CONTINGENCY PLAN

MONSOON 2012

Provincial Disaster Management Authority
Khyber Pakhtunkhwa



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MONSOON 2012

PROVINCIAL DISASTER MANAGEMENT AUTHORITY

KHYBER PAKHTUNKHWA

June 2012

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Executive Summary

The climate change has exposed the world to a number of challenges and the occurrence of drought, flash and river floods and related hazards are becoming recurrent phenomenon. Khyber Pakhtunkhwa is prone to a number of natural hazards like river flood, flash flood, avalanches, landslides, droughts, fire eruption and transport accidents. The adverse impacts of these hazards on Khyber Pakhtunkhwa have been very severe in the recent past. Losses of human lives, destruction of critical facilities, loss of crops, livelihoods and economic opportunities and environmental degradation have been overwhelming. This situation demands for proper planning covering the eminent disasters and their risk level, required mitigating and preparedness measures reducing disaster risk as well as ensuring effective response mechanism.

Given the complexity of relief operations and the multitude of preparedness mechanisms within the government and humanitarian agencies, contingency planning is required to define what preparedness mechanisms will be used, when and where. Before a response is required, contingency planning affords agencies both government and humanitarian the opportunity to define when, where and why their emergency response resources will be deployed, when emergency funds will be used and what kind of responses, materials and types of personnel they will need.

As seen during 2010 floods, quick and effective actions are required to control the situation and above all save lives. However, effective action depends on the existence of ready-made and well tested contingency plans. The provincial contingency plan has been formulated for translating recommendations from district governments and other stakeholders into action. However, in the context of 2010 flood response the need is taking on board all agencies for an integrated contingency planning, involving government departments, districts, humanitarian actors and Pak Army.

Thereby ensuring coordination and optimizing the use of resources among agencies in the field while complementing each other with appropriate linkages and better coordination to support actions along lines of command. To enable the provincial departments and district governments for an effective response to any eventuality a contingency plan has been prepared in consultation with all stakeholders including government organizations, UN organizations and NGOs.

PDMA continues to emphasise upon the contingency planning process as a preparedness measure for response to natural hazards. Following catastrophic floods in 2010, this plan focuses on planning for the upcoming 2012 monsoon hazards to identify and analyze related risks for not just their humanitarian impacts but also the associated adverse affects on private and public infrastructure, and to define roles and responsibilities of diverse stakeholders for preparedness and response. The document also provides timely planning inputs for undertaking similar exercises down the implementation chain i.e. districts.

This document largely focuses on developing a practical and action oriented preparedness planning mechanism at provincial level. It mainly involves identifying gaps and challenges in effective emergency response and then planning and implementing a series of actions to increase response capacity and reduce potential gaps. The key anticipated outcomes are (1) awareness for building capacities for response, (2) depict anticipated threat perception for earmarking required resources, (3) build integrated planning capacities, and (4) define required gaps ensuing preparatory measures.

Following the same pattern, a Contingency Plan for Monsoon 2012 has been prepared in consultation with District Govts, provincial line departments, Pak Army, Pakistan Meteorological Department and the Humanitarin Community (UN agencies and NGOs). The scenarios assumed for the Monsoon Contingency Plan 2012 are based on the forecasting of Pakistan Meteorological Department reported on May 10, 2012 as preliminary outlook obtained from various outlook forums and the

preparation guidelines of NDMA. The reports of PMD predicts normal and below normal rains during the coming monsoon. The Medium Impact scenario has been developed on the prediction of PMD whereas the High Impact scenario is based on the guidelines of NDMA with a view to be prepared for the worst floods, if it happens. This plan spreads over three months flood season from June 15 to September 15, 2012.

Chapter-1

Monsoon Contingency Plan 2012

1.1 An Overview

The Province Khyber Pakhtunkhwa is the smallest Province of Pakistan in terms of geographic area; it is 9.4% of the country's total area. Khyber Pakhtunkhwa covers an area of 74,521 sq. km and is located on both banks of the river Indus and stretches from the Himalayas in the north to deserts of DI Khan in the south, where it is bordered by the Baluchistan and Punjab provinces. Province has a total of 25 districts which are further divided into 69 Tehsils and 986 UCs The total number of *Mouzas* /villages is 7335 as per 1998 census.

There are two major river systems in KP (i) the Indus River, which forms the boundary with Punjab and passes from Attock to Dera Ismail Khan in the south; and (ii) River Kabul flows down to join the Indus River from Afghanistan. Rainfall in KP generally occurs in two distinct crop-growing seasons: rabbi (winters, December – March) and kharif (summers, June – September). Normally the monsoon arrives in first or second weeks of June. During the monsoons riverine floods that occur in rivers Kabul, Swat and Indus tend to impact the populated districts of central and western KP, while flash floods also occur astride these rivers, sometimes resulting in colossal losses.

The floods in KP are generally caused by heavy concentrated rainfall in the catchments of River Indus, river swat and river Kabul during the monsoon season, which are also augmented by snowmelt flow. Major floods occur in late summer (July to September) when the South Asian region is subjected to heavy

monsoonal rains. Major floods in the province have occurred in 1976, 1982, 1988, 2005, 2006, 2007 and 2010.

Almost every year, more frequent in monsoon the province also suffers from flash floods, although there are no systematic records. Flash floods tend to occur more in recent years owing to changing weather patterns and are characterized by near absence of early warning cover to warn vulnerable communities. While such floods are on the rise over the last couple of years because of changing weather patterns, its humanitarian consequences are accentuated owing to absence of any viable local early warning system and the sudden onset nature of the hazard. Moreover, most regions vulnerable to flash flooding lie outside the coverage of the early warning system deployed for riverine floods. Flash floods are experienced commonly in Swat, Upper and Lower Dir, Chitral, Shangla, Kohistan, Peshawar, Mardan, Kohat and D.I Khan.

1.2 Contingency Plan for Monsoon 2012

a) Aim

To manage monsoon emergencies by putting in place requisite mitigation measures and a well coordinated and integrated response.

b) Objectives:

While encouraging stakeholder's participation, following are the objectives set for the monsoon Contingency Plan:-

(1) To enhance the effectiveness and timeliness of emergency response.

(2) To ensure that emergency response is coordinated, through the clarification of goals, strategies, roles and responsibilities.

(3) To anticipate and overcome difficulties.

(4) To strengthen response coordination between Provincial Government Departments, District Governments, humanitarian organizations (Un Agencies) and INGOs/NGOs.

c) Scope

(1) Stakeholder's participation, awareness and mobilization through Monsoon CP.

(2) Determine disaster scenarios and corresponding caseloads.

(3) Resource Mapping for response and identifying deficiencies.

(4) Define sectoral response strategies, plans and coordination measures

1.3 The Floods - 2010

The floods of 2010 are among the worst disasters that have hit Pakistan in recent history. The Province of Khyber Pakhtunkhwa already recovering from the consequences of militancy and resulting IDP's crisis, was the most affected. The deadly water surge started from the mountainous north while the peculiar terrain of province gave this surge an enormous force which ultimately resulted in total destruction of whatever stood in its path.

The sources of floods were rivers Swat, Kabul and Indus. The destruction of flash floods in the upper terrain of the Khyber Pakhtunkhwa resulted in havoc as the sudden overflow of waterways swept everything that came in its way for which the people were not prepared at all. The low level of preparation and the unexpected heavy rains coupled with poor early warning system inflicted heavy losses on the people of the Khyber Pakhtunkhwa.

