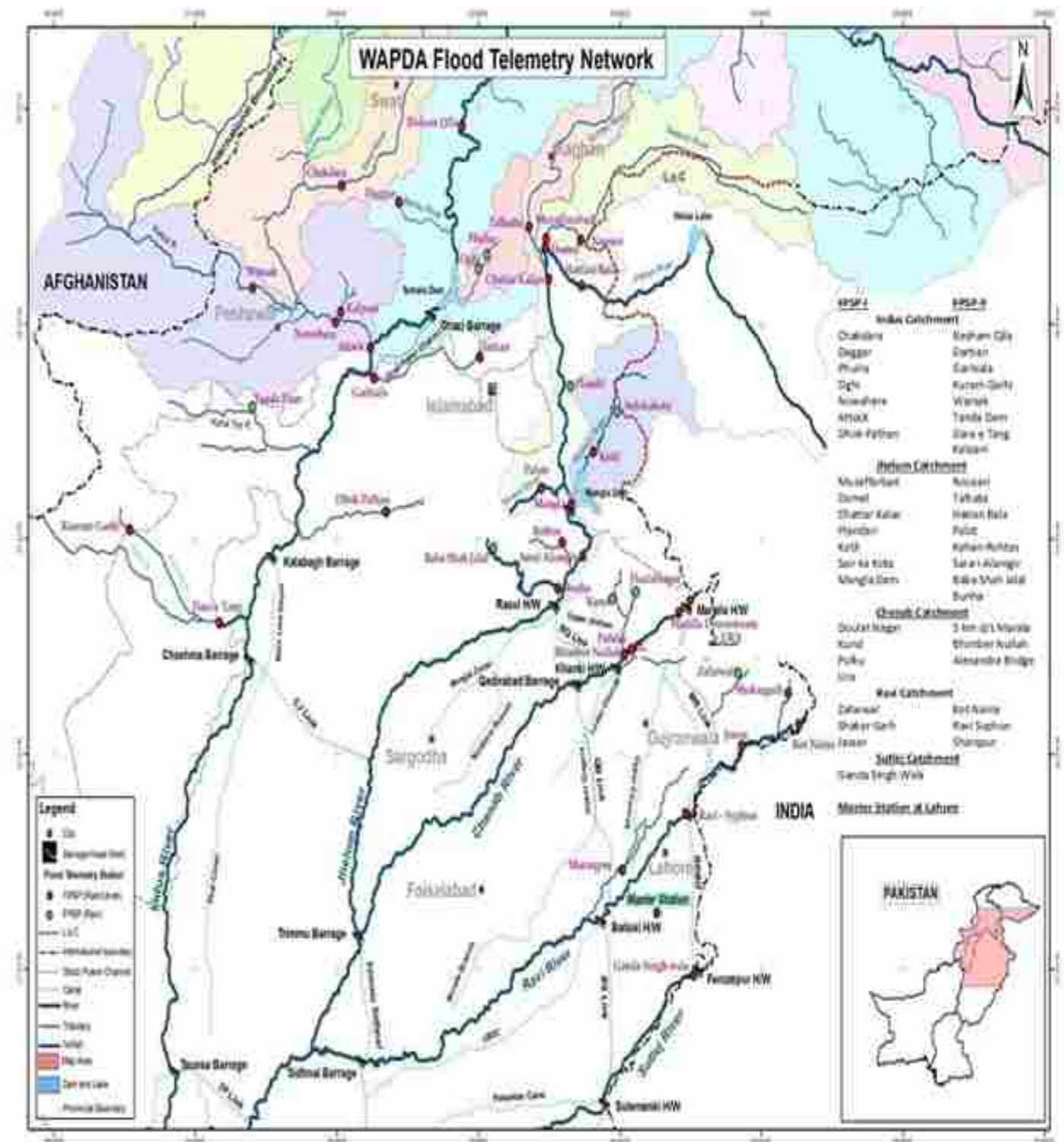
Detail	Calories (Per Day)
Adult	2500
Child	1800
Average	2100 Approx