1.3.1 Major Losses during Floods 2010

The adverse impacts of the flood 2010 were unprecedented in the history of the province. Losses of human lives, destruction of critical facilities, losses of

crops, livelihood, economic opportunities and environmental degradation were widespread. Some of the key losses and given below:

- Dead: 1,070
- Injured: 1,056
- Population Displaced: 0.912 Million
- Pop Cut-off / Inaccessible: 0.66 million
- Villages Affected: 544
- Houses Destroyed: 82,551
- Livestock: 50,7423

(Details are available at Annex-A)

1.3.2 Affected Districts:

All the 25 Districts of Khyber Pakhtunkhwa were affected by the floods. However, ten Districts including Nowshera, Charsada, Peshawar, D.I. Khan, Swat, Kohistan, Shangla, Dir-U, Dir-L, and Tank were most severely affected.

1.3.3 Affected Population:

The population affected by the floods 2010 including Dead and Injured is given as follows:

- Total number of persons affected : 3.8 million
- Total number of families affected: 545,739
- Total number of Dead : 1,070
- Total number of Injured : 1,056

1.3.4 Houses Damages:

In order to ascertain damages to the houses, a rapid housing survey was conducted by the PDMA, which identified **295,684** damaged houses, of which around **119,000** were completely damaged.

1.3.5 Damages Need Assessment:

For ascertaining public and private sector damages, a DNA exercise was carried out by WB and ADB. The summary of their findings for Khyber Pakhtunkhwa is given as below:

Table No1: Summary of Flood 2010 DNA

S. No.	Category	Description of Damages
1	Education	870 schools, 30 colleges
2	Health	190 health facilities
3	Governance	880 buildings
4	Transportation	6511 km Road
5	Irrigation	13 canal systems; 7 embankments
6	Water & Sanitation	2812 WSS; 1,111 Sanitation schemes
7	Housing	295,684 houses
8	Agriculture	Crop area: 121.5 thousand ha Large animals: 72,500 Small animals: 67,800 Poultry: 6,213,000 Water Courses: 1790 No.
9	Business	89 industrial units, 17,702 shops & hotels

The estimated direct damage costs as per DNA are Rs. 100 billion or USD 1,176 million, while the minimum reconstruction requirements amount to Rs. 106 billion or USD 1,247 million.

1.4 Response to Flood 2010

1.4.1 Compensation:

The government of Khyber Pukhtoonkhwa after the devastating floods announced a compensation package for life losses. Rs. 15.75 million were

immediately released to the DCOs to pay compensation at a special rate to the families of dead and injured people. Similarly Rs.19.80 million has been released in 2011-12 for the payment to the left over affectees of flood 2010.

1.4.2 Watan Cards:

In order to provide financial assistance to the affectees of the flood 2010 to reconstruct their houses, *watan* cards were issued throughout the country. In Khyber Pakhtunkhwa, *watan* cards were issued on the basis of rapid housing survey completed by PDMA by the end of September 2010. Till the closing date of phase-I of the Citizen Damages Compensation Program (CDCP) on 25th August, 2011, 274,984 beneficiaries have collected their watan cards as compensation for the losses of their houses. Almost PKR 5455.3 million (5.5 billion PKR) have been transferred to the accounts of the beneficiaries in Phase-I. In order to arrange the finances for the additional caseload received after the grievance redressal process, the Cabinet Division was requested to provide additional amount of Rs. 405.52 Million as 50% share of the additional requirement of Rs. 811.040 Million to complete phase-I of the CDCP.

It was noted that the amount of Rs. 20,000/- was not enough to overcome the damages due to flood, therefore, it was decided to provide an amount of Rs. 40,000/- as CDCP Phase-II. In Khyber Pakhtunkhwa 270,943 benefeciaries have been compensated for the first instalment of Phase-II and 260,000 beneficiaries compensated for the second instalment of Phase-II. The amount disbursed under CDCP phase-II till 26th May, 2012 is Rs. 10,548, 320,000 (Rs. 10.54 billion).

1.4.3 Relief:

Provincial Government through PDMA and DCOs spent around Rs. 16.874 billion on relief activities. The humanitarian community and Pakistan Army also contributed towards relief efforts. The relief phase ended on 31st January 2012. The details of relief goods provided are attached as Annex A. Summary of the relief expenditure made by Provincial Government is given below:

- Funds used by DCOs Rs. 1,144.487 million
- Funds used by other line Deptts. Rs. 56.5 million
- Funds given to Pak Army Rs. 165.691 million
- Funds spent by PDMA for Purchase of FIs & NFIs Rs. 635 million
- Share in *Watan* Cards Program Rs 16,003 million

Total: Rs. 16,874.6million (Rs.16.87 billion)

1.4.4 Early Recovery:

The NDMA in collaboration with the PDMA put in place a coordination mechanism for early recovery activities being carried out by the humanitarian community. 08 Sectoral Working Groups were formed. PDMA and UNDP at the Provincial level led the process. The Early Recovery activities were completed by 31st December 2011 which provided a foundation for long-term reconstruction and rehabilitation in the flood affected areas.

1.4.5 Reconstruction and Rehabilitation:

The Govt of Khyber Pakhtunkhwa and Humanitarian organizations initiated interventions and programs for the restoration of damaged infrastructure and livelihood in province. The Govt of KP has spent Rs. 587.545 million for flood protection infrastructure and Rs. 4.586 billion for restoration of Flood

Damages under FDRD-Irrigation whereas Rs.587.54 million have been spent on the re-inforcement and strengthening of existing flood protection infrastructure. Similarly, the govt has spent Rs. 2426.04 million for the restoration of damaged roads and buildings under C&W and Rs. 591.0 million for restoration of Water Supply Schemes under PHED.

1.5 Shortfalls in 2010 Flood

1.5.1 Inadequate Flood Protection Arrangements:

Except for protection arrangements to protect DI Khan City along Indus, the protective arrangements across KP and FATA are not adequate in terms of extending safeguards to vulnerable populations against the flood hazard.

Table No 2: Flood Protection Arrangements

#	Description	Number	Length (Km)
1	Spurs (Earthen) along Indus river in D.I.Khan	44	62.7
2	Marginal Bunds Indus river in D.I.Khan		
	i. Chashma to Villager Khanpur	1	12
	ii. Khanpur to Thathal village	1	6
	iii. From Spur No 31 to 33	1	8
	Total		26
5	Spurs in other areas of the Province	497	23.6
6	Other Bunds	49	133.6
7	Retaining walls in gabions	96	40.4
	Total	**689**	**286.3**

1.5.2 Inadequate Flood Early Warning Arrangements:

Owing to non deployment floods early warning radars the existing arrangements rely on flood gauging through WAPDA's telemetry system and basic system of gauges deployed by the KP Irrigation Department.

In the aftermath of flood 2010 Irrigation Department has rehabilitated 105 numbers of old flow gauges and 16 new rain gauges besides installation of 80 new flow gauges in progress to be completed during FY 2011-12.

According to Irrigation Department it can provide 24 – 48 hours warning along Swat River, 5-7 hours along Kabul and 36 – 48 hours along Indus at DI Khan. Such forecasting, however, did not result into evacuation of vulnerable communities to safer locations during the 2010 Floods. There are no arrangements in place to forewarn vulnerable communities of flash flooding across the mountainous regions. Moreover, Community EW mechanisms remained largely ineffective during the 2010 Floods due to temporary suspension of cell and line communication. The comparison of 2010 rains with average annual rainfall is as below:

Table No.3 Comparison of average rainfall

Area	Annual Rain	Rain from 28 July to 3rd August 2010
Peshawar District	400 mm	333 mm
Khyber Pakhtunkhwa	962 mm	3462 mm

Source: Pakistan Metrological Department –KP

1.5.3 Encroachments:

Most of the losses (life and property) occurred during 2010 floods as a result of encroachments and intrusion of population along Panjkora, Swat and Kabul rivers, partly along Indus and the flood prone hill torrents in the north. Moreover, blocked and heavily encroached drainage systems of settlements especially in Peshawar Valley played major role in inundation and consequent destruction.

1.5.4 Lack of Monsoon Preparations and Coordination (Provincial Departments and Districts):

The resource inadequacies coupled with not putting in place requisite monsoon preparedness and coordination mechanism tested the nerves and response capacities of provincial and district administration from 28 July 2010 onwards. The reactive response strategies at district and provincial level did help save lives and provide solace the flood affectees, however, pre monsoon preparedness and coordination mechanism was glaringly lacking in 2010.

1.5.5 Non observance of Early Warning by General Public:

An important aspect witnessed especially in Charsada, Nowshera and Peshawar was the lack of seriousness to observe the flood early warning (s) by general public. People had tendency to stay till flood waters completely overwhelmed and marooned them. Consequently, scarce rescue resources (boats and helicopters) were over burdened by salvage missions.

1.5.6 Reduced Water Storage and Regulation Capacity:

The storage capacities water storage facilities in KP have reduced to a varying range .i.e. from 30-70%, mainly due to silting, thus reducing their flood impact mitigation capacities. In addition the regulatory facilities i.e. Munda and Amandara on Swat River sustained damages in 2010 Floods and are being rehabilitated. In spite that the Munda Head works has been

almost restored, with enhanced capacity of 275000 cusecs[1]the control of water flow remains a question.

[1] Irrigation Department, Khyber Pakhtunkhwa

Chapter-2

Monsoon Hazards in Khyber Pakhtunkhwa

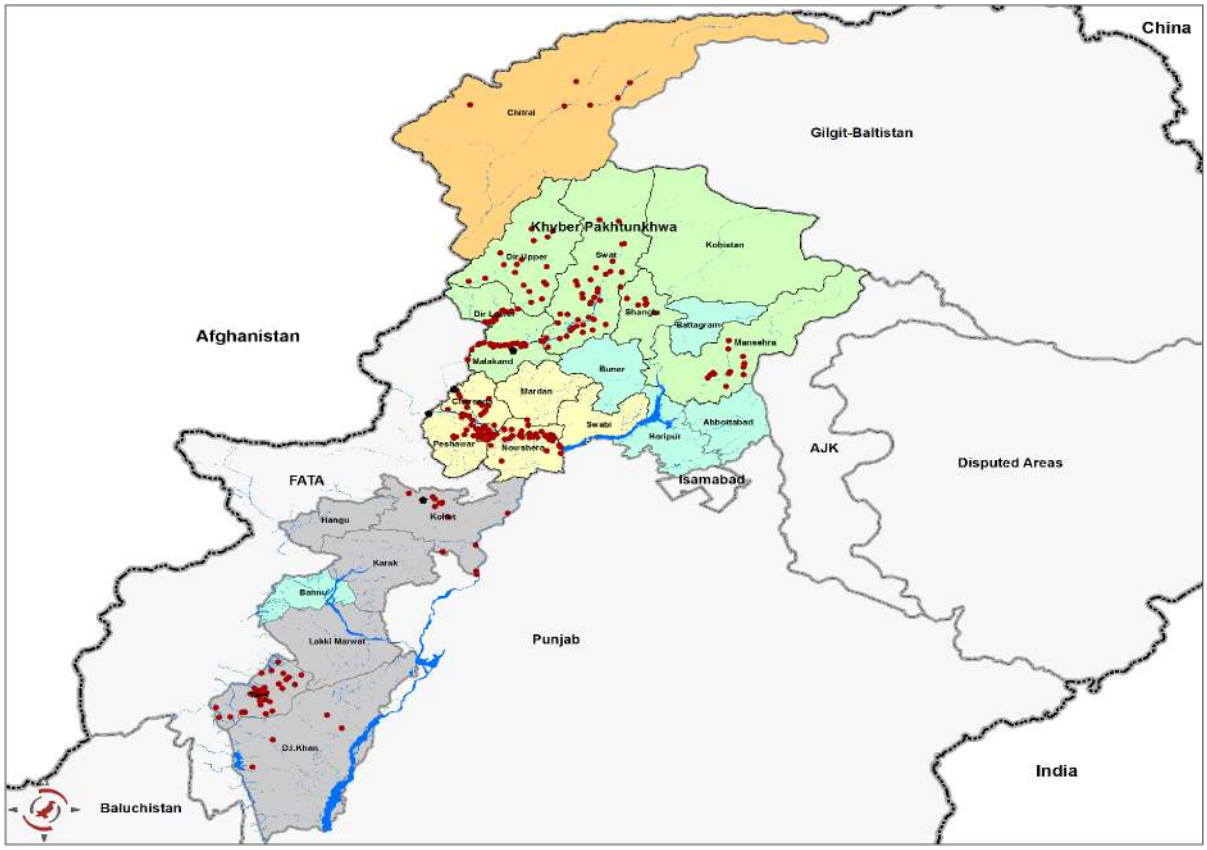
2.1 General

The province of Khyber Pakhtunkhwa due to its unique topography is prone to a number of disasters. Upper regions of the Province along with adjoining regions of Afghanistan and Gilgit Baltistan constitute the catchment area of River Indus, the main river of the province. Indus along its course is joined by its tributaries i.e. Shoyok, Hunza and Yasin in Northern Areas and some in KP like River Kabul, Swat and Kurram and numerous minor mountain channels. River Swat merges into Kabul River at Munda to flow through the densely populated Peshawar Valley, comprising of Charsada, Nowshera and Mardan districts. Kabul River merges into River Indus at Attock, and flows southwest to DI Khan into Punjab. Both river systems are not covered by the flood monitoring mechanism and, therefore, any major water overflow is detected late, practically close to Tarbela only. The districts of Peshawar, Charsada, Nowshera and Mardan, falling in Peshawar valley, are primarily affected by floods in the tributaries of Kabul and Swat rivers. River Indus after receiving water from these two rivers causes floods in the district of D.I Khan in the Southern part of the province.

Monsoon hazards in KP emerge as a result of heavy precipitation and subsequent flooding along the Panjkora, Swat, Kabul and Indus rivers and through flash flooding in numerous hill torrents across the Province. However, the simultaneous occurrence of riverine and flash floods, heavy precipitation and cloud burst phenomenon can worsen the impacts of monsoons instigated disasters in province.

2.2 Monsoon Risks & Risk Enhancing Factors

Khyber Pakhtunkhwa's peculiar physical configuration makes it vulnerable to diverse range of summer and monsoon hazards. Heavily populated districts constitute catchment areas of major rivers where their tributaries proliferate, thus creating flash floods vulnerability. Some districts are traversed by fully formed, mature rivers and they



Monsoon Hazard Map Khyber Pakhtunkhwa

Source: IMMAP

are vulnerable to spill over impact during floods. Physical configuration of northern and north-eastern portion of the province is excessively mountainous spanning from Chitral up in the north to districts of Upper and Lower Dir, Shangla and Swat and

Mansehra which are prone to flash flooding, cloud bursts and sliding activities. Therefore, depending on the intensity of monsoon precipitation and ice melt, KP is vulnerable to both sudden and expected hydro-meteorological disasters which require integrated surge and quick response.

2.3 Spatial Shift in Monsoon Impact[2]:

Studies conducted by Sustainable Development Policy Institute[2] - SDPI indicate that with a doubling of CO2, average rainfall in South Asia would increase between 17-59 percent[3]. This can be associated with a doubling in the frequency of high rainfall events

and variable monsoons. Over the last 8-10 years the Monsoon Impact has shifted nearly 100 KMs westwards from the lower Kashmir regions to the Swat, Kabul and Indus catchments. In KP, therefore, flooding, in terms of severity of impact, occurs in Kabul, Swat and Indus river systems and across the mountainous regions of Hazara Division;

2.4 Changes in the River Morphology:

The unprecedented nature of 2010 Floods caused occurrence of unregulated river flow patterns resulting in widened spans and erosions at places most pronounced along the lower Swat River which flows through populated areas. During Monsoon these trends are likely to render populations residing close-by at risk; undermine the effectiveness of the protective arrangements and risk severance of bridges and communication infrastructure. Therefore, river training or regulating river flows to defined channels is considered essential for flood impact mitigation[4].