MULTI-SECTOR INITIAL RAPID ASSESSMENT (MIRA)

- The Multi-sector Initial Rapid Assessment (MIRA) is developed and adopted by the Assessment Working Group (AWG) is co-chaired by NDMA and UNOCHA. MIRA will be initiated at the request of the Government for international assistance at the onset of any disaster e.g., natural or complex. The aim of MIRA is to identify humanitarian priorities, including
 - Identify the scale, extent and nature of the disaster
 - Determination of priority areas and assistance in the planning and deployment of resources
 - Identify gaps in response
- The MIRA process has two stages
 - Within 72 hours, a situation overview based on primarily secondary data and other sources;
 - Within 7 days carry-out a field assessment at the community level to identify needs and priorities of the affected and vulnerable populations. The analysed key findings will be shared within 1 week.
 - Final report will be published within 2 weeks.
- The field data collection on community level is based on:-
 - Key informant interviews utilizing a predeveloped multi-sectoral questionnaire
 - Structured direct observation based on a checklist
- The established Joint Assessment Roster (JAR) provides a pool of trained enumerators from INGOs, NGOs and CBOs with the addition of Government-trained staff on MIRA tools.
- Details of MIRA proforma is available on NDMA webpage (www.NDMA.gov.pk).



WAPDA FLOOD TELEMETRY NETWORK



BREACHING SECTIONS - ARMY

River/Site (Designed Capacity)	Breaching Section	Critical Level	Concerned XEN	Concerned Army Crop
INDUS				
1	Jinnah Barrage (9.50 Lac Cs.)	RD 6700 – RD 8700 of RMB	R.L 701 at RD 5 of LMB	Kalabagh 1 – Corps
2.	Ghazi Brotha	-	-	Tarbela 11- Corps
JHELUM				
2	Rasul Barrage (8.50 Lac Cs.)	RD 2500 – RD 3000 of RMB	R.L 727.40 at RD 12 of LMB	Rasul 1 – Corps
CHENAB				
3	Marala (11.00 Lac Cs.)	RD 5000 of RMB	R.L 829 at RD of 12 of LMB	Marala 1 – Corps
4	Khanki H/W (9.50 Lac Cs.)	RD 4000 of RMB	R.L 742 at RD 5 of LMB	Khanki 30 – Corps
5	Qadirabad Bridge (9.00 Lac Cs.)	RD 8000 of RMB	R.L 712 at RD 15 of LMB	Qadirabad 30 – Corps
6	Trimmu H/W (6.45 Lac Cs.)	RD 18000 of RMB	R.L 500 at RD 15 of LMB	Trimmu 1 – Corps
7	Punjad H/W (7.00 Lac Cs.)	RD 19000 of RMB	R.L 345.80 at RD 15 of LMB	Punjad 31 – Corps
8	Sher Shah Bridge	<u>Right Side</u> i. Doaba Flood Bund ii. Railway Track iii. National H/Way	R.L 393.50 U/S Shershah Railway Bridge	M.Garh Canal Divn. 2 – Corps
RAVI				
9	Shahdara (2.50 Lac Cs.)	RD 56 – 64 of Shahdara Disty.	R.L 698.0 at Gauge Site on Mehmood Booti Bund	Gujranwala 30 – Corps
10	Balloki H/W (2.25 Lac Cs.)	RD 2 of Madodas Bund	R.L 644.50 at RD 25 of LMB	Balloki 4 – Corps
11	Sidhnai H/W (1.75 Lac Cs.)	RD 16 of RMB	R.L 478 at RD 10 of LMB	Sidhnai 31 – Corps
SUTLEJ				
12	Sulimanki H/W (3.25 Lac Cs.)	RD 20 of RMB	R.L 575 at RD 6 of LMB	Suleimanki 31 – Corps
13	Islam H/W (3.00 Lac Cs.)	RD 10 – 13 of RMB, RD 3 – 5 of Murphy Spur	R.L 458 at RD 10 of LMB	Islam 2 – Corps