[2] Source: Pakistan Metrological Department
[3] Dr. Shaheen R. Khan, " Does Climate Change Matter in Pakistan".
[4] NDMA and OCHA Contingency Planning exercise document 2011

2.5 Depleted Performance of Water Regulatory Infrastructure:

The unprecedented floods of 2010 in addition to their colossal humanitarian impacts exposed the water regulatory infrastructure to tremendous pressures. The water which flowed surpassed the earlier records by many folds. A detailed comparison is given in the table below. The performance of these regulatory facilities is doubtful even if subjected to slightly higher pressures than their designed capacity.

Table No 4: Water Flow Comparison

Rivers	Max Flow Recorded before 2010	2010 Floods Levels (Assumed High Impact Flow Level for 2012)	Assumed Flow Levels For Medium Impact Flood level 2012 (Aprox)
Swat - Amandara	160,000 cusecs (1929)	295,000 cusecs	150,000 cusecs
Swat - Munda	170,000 cusecs (1929)	367,000 cusecs	200,000 cusecs
Kabul River Nowshera	169,000 cusecs (2005)	500,000 cusecs	300,000 cusecs
Indus	900,000 cusecs (1929)	1,100,000 cusecs	750,000 cusecs

Source: Irrigation Department KP

2.6 Remaining Effects of 2010 Floods:

Physical vulnerability of communities at large is compounded by the remaining effects of floods 2010. Weak or weakened structures, placement of houses, especially that are less resistant to flood waters particularly in the low lying areas in form of encroachments and intrusion in flood water plains has further enhanced the vulnerabilities of the people across province. Possession of wealth and assets gives an individual, households or community a wider range of options in times of crisis, and speeds their recovery from disasters. In 2010 floods most of the flood affectees lost everything they had worked for during their lives. The flood protection work performed by the irrigation department through up keeping of its existing

infrastructure and restoration of flood damage infrastructure help to reduce the risk of heavy adverse impact as considered during last year contingency planning. The sensitization of the people to flood preparedness and response, the flood protection and restoration work, the preparation and coordination among the government institution, media, UN agencies etc would hopefully reduce the vulnerability of the people, if the flood 2012 happens.

Chapter-3

Disaster Mitigation Measures In Khyber Pakhtunkhwa

3.1 Flood protection and restoration work by Irrigation Department

3.1.1 Flood Damages Restoration Works under FDRD

Soon after the floods the government of Khyber Pakhtunkhwa allocated sufficient funds for the reinforcement and restoration of the damage infrastructure of 2010 floods. A Directorate for the Restoration of Flood Damage (FDRD) work was established which has been able to execute 61 number of schemes so far, out of which 22 have been completed. More importantly the repair work on Amandara Headwork has been completed whereas major part of the Munda Headwork is almost completed and 5 out of 8 bays will be completed till June 30th 2012. However, major part of the restoration work remains unattended in the shape of 299 leftover schemes costing Rs 5.00 billion due to non availability of funds.

Following is the detail of flood protection work under FDRD

a) 22 Schemes completed (PKR 1.6 billion)
b) 39 Schemes worth PKR 3.986 billion are in progress.
c) Leftover Schemes 299 worth PKR 5.342 Billion
d) Restoration work on Amandara H/W almost completed
e) Restoration work on Kurram Ghari HW almost completed
f) Civil Work of 6 out 8 bays of Munda H/W completed
g) 5 out 8 gates in Munda H/W will be Installed till June 30, 2012

3.1.2 Up-Keeping of Existing Flood Protection Work

The Irrigation Department Khyber Pakhtunkhwa has been working on up-keeping of the existing flood protection infrastructure. The department has been able to spend Rs.587.54 million on the strengthening and re-enforcement of the water reservoirs and has installed 138 gauges and has improved the rating curves for obtaining accurate data of water flows. Additionally, the department has provided Wireless Communication System to improve communication for better Early Warning in case of rivers overflow. The Master Planning of major rivers/nullahs of Khyber Pakhtunkhwa is another step taken by the Irrigation Department which will ultimately lead to reduce disaster risk.

3.2 DRM Interventions executed by PDMA

3.2.1 Establishment of Provincial Emergency Control Centre (PEOC)

Valuable experience acquired and lessons learnt by managing IDP crises and response to flood 2010 by placing an effectual system of humanitarian relief coordination at provincial level, during and after floods, nonetheless, a need was felt to review the existing structures, facilities and coordination mechanisms for further improving upon the emergency response phase of any such future catastrophe. However, an aspect which glaringly stands out was absence of Provincial Emergency Operational Centre – PEOC within PDMA with its connectivity with the districts.

PDMA with the support of European Commission and UNDP has established the provincial Emergency Operation Center –PEOC with its head office in PDMA Peshawar and its connections in 10 most vulnerable districts i.e

Peshawar, Charsadda, Nowshera, Swat, Shangla, Dir Lower, Dir Upper, Kohistan, Tank and D.I. Khan. Total cost of the project is Rs. 34.707 million fully funded by European Commission and supported by UNDP. The establishment of PEOC will facilitate the coordination and execution of emergency response in case of the disastrous events.

Objectives of the PEOC:

Following are the objectives of the establishment of PEOC:

a. Provide a bridge and platform for timely, accurate and concerted efforts on part of the Government machinery.
b. Reduce vulnerabilities to any natural or man induced disasters through better coordination among the districts and provincial govt
c. Enhanced preparedness at provincial and district levels for any future disaster
d. Strengthening linkages with the Provincial Govt (PDMA) and Districts governments for well coordinated response mechanism in event of disaster.
e. Strengthening early warning system through communication of reliable and in-time information
f. Strengthening of disaster response capacities of the districts govts by coordinating their function at the district level through central command and control unit.
g. Enhancing capacity of the DDMUs through increased mobility and facilitation

3.2.2 Strengthening Of Disaster Management Units In All Districts

The strengthening of District Disaster Management Units is essential for coordination of DRM interventions at Districts level which serve as management units of PDMA. Distt Disaster Management Officers have been

notified in every district and support staff has been sanctioned and recruited in most of the districts. It is imperative that the DDMUs are equipped enough to shoulder the responsibilities for disaster mitigation and risk reduction at district level.

Under the project for strengthening of DDMUs funded by UNDP the equipments and furniture are being provided to most vulnerable and severely affected 10 districts of the province. Equipments and furniture for the remaining 15 districts are being provided through funding from Annual Development Plan. Additionally a training program has been developed for the capacity building of the DDMO's and other district staff. NDMA under its HR plan will provide training for the district officers whereas PDMA has planned to arrange orientation sessions on DRM concepts and practices.

3.2.3 Strengthening of Civil Defense Department

Civil Defence has been the attached Directorate of Home & Trible Affairs department with its field formation in 16 districts viz Peshawar, Mardan, Abbottabad, Kohat, D.I.Khan, Swat, Bannu, Dir Lower, Chitral, Mansehra, Nowshera, Hangu, Charsadda, Batagram, Malakand and Upper Dir.

Civil Defence has a strong network of volunteers in 16 Districts working under respective Civil Defence Officers. These volunteers are performing different emergency duties under the overall supervision of the respective DCOs. Volunteers are an integral and essential part of department and are the main strength of Civil Defence.