BREACHING SECTIONS - RAILWAY DEPTT

River/Site (Designed Capacity)	Breaching Section	Critical Level	Concerned XEN	Concerned Army Crop
CHENAB				
1	Alexandara Bridge	Road mile 821/03 between Wazirabad & Lala Musa Railway Station	Not fixed Whenever Communication line is in danger	Den – II Lahore 30 – Corps
2	Revaz Bridge	44 – 45 mile of Jhang Chund Railway Line	R.L 526 at 1500 of Thatta Mahala Bund	Den – II Multan 1 – Corps
3	Sher Shah Bridge	<u>Left Side</u> <u>Sheher Shah Flood Bund Railway Track</u> – <u>Multan Muzaffargarh</u>	R.L 393.50 U/S Shershah Railway Bridge	Den – II Multan 2 – Corps
4	Chiniot Flood Protection Bund	RD 2. 5 of Chiniot Flood Bund	R.L 600 at RD 5000	Den – II Lahore 30 – Corps

BREACHING SECTIONS - HIGHWAY DEPTT

River/Site (Designed Capacity)	Breaching Section	Critical Level	Concerned XEN	Concerned Army Crop
Chenab				
1	Old G.T. Road	Opposite Railway Breaching Section	Not fixed Whenever Communication line is in danger	DO Roads Gujrat 30 – Corps
2	Muhammad Wala Bridge	Akbar Flood Bund at RD 11+000	417.5 ft	Director D.H.A. Multan 20 – Corps

NATIONAL HIGHWAY AUTHORITY

NHA has undertaken following measures:

- Strategic Flood Plan has been prepared by NHA to respond in case of floods.
- Activate Flood Emergency Cells in Head Office, Regional Offices and Maintenance Units.
- Operations Wing would work 24/7 for prompt restoration works; and availability of adequate machinery/manpower/ material to cope with any emergency situation with sufficient financial resources.
- Issuance of daily occurrence reports and Comprehensive Situation Report.
- In order to establish prompt reporting and monitoring mechanism, Flood Emergency Cells will be 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 Off-051-9032832, Mob-0300-5861006, Fax-051-9261208 Deputy Director (Structures)
- Regional GMs will be focal persons and in charge of their respective zones. They will ensure that 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.
- Road users should 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.
- Breaching sections have been identified at critical points. All regional General managers are directed to maintain close liason with the Army authorities in this regard.
- In the light of past flood experience since 2010, following points have been identified as vulnerable points and must 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) ,KP
- Kot Sabzal – Ranipur , Hala, Sindh
- Karachi – Thatta, Sindh
- N-55 (Ramak – Karak) KP
- DG Khan – Ramak, Punjab
- Kashmir – Ghouspur – Shikarpur – Larkana – Dadu , Sindh
- 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)



NATIONAL HEALTH EMERGENCY PREPAREDNESS RESPONSE NETWORK POPULATION CASELOAD

Provinces	Scenario 1	Female	Male	Women of Child Bearing Age	Pregnant Women	Children under 5 years	Scenario 2	Female	Male	Women of Child Bearing Age	Pregnant Women	Children under 5 years
	Health Target # People	51%	49%	22%	3%	17%	Health Target # People	51%	49%	22%	3%	17%
AJK	30,000	15,300	14,700	3,366	101	5,100	15,000	7,650	7,350	1,683	50	2,550
Balochistan	100,000	51,000	49,000	11,220	337	17,000	269,680	137,537	132,143	30,258	908	45,846
GB	50,000	25,500	24,500	5,610	168	8,500	30,000	15,300	14,700	3,366	100.98	5,100
KP	190,000	96,900	93,100	21,318	640	32,300	475,000	242,250	232,750	53,295	1,599	80,750
Sindh	250,000	127,500	122,500	28,050	842	42,500	500,000	255,000	245,000	56,100	1,683	85,000
Punjab	380,000	193,800	186,200	42,636	1,279	64,600	750,000	382,500	367,500	84,150	2,525	127,500
TOTAL	1,000,000	510,000	490,000	112,200	3,366	170,000	2,039,680	1,040,237	999,443	228,852	6,866	346,746