Civil defence staff and volunteers play significant role in rescue and relief phase of disaster management having presence at local and village level. The destructions of flood 2010 have further signified the role of CD staff and volunteers and to further enhance their capacity for effective response in

future disasters. Furthermore, being on the low priority in govt financing plans the capacity of the Civil Defence staff and volunteer is too low to perform in desired fashion. They even don't have basic equipment and safety kits necessary for an ordinary rescue operation. Moreover, the ongoing insurgency and resultant terrorism has also necessitated the availability of well capacitated rescue professionals.

In order to ensure coordinated response to any disaster, operational integration of Civil Defence and PDMA has been agreed at District level and SOPs in this regard have been developed. Under this project Civil Defence department will be provided necessary rescue and safety kits and trainings in well reputed national institutions.

A PC-I coting Rs. 120.00 million with allocation of Rs. 16.191 million for the capacity building of Civil Defence department has been approved which will be spent on the procurement of basic safety and rescue kits and necessary trainings of volunteers as well as core staff of Civil Defence Department.

3.2.4 Construction of Provincial Humanitarian Response Depot

Disaster preparedness is an integral and essential part of disaster risk management. The maintaining of sufficient stocks of food and other essential items will enhance coping capacity of the govt authorities in case of any disaster. The eruption of conflict in some parts of the province has further augmented the demand for an effective storage facility at provincial level as well district level. The management of warehouses is a complicated job as it is very significant to maintain the quality of stock items for longer period. This is possible only in case of storing perishable items on scientific manner in accordance with international standards.

PDMA has been utilizing the old buildings of Food Department near Bus stand in Peshawar as warehouse, which are damaged and declared non-feasible by the department for storing food items. The same building is being currently used as provincial warehouse where the food and non food items cannot be maintained according to the required standards and hence need is felt for a state of the art warehouse at provincial level.

The World Food Program has been providing support for enhancing preparedness capacity of the PDMA through construction of provincial warehouse. The provincial warehouse will be established for storing food and non food items at provincial level to be used by the PDMA as well as WFP.

For the construction of Warehouse at Provincial level, a number of sites were identified as WFP has been demanding free of cost land to be arranged by the Provincial Govt. Various sites on state land were attempted but could not be availed due to different reasons. Keeping in view the significance of the project and time limitation the govt has decided to purchase a piece of land measuring 07 Acre and allocation of Rs. 50.0 million in the ADP 2012-13 has been approved.

3.2.5 Provision of pre-fabricated storage facilities in 12 districts of Khyber Pakhtunkhwa.

The World Food Program has been ext ending all-out support to PDMA KP for enhancing its preparedness capacity as well as district govts through construction of provincial warehouse as well as installing 11 pre-fabricated Flospans (warehouses) in different districts. The pre-fabricated Flospans are being installed in districts on land provided by the district govts. This will enable the districts govts to keep the food and non food items for longer time

under hygienic standards and will enhance their capacity for a better response in case of disaster.

The Flospans (Warehouses) are being installed in the following districts:

Chitral	Battagram	Tor Ghar
Dir Upper	Shangla	Kohistan
D.I.Khan	Tank	Mansehra
Mardan	Lower Dir	

3.2.6 Training of Outboard Motors operators of Police, Rescue 1122, Irrigation Department and Civil Defence by Pak Army

The Operators of Outboard Motors (Boats) were trained by the training wing of Pak Army (11 Engg Corps), nominated by the Irrigation Department, Civil Defence Department and Rescue 1122:

- 30 Apr – 12 May 12 (18 x Army & 12 x Rescue 1122)
- 14 May- 26 May 12 (17x Army & 7 Rescue & 9 x Civ Def)

Chapter-4

Hazard Risk and Vulnerability Mapping

4.1 Scenarios and Corresponding Caseloads

In order to understand the impact of flood's projected scenarios on communities it is vital to develop scenarios which may help in identifying:

a. The pre-impact vulnerability conditions;
b. Groups and segments of community that will be affected disproportionately e.g. certain occupations, income level of households, location and age & gender groups;
c. The event-specific conditions that establish the level of disaster impact and;
d. Suitable emergency management actions required.

The flood impacts have mainly two dimensions i.e. physical and social. The physical impacts of disasters include casualties (deaths and injuries) and property damage. The physical impacts of floods are usually the most noticeable, easily measured, and first reported, as seen in the damage and need assessment reports by the government and rapid need assessment surveys by humanitarians. However, social impacts, which include psychosocial, demographic, economic, and political impacts, can develop over a long period of time and can be difficult to assess when they occur. Despite the difficulty in measuring these social impacts, it is nonetheless important to monitor them, and even to predict them if possible, because they can cause significant problems for the long-term functioning of specific types of households and businesses in an affected community.

However, this contingency plan only highlights the physical impact of the anticipated flood scenario on the population.

Partial input in this scenario planning section is taken from the contingency of 2011. However, the corresponding caseloads to the scenario are result of extensive consultation with district governments.

This scenario development has been based on the input from NDMA, PMD and irrigation department.

The report of PMD dated May 10, 2012 predicts normal and below normal rains deriving preliminary outlook from various climate outlook forums. Similarly, outlook for Monsoon 2012 issued by PMD on June 13, 2012 predicts +5-15% average rains with high localized rainfall resulting into flash floodings. **(Annex-B)**

4.2 The High Impact Scenario:

The High Impact scenario reflects Floods 2010 with similar caseload though its realisation seems improbable going by the prediction of rains climate outlook forums empirical evidence. Nonetheless, its occurrence cannot be ruled out. However, the planning parameters will be based on the 2010 experiences. The NDMA has been recommending the preparation for high impact scenario.

4.3 Medium Impact Scenario:

The Medium Impact scenario has been worked out as a result of extensive consultation with PMD and irrigation department. The Medium Impact scenario's flood flow assumptions approximate the 1929 Flood levels as they relate to the three rivers: Kabul, Swat and Indus. According to the Districts the Planning caseload for relief support is estimated at 191,660 HHs, a population of 1,150,000 and a population of 199,326 is likely to be cut off / isolated for 10-15 days.

4.4 **Planning Assumptions**: The level of flood and corresponding caseload is based on the following River Water Flow Assumption during 2012 Monsoons.

Table No 5: River Water Flow Assumption during 2012 Monsoons

Rivers	1929 Flow Levels	High Impact Floods (2010 Floods Levels)	Medium Impact Floods (Assumed Flow Levels For 2012)
Swat – Amandara	160,000 cusecs	259,000 cusecs	150,000 cusecs
Munda	170,000 cusecs	367,000 cusecs	170,000 cusecs (*plus)*
Kabul River Nowshera	169,000 cusecs	500,000 cusecs	200,000 cusecs
Indus	900,000 cusecs	1,10,00,000 cusecs	750,000 cusecs

Source Irrigation department KP

4.5 Planned Relief Caseloads for 2012 Monsoons

Table No 6- Relief Caseloads 2012 Monsoons -KP

S#	Districts	Affected HH High floods (2010 based)	Affected HH Medium floods (Assumed for 2012)
	Peshawar Valley		
1	Peshawar	33,800	10,000
2	Charsadda	71,000	20,000
3	Nowshera	71,000	25,000
4	Mardan	2,800	900
5	Swabi	2,200	730
	Total	**180,800**	**56,630**
	Southern Districts		
6	Tank	21,200	16,500
7	D I Khan	56,300	40,000
8	Lakki Marwat	4,000	3,000
9	Kohat	5,500	1,550
17	Karak	7,200	1,000
21	Bannu	7,700	2,500
18	Hangu	6,500	1,000
	Total	**108,400**	**65,550**
	North and Hazara		
10	Mansehra	3,200	2,000
11	Dir Lower	25,800	8,000
12	Malakand	6,400	3,000