The current WHO stocks of medicines is very limited (only 98 emergency health kits and 60 Diarrhoeal kits) while no trauma kits, malaria diagnosis, skin and eye ailments are available which may contribute to jeopardize the desired response. Keeping in view of upcoming monsoon season and expected mortality and morbidity from water born disease there is immense need to strengthen the response by prepositioning and provision of key supplies at high risk districts.

HEALTH CLUSTER - CONTINGENCY STOCK FOR MONSOON RESPONSE 2014

Overall Objective:

The health cluster aims to support Government of Pakistan lifesaving efforts to promote and protect health and well-being of the affected population there by minimizing mortality, morbidity and disability during a declared emergency by the UN and GoP.

ITEMS	AVAILABLE IN COUNTRY	LOCATIONS TO SOURCE ITEMS	TIMELAPSE TO RECEIVE
RDTs (WHO)	-	WHO Islamabad	-
ACTs (WHO)	68,100	WHO Islamabad	Ready to dispatch
EHK (WHO)	98	WHO ISBKP	Ready to dispatch
Trauma kit (WHO)	-		-
Anti-snake venom (WHO)	1,870	WHO ISB,KP	Ready to Dispatch
Diarrheal Kits (WHO)	60	WHO ISB,KP	Ready to Dispatch
Note: As per SOPs 14 weeks is the maximum time required for international procurement while in emergencies 7-8 weeks are required			
Mosquito Nets (UNICEF)	8,571	UNICEF Islamabad	6-8 weeks
Clean delivery kit (UNICEF)	1,288	UNICEF Islamabad	6-8 weeks
Newborn Care Kit (UNICEF)	1,288	UNICEF Islamabad	6-8 weeks
ARI timer	40	UNICEF Islamabad	6-8 weeks
Interagency Health Emergency Kit	-	-	Procurement is on halt till resolution (NOC) on these items from the Government
Lady Health Worker Kit	-	-	Procurement is on halt till resolution (NOC) on these items from the Government
Midwifery Kit	-	-	Procurement is on halt till resolution (NOC) on these items from the Government
Obstetric Kit	-	-	Procurement is on halt till resolution (NOC) on these items from the Government
Newborn Baby Kits (UNFPA)	2,763	UNFPA warehouses/offices in Islamabad, Lahore, Peshawar and Karachi	24-48 HRS
Hygiene kits(only for pregnant women for 3 months) (UNFPA)	6,942	UNFPA,ISB	24-48 HRS
Hygiene kits (for WRA for 3 months)		UNFPA,KP	24-48 HRS
RH KIT 2 A(Clean Delivery Kit, Individual) (UNFPA)	910	UNFPA warehouses/offices in Islamabad, Lahore, Peshawar and Karachi	24-48 HRS
RH kit 4(Oral & Injectable contraception) (UNFPA)	11	UNFPA warehouses in Islamabad and Peshawar	24-48 HRS
RH kit 7 (Intrauterine Devices) (UNFPA)	15	UNFPA, KHI, KP	24-48 HRS
RH Kit 11 A & B(Referral Level Kit) (UNFPA)	2	UNFPA,KHI	24-48 HRS

GIST OF PROVINCIAL HEALTH PLANS

Punjab

- A work plan 2014 has been developed.
- 14 High-risk Districts have been identified.
- Health mobile teams/fixed centres have been identified.
- Logistic mapping has been done and gaps identified.
- Joint Health & Nutrition cluster jointly co-chaired by Special Secretary Health and WHO established.
- The Provincial Control Room (PCR) has been established.
- The districts have been asked to ensure prepositioning of two weeks reserve stocks before start of monsoon.

Balochistan

- Total flood prone district :12
- Emergency Task Force at Provincial & District Level
- Public Health Engineering Department (PHE) has been taken on board (portable water)
- Additional Director MSD
 - Ensure availability of stock
 - Anti Snake Venom
 - Anti Rabies Vaccine
- An amount of Rs.40.00 million allocated for emergency medicines requirement has been released to Additional Director MSD.
- All vertical Program Managers (MNCH, LHW, MCP, EPI) have been directed for preparatory measures.
 - MNCH- logistic support along with POL
- Malaria Control Program- to take necessary measures for prevention, control and treatment of malaria.

- NHEPRN along with partners (WHO/UNFPA/UNICEF etc) are on board for provision of medicines in case of any outbreak if required (only to fill up the gap).

Sindh

- Provincial and district focal persons have been nominated.
- Emergency committees notified.
- Operational Control Room has been established.
- Mapping of High Risk areas has been done.
- Plans have been prepared for deployment of mobile teams, provision of logistics, medicines/Vaccines, 24/7 well equipped Ambulance service, temporary Field hospitals with coordination of partners.
- Meteorological Dept on board for sharing weather advisory report.
- Life saving medicines, vaccines, anti snake venoms, aqua tablets etc available.

Khyber Pakhtunkhwa

- Districts have been categorized according to vulnerability– 10 are highly vulnerable.
- Focal person in district nominated.
- Medicines are available in all 10 districts except Tank and Shangla
- Notification of the emergency KP.
- DGHS will supervise all plans & DD(PH) assigned as Provincial focal person.
- M&E & coordination by Provincial HEPRN.
- Clusters for IDP will be redirected for emergency relief activities.
- Availability of medicines and other logistics supplies will be ensured at each level.
- LHWs / Mobile Teams will be mobilized to

conduct distribute ORS, Zinc Sulphate, antibiotics water purification tablets etc. in their respective districts.

- Availability of emergency kits in the ware houses at the divisional level (Bannu, D.I. Khan, Kohat, Peshawar & Swat).

Azad Jammu and Kashmir

- Control Room has been established at DHS (CDC) Office with necessary wherewithal.
- Stockpiling of medicines at all DHQ/THQ Hospitals.
- All health related equipment is being made functional.

- Doctors/ para Medical Staff have been directed to ensure presence on duty round the clock.
- Sufficient quantity of Anti Snake Venom is available.
- There is lack of Emergency Medicines in case of Mass Casualities.
- Additional Rs 5 M is needed for stock piling of medicines and vaccinations.

GB and FATA

Sufficient amount of lifesaving medicines are available with them and any gap will be taken over by the Federal Ministry of Health with assistance from partners.