13	Shangla	11,500	4,000
14	Dir Upper	30,000	10,000
15	Kohistan	66,000	20,000
20	Battagram	1,488	490
22	Buner	802	260
23	Haripur	2,200	2,600
24	Abbottabad	8,000	830
25	Tor Ghar	2,500	800
16	Swat	90,500	12,500
Total		**248,390**	**64,480**
19	Chitral	9,800	5,000
Grand Total		**547,390**	**191,660**

4.6 Cut-off / Isolated Population:

Some parts of the province may remain cutoff due to possible breaking down of communication system for 10-15 days as per details below;

Table No 7: Population Isolated - 2012 Monsoons KP

Districts	No of HHs[5]	Anticipated Population
Swat	15,653	109,571
Kohistan	6,399	44,793
Shangla	11,169	78,183
Total	33,221	232,547

Source: WFP

4.7 Triggers for Response:

1 Kabul and Indus River System

1.2 Flooding / overtopping of Warsak Dam; early warning through WAPDA and Irrigation Department;

1.3 Early Warning through the existing mechanisms;

1.4 PMD Flood Forecasts /Warnings and Weather Forecasts

[5] Flood Contingency Planning 2012, World Food Program, Pakistan

1.5 Flood Warnings by the Local Administration and community based mechanisms.

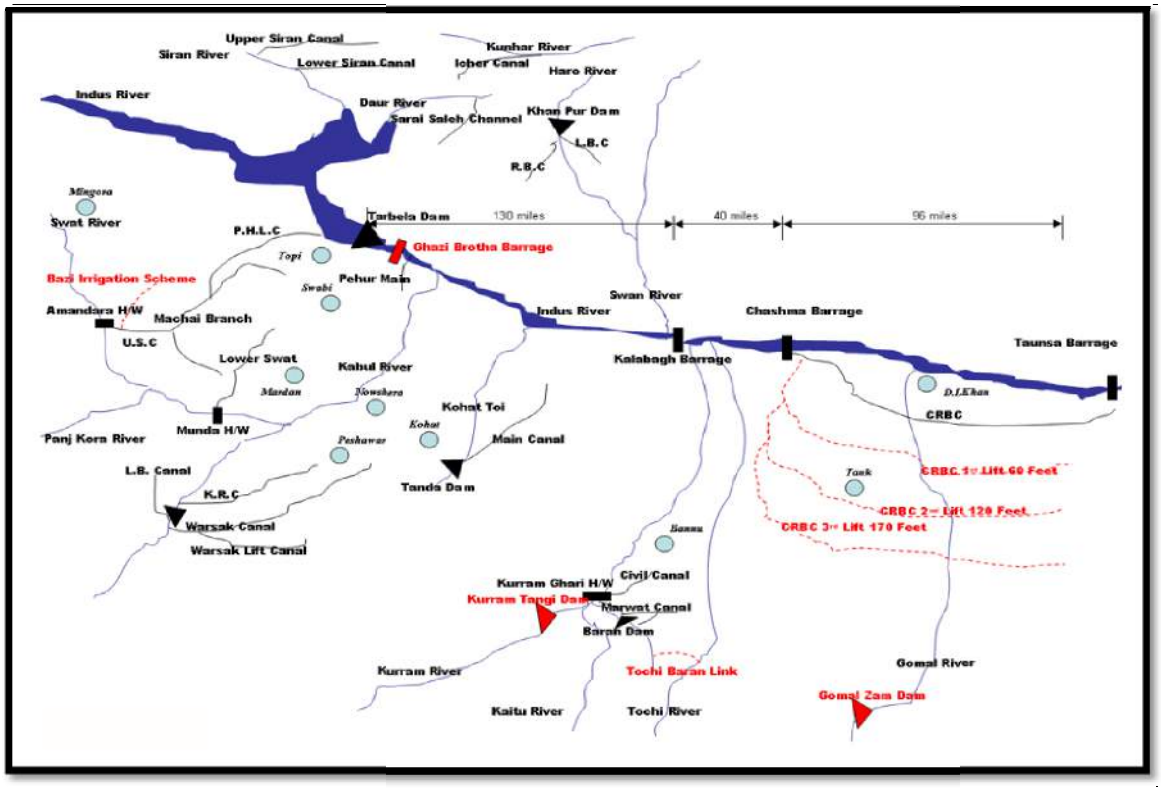
2 The Swat River System

2.2 Early warning through WAPDA and Irrigation Department's early warning systems.

2.3 PMD Monsoon forecasts of heavy precipitation in Swat River catchments that extend also into GB.

2.4 Flood Warnings by the Local Administration and community based mechanisms.

Major Rivers Khyber Pakhtunkhwa



Source: Irrigation Department

4.8 Provincial Hazard Risk and Vulnerability Mapping Based on flood 2010

4.8.1 Peshawar Valley

Districts	River Systems and potential threat water ways	Anticipated Relief Caseload HHs - High Impact Scenario 2012	Relief Caseload HHs Medium - Impact Scenario 2012
Charsada,	Adezai, Swat River and Jindi River		
Peshawar	Kabul River ,Budnai Nullah, Shahikata, Sangu Sarband		
Nowshera	River Kabul , , Bara, Chinkar Nullah, Chillah, Spin Khak Khawar, Dagai Khawar, Amangarh Khawar, Surya Khawar And Kalpani Nullah	180,800	56,630
Swabi	Indus River, Partugai Drainage system, Lahore Khwar, Jalsai		

Mardan	Khwar, Palo Khwar, Badrai Nullah, Naranji Nulla, Buller Nullah, Bazargai man drainage, Ismaila Drain Kalpani Nullah, Bagiare Nullah, Muqam Nullah		

4.8.1.1 Charsada:

The district covers an area of 996 km sq. The total population of the district is 1.45 million. The district is administratively subdivided into two Tehsils Charsada and Tangi which contain a total of 46 UCs.

- Floods. The area experiences regular flooding from River Kabul. In 2006, approx 15,300 families were displaced owing to sudden onset of floods in the Kabul River. In 2010 floods the affected HHs were 71,813. The area also remains vulnerable to flash flooding in river Swat which tends to meander across the district emerging from mountains in *Tangi* area in the upper part of the district. The area is vulnerable to flash floods along Jindi Nullah and Shuban Nullah.

Following are the most vulnerable population centres along the waterways in district:

- **Adezai River**: Vino Garhi, Bunyadi, Dab Killi, Rashakai, Tarkha, Garhi Mukhkam Shah, Jamate, Garhi Chiragh Shah, Ghurambak
- **Swat River (Khiyali) :** Abazai village,Sadar Gharai, Mian Wali, Turlandi , Sara Sang,Dildar Gharai, Biyar Gharai, Isugai, Shahai, Chiti Shahai, Maruzai, Nahqai, Bela No. 4, Mula Khela, Srikh Maurzai, Agra Bala & Payan,
- **Jindi River**: Umerzai, Turangzai, Utmanzai, Rajjar, Charsadda

- **River Kabul** (Sardaryab)

The list of waterways which have tendency to spill over is as under:

- River Kabul (Sardaryab)
- L/bank of Adezai River
- Subhan Khwar ,
- Khiyali river ,
- Jindi River,
- Soor Khatkai Drain,
- Gilgichi Khwar ,
- Hisarar Drain,
- Dab Drain & Musa Killi drain,
- lower Swat canal section of Disty No.5,6
- Nisatta Branch and Nisatta Minor

4.8.1.2 Peshawar.

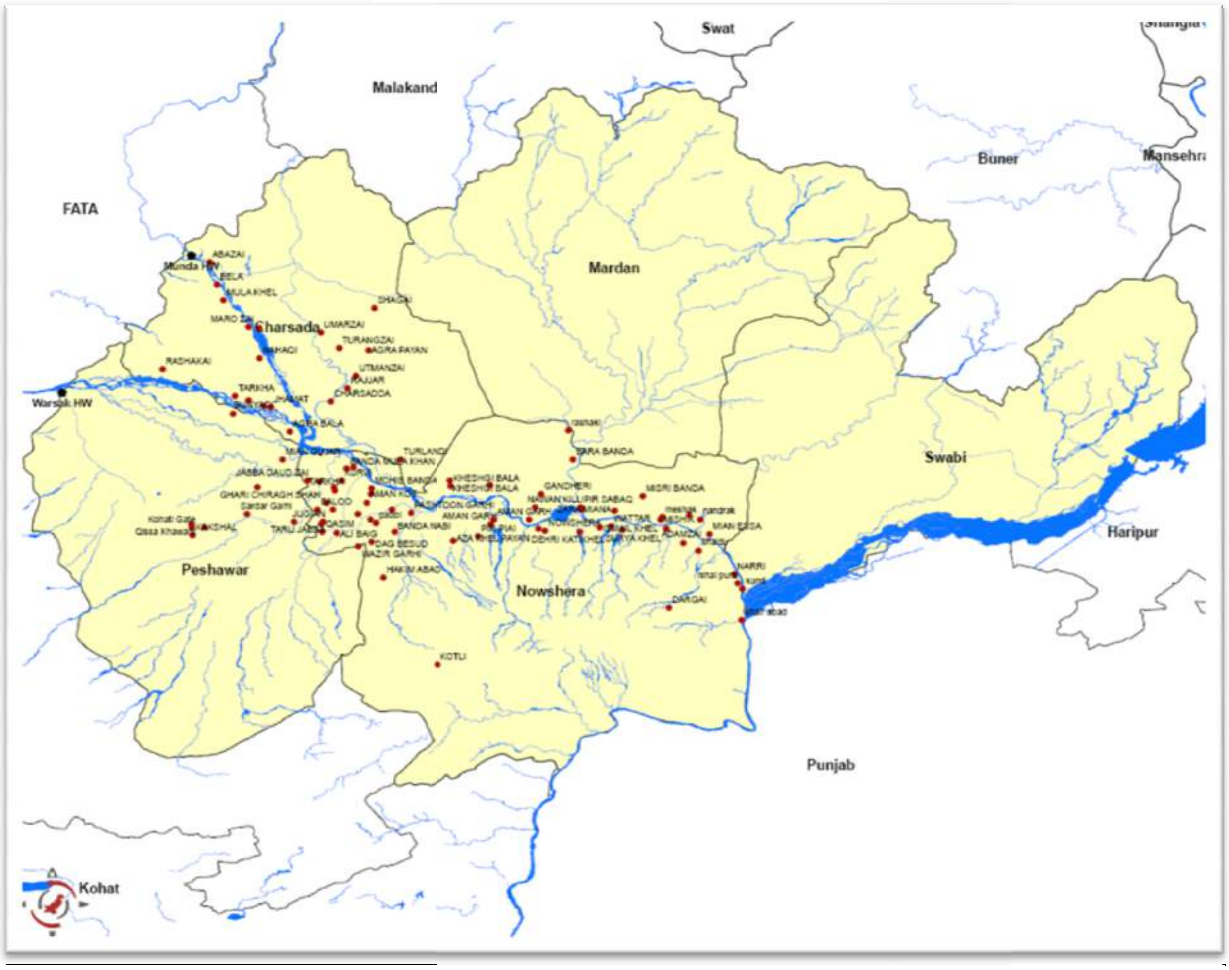
Peshawar is a rapidly growing city with a population of 3.115 million. In 2010 approximately 33,867 HHs were affected by floods. Following are the most vulnerable population centres in the district:

- Mian Gujjar
- Jugnai
- Qissa Khawani
- Kohati gate,
- Kakshal
- Yakatoot

The list of waterways which have tendency to spill over other than Kabul River is as under:

- Budnai Nullah,
- Shahikata
- Sangu Sarband

Peshawar Valley Rivers System



4.8.1.3 **Nowshera:**

The total area of district is 1,748 sq-km, it has one Tehsil and 47 UCs. The total population of district is 1.25 million.

- Riverine Floods

  It is excessively vulnerable to Riverine floods in River Kabul. In 2006 approx 20,000 families were temporarily displaced due to floods in the River. In 2010 floods affected population were 71,403 HHs,

  Following are the most vulnerable population centres along the River Kabul and other water channels in the district:

- Jungle,	- Khuni	- Ali Shah
- Jabba Daudzai	- Launda	- Mufti
- Momin Check	- shendi	- Dua
- Agra Zakhai	- Payan	- Tarkha
- Banda Mullah	- Shamsa	- Titara
- Banda Mohib	- Shendi Bala	- Balu
- Kurvi	- Mesri Pura	- Ali Baig
- Banda Sheikh Ismail	- Daman	- Babi,
- Babi Jadeed	- Jabba Khalisa,	- Taru
- Qasim Wazir Garhi	- Dag Besud	- Dheri Ishaq
- Chowk Drub	- Aman Kot	- Pashtoon Garhi
- Dagai	- Banda Nabi	- Khudrazi
- chowki Mumriz	- Aman Garh	- Nowshera Khurd
- Nowshera Kalan	- Nowhera cantt	- Hakim abad
- Pir Sabaq	- Surya Khel	- Ismail khel
- Wattar	- Akora khatk	- Essori
- Adamzai	- shaidu	- Misri Banda
- Ali Muhammad	- Mehsak	- Mughlkai
- Mian	- Essan	- Nandrak
- Dheri Khatta	- Kund	- Narri
- Nehal Puran	- Khairabad	-

The list of waterways which have tendency to spill over other than Kabul River is as under:

⦿ Bara Nullah,	⦿ Chinkar Nullah,

⦿ Chillah,	⦿ Spin Khak Khawar,
⦿ Dagai Khawar,	⦿ Amangarh Khawar,
⦿ Surya Khawar	⦿ Kalpani Nullah

4.8.2 Northern Mountainous Region and Hazara Division

Districts	River Systems and potential threat waterways	Anticipated Relief Caseload HHs – High Impact Scenario 2012	Relief Caseload HHs Medium Impact Scenario 2012
Mansehra,	River Siran and Kunhar, Ichar, Shinkian, Perhan, Boli, Satbani, Saroori, Moli, Batakas Nullahs		
Shangla	Barani and Khwars Nullah		
Swat	River Swat, Kadam, Cham Ghrai, Torwal, Ramait, Mankyal, Daral, Gurnai, Najva, Beshigram, Chail, Dabargay, Shagram, Shankoo, Tirat, Shah Gram, Darilai. Jalband, Utror, Dahmaka, Shahoo, Matiltan, Kando Hazara Khwar, Malooch Khwargai , Sigram Khwar, Kanju Khwar, Kotlai Khwar, Ningolai and Dherai Khwar Barikot Khwar, Terang Khwar and Chamgarai Khwar	**248,390**	**64,480**
Dir Upper	Dir Khawar, Barawal Khawar, Usherai Khawar, Nihag Khawar, Kohistan khawar		
Dir Lower	River Panjkora and River Swat: Talash and Rudh Khuwarh		
Malakand,	Palai Khawar		
Kohistan	Indus River, Dubair River, Kandia River, Keyal River, Chawadara Nullah, Sheryal Nullah, Sherkot Nullah, Zait Nullah, Jalkot Nullah, Summer Nullah, Mad Khel Nullah, Kuz Parow Nullah		

Buner	Barandu Khwar		
Haripure	Dore River		

4.8.2.1 **Mansehra:**

Its total population is 1.5 Million. There are three tehsils Mansehra, Balakot and Oghi with 59 UCs.