GENDER & CHILD CELL – RESPONSE / RECOVERY & REHABILITATION

SAFETY & SECURITY	WASH & HEALTH	SHELTER, FOOD, & NFIs
GENDER		
<ul style="list-style-type: none"> – Strengthen community based safety mechanisms by involving local community women in EWS, response and rescue. – Relief sites and camps should ensure attention to women's security needs, such as separate washrooms with locks, adequate light, water and sanitation facilities etc. 	<ul style="list-style-type: none"> – Women's fair and equitable access to basic services should be ensured, particularly in health and hygiene. – Female doctors and psychosocial support personnel should be available for women. – Mobile medical units equipped with safe delivery, postnatal facilities and referral should be in place. 	<ul style="list-style-type: none"> – Evacuation and relocation measures must make provision for women's access to transportation and protection in culturally sensitive areas. – Women perspective s should be included in designing shelter and rehabilitation projects. – Women headed households to be recognized / registered for the provision of food, NFIs, and shelters. – Needs of pregnant lactating mothers to be given special attention whole providing the relief package and food packs. – NFIs should cater to special needs of women e.g. provision of hygiene kits. NFIs can also include basic over the counters medicines which might be required in state of emergency
CHILDREN		
<ul style="list-style-type: none"> – Safe interim care arrangements are identified and accessible for boys and girls of all ages. – Child Protection in Emergency coordination mechanisms are in place and functional (such as sub-clusters where activated, or working groups) 	<ul style="list-style-type: none"> – Health staff and other relevant service providers in re sponse teams are trained on identifying and responding to children affected by violence, neglect, abuse and exploitation. – Coordination with relevant sectors (food security, wash, nutrition, education, health, etc) for child appropriate services and assistance. 	<ul style="list-style-type: none"> – Service provisions are tailored for the needs of children with disability during disaster response. – Food packs should have special provisions for babies / children e.g. dried milk, etc. – Special measures are in place to ensure that all children -headed households have access to humanitarian services. – PDMA's should identify infrastructures prior to disasters as temporary shelters so that schools are not used as the only shelter areas.
OLDER PERSONS AND PERSONS WITH DISABILITIES		
<ul style="list-style-type: none"> – Establish systems and procedures for prevention from abuse & exploitation of older people and persons and disability. – Proper handling of persons with disabilities during evacuations and recue. 	<ul style="list-style-type: none"> – Health, WASH, and shelter facilities should be made accessible for persons with disability and older persons. – Establish mobile health/rehab/ relief units to cater to persons with disability and older persons in emergencies. 	<ul style="list-style-type: none"> – Designated shelters and buildings should be made accessible for persons with disability and older persons. – Specific p rojects including livelihood programmes dedicated for older persons and persons with disability need to be developed as part of DM programmes. – Availability of special food and NFIs catering to their special needs.

SPECIMEN – DAILY SITREP (FLOODS)

Provinces	Deaths		Injured		Persons Affected		Houses Damaged		Villages Affected	Crop Affected (Acres)	Cattle Head Perished	Relief Camps	Persons in Relief Camps	
	M	F	M	F	M	F	Partially	Fully					M	F
	KP													
Punjab														
GB														
AJ&K														
Islamabad														
Sindh														
Balochistan														
TOTAL														

RELIEF PROVIDED

Name of the Province / Region

Ser	District	Food Items	Non Food Items	Miscellaneous Aid Provided
1.				

SPECIMEN – DAILY SITREP (DROUGHT)

Province	Deaths		Injured		Persons Affected		Villages Affected	Population Migrated		Crop Affected (Acres)	Cattle Head Perished	Relief Camps	Persons in Relief Camps	
	M	F	M	F	M	F		M	F				M	F
	KP													
Punjab														
GB														
AJK														
Islamabad														
Sindh														
Balochistan														
TOTAL														

RELIEF PROVIDED

Name of the Province / Region

Ser	District	Food Items	Water	Nutrition Support	NFIs	Fodder	Vaccinations Conducted
1.							

IMPORTANT CONTACT NUMBERS

S.NO	DESIGNATION	OFFICE
NDMA		
1.	Major General Muhammad Saeed Aleem, Chairman	051-9222373, 051-9212444
2.	Muhammad Ashraf, Member (S&S)	051-9209338
3.	Brig Mira Karman Zia, Member (Operations)	051-9214295
4.	Mr. Ahmed Kamal, Member (DRR)	051-9215412
5.	Lt Col Raza Iqbal, Director (Response)	051-9205035
6.	Mr. Khalil Ahmad Chaudhry, Director (Administration/Procurement)	051-9204429
7.	Major Souhail Ashraf, Deputy Director (Response)	051-9213083
8.	Major Tahir Islam, Deputy Director (Response)	051-9202523
9.	Mr. Hafiz Shakeel Ahmad, Deputy Director (Administration)	051-9213574
10.	Mr. Syed Junaid Ikhtlaq, Director (R&R)	051-9207066
11.	Mr. Syed Sibte-e-Abbas Zaidi, Director (DRR -II)	051-9215338
12.	Lt Col (R) Javed Akhtar Khan, Manager Logistic	051-9215392
13.	Mr. Akbar Bacha, Assistant Director Logistic	051-9215392
14.	National Emergency Operation Centre (NEOC)	051-9205037, 8008 -32021 (PASCOC), 111-157-157 (UAN)
PDMA / SDMA / GBDMA / FDMA / ICT DMA		
15.	Mr. Zaheer Abbas Malik, Acting DG, PDMA, Punjab	042-99294402-4
16.	Mr. Muhammad Sajjad, Director (Ops), PDMA Punjab	042-99294402-4
17.	Mr. Syed Suleman Shah, DG PDMA, Sindh	021-99251458-9
18.	Mr. Akhtlaq Qureshi, Director (Ops), PDMA Sindh	021-99251458
19.	Mr. Muhammad Tahir Orakzai, DG PDMA, KP	091-9213867
20.	Mrs. Amarah Amir Khattak, Director (Relief), PDMA KP	091-9211805
21.	Mr. Muhammad Hashim Ghilzai, DG PDMA, Balochistan	081-2880245

S.NO	DESIGNATION	Office
22.	Mr. Muhammad Asghar Baloch, Director (Planning), PDMA Balochistan	081-2880284
23.	Mr. Munir Waqar Ahmed, Acting DG GBDMA, Gilgit	05811-920874
24.	Mr. Zaheer uddin Babur Assistant Director (Infrastructure), GBDMA Gilgit	05811-920874
25.	Mr. Muhammad Akram Sohail, DG SDMA, AJ&K	05822-921536
26.	Mr. Raja Sajjad Khan, Director (Ops), AJ&K	05822-921023
27.	Mr. Arshad Khan, DG FDMA, Peshawar	091-9218603
28.	Mr. Sadaqat Roghani, Protection Advisor, Peshawar	091-9216336
29.	Mr. Abbas Ahmed Mir, Director E&DM, CDMA, Islamabad	051-9253215, 051-9253214
OTHER DEPARTMENTS		
30.	Mr. Ikramus Saqlain Haider, Director (RAMS), HQ NHA	051-9032815
31.	Mr. Aftab Ullah Babar, Director (RAMS), HQ NHA	051-9032832
32.	Mr. Alamgir Khan, Chief Engineer Flood, FFC	051-9244613
33.	Mr. Arif Mehmood, DG, PMD, Islamabad	051-9250367
34.	Dr. Muhammad Hanif, Director National Forecasting Centre	051-9250595
35.	Mr. Mohammad Riaz, Chief Meteorologist (FFD) Lahore	042-99200208
36.	Mr. Syed Raghob Hussain Shah, Chairman, WAPDA, Lahore	042-99202222-3
37.	Dr. Sabina Imran Durrani, Deputy Director, NHEPRN	051-9255708
38.	Dr. Barjees Mazhar Kazmi, Executive Director NHEPRN	051-9255708
39.	Director Operations HQ Pakistan Maritime Security Agency, Karachi	021-48508850
40.	Lt Col Amjad Hussain, General Staff Officer 1 (Ops), Coast Guard	021-99215243
41.	Col (R) Muhammad Ahsan, General Manager, NLC Rawalpindi	8000-34876
42.	Mr. Aftab Akbar, Director General, Ministry of Railways	051-9203886, 0321-5019977
43.	Mr. Asif Mateen Zaidi, Deputy General Manager Pakistan Railway Lahore	042-99201600, 0300-2692334
44.	Dr. Rizwan Naseer, Director General Rescue 1122, Lahore	042-37501122, 042-