- Floods

Indus River, Siran and Kunhar are well known rivers of the district. River Indus enters into the jurisdiction of Kala Dhaka/Tor Ghar and flow 84 km up to Tarbela dam. In 2001 hundred families were affected by flash floods in Kunhar and Siran Rivers. About 75 families were affected and 5 died, owing to sudden change in the course of *Kunhar* River in 2006. In 2010 floods about 3200 HHs, population of 22,870 were affected.

- Vulnerable population

Following are the most vulnerable population centres along the river kunhar in district,

- **Siran River:** Munda Gucha, Sabir Shah, Dhodial , Haroonabad, Tarangri, Bedadi Baghwar, Sherpur, and Khaki
- **Ichar Nullah:** Kotkay,Hamsherian, Behr Kund
- **Shinkian Nullah:** Guffan(Shinkian)
- **Batakas Nullah:** Kotli/Koray
- **Moli Nullah:** Jabori
- **Saroori Nullah**: Dogai
- **River Kunhar:** Balakot, Shohal Najif , Jagir
- **Satbani Nullah, Magli Nullah:** Balakot
- **Boli Nullah:** Hassa
- **Perhan Nullah:** Hassa

The list of waterways which have tendency to spill over is as under:

• Siran River	• Ichar Nullah
• Shinkian Nullah	• Batakas Nullah
• Moli Nullah	• Saroori Nullah
• River kunhar	• Satbani nullah ,
• Magli Nullah	• Boli Nullah
• Perhan Nullah	

4.8.2.2 **Shangla:**

The district spread over 1800 sq Kms. Its population is .636 million with two Tehsils and 28 Ucs. It is a mountainous and difficlut to access and has no major river which flows through it. It lies between Disitrct Swat and River Indus.

- Flash Flood:

Due to mountainous nature of terrain the district is it is vulnerable to flash flooding along river Shangla and smaller tributaries of Indus.

- Vulnerable population

Following are the most vulnerable population centres in district:

▪ Damorai	▪ Dherai
▪ Kuz Kana	▪ Opal
▪ Pir Khana	▪ Pirabad
▪ Pirabad	▪ Shah Pur

The peculiar terrain of district makes it vulnerable to land sliding resulting in severing population pockets. Following roads are susceptible to blocks due to land sliding.

- Khwazakhela-Alpurai
- Alpurai-Besham
- Alpurai-Yakhtangay-Puran-Marung
- Karora-Ajmir-Olandar
- Karora-Chakisar
- Dehari-Chakisar

The list of waterways which have tendency to spill over is as under:

- Barani Nullah
- Lplownai Khwar
- Khan Khwar
- Amnavi Nullah
- Saghar Nullah
- Larai Nullah

4.8.2.3 Swat:

The district has an area of 5337 sq kms. Its population is 1.86 Million divided into 4 Tehsils i.e Kabal, Barikot, Kalam and Bahrain and further divided into 65 UCs.

- Floods: It is vulnerable to flooding along River Swat and its tributaries. In addition, flash floods also spread destruction in monsoon; *Kanju* Bridge in 1976 was washed away by flash floods. 2010 Floods resulted in destruction of more than 45 bridges on river swat alone.

- Vulnerable population

Following are the most vulnerable population centres along the river Swat and its tributaries in district:

1. Aka Maroof Bamikhel
2. Islampur
3. Kokarai
4. Manglawar
5. Mingora
6. Odigram
7. Qambar
8. Tindodag
9. Bahrain
10. Bashigram
11. Madyan
12. Terat
13. Barikot
14. Ghalegay
15. Kota
16. Shamozai
17. Bara Bandai
18. Kala Kalay
19. Roringar Gwalerai
20. Chuprial
21. Darmai
22. Durushkhela
23. Matta Kharerai
24. Sakhra
25. Arkot
26. Barthana
27. Kanjoo
28. Kuz Abakhel Kabal
29. Tootano Bandai
30. Balakot
31. Kalam
32. Mankyal
33. Utror
34. Pir Kalay
35. Khwaza Khela
36. Asharay
37. Baidara

The list of waterways which have tendency to spill over other than River Swat is as under:

- **Tehsil Behrain**:- Kadam, Cham Ghrai, Torwal, Ramait, Mankyal, Daral, Gurnai, Najva, Beshigram, Chail, Dabargay, Shagram, Shankoo, Tirat, Shah Gram, Darilai.
- **Tehsil Kalam**:- Jalband, Utror, Dahmaka, Shahoo, Matiltan, Kando
- **Tehsil Kabal**:- Hazara Khwar, Malooch Khwargai , Sigram Khwar, Kanju Khwar, Kotlai Khwar, Ningolai and Dherai Khwar
- **Tehsil Barikot**:- Barikot Khwar, Terang Khwar and Chamgarai Khwar

4.8.2.4 Upper Dir:

The district has an area of 3,699 Sq Kms. Its population is .759 Million. Floods. It is vulnerable to flooding along River Swat and its tributaries. It is also vulnerable to flash flooding in distributaries of Swat River.

Following are the most vulnerable population centres in district:

▪ Barawal Bandai	▪ Bibyawar	▪ Darikand
▪ Palam	▪ Qulandai	▪ Shahikot
▪ Barikot	▪ Doag Dara	▪ Gawaldai
▪ Kalkot	▪ Patrak	▪ Sawnai
▪ Sheringal	▪ Akhagram	▪ Bandai (Nihag)
▪ Kotkay	▪ Nihag	▪ Pashta
▪ Wari		

The list of waterways which have tendency to spill over is as under:

• Dir Khawar,	• Barawal Khawar,
• Usherai Khawar,	• Nihag Khawar,
• Kohistan khawar	

4.8.2.5 **Lower Dir:**

The district has a total Area of 1582 sq Km with a population of 1.068 Million; it has 2 Tehsils and 37 Union Councils. .

- Floods .It is vulnerable to flooding along River Panjkora and Swat and its tributaries and is also vulnerable to flash flooding in Talash and Rudh Khwars and other distributaries of Swat River.

Following are the most vulnerable population centres in district:

- **River Panjkora**:Khal, Rabat, Shalpalam, Hajiabad, Timergara and Shagokus
- **River Swat**: Badwan, Kamala and Tauda china

- **Talash and Rudh Khuwarh**: Munda and Khazana

Following are the threatening water Channels and Rivers in the district:

- River Panjkora
- River Swat
- Talash and Rudh Khuwarh

4.8.2.6 **Kohistan**:

The district has an area of 7,492 Sq Kms. Its total population is .684 Million. The district has 4 Tehsils and 38 UCs.

- Flood:

  It is a mountainous and poorly accessible district astride Indus. Being a mountainous district it is vulnerable to flash floods to local nullahs that constitute tributaries of Indus.

  Following are the threatening water channels in the district:

• Indus River	• Dubair River	• Kandia River
• Keyal River	• Chawadara Nullah	• Sheryal Nullah
• Sherkot Nullah	• Zait Nullah	• Jalkot Nullah
• Summer Nullah	• Mad Khel Nullah	• Kuz Parow Nullah

Vulnerable Areas:

- Ghushli
- Summer Nullah
- Thoti
- Moreen (Bankad)
- Dubair Valley
- Madakhel
- Gabrial
- Chawadara
- Supat Valley

Northern Region

4.8.3 The Southern Region

Districts	River Systems and potential threat water ways	Anticipated Relief Caseload HHs – High Impact Scenario 2012	Relief Caseload HHs Medium Impact Scenario 2012
DI Khan	Indus River, Tank Zam – Yarik and Kech, Gomal Zam – Kolachi Tehsil, Zam Shiekh Hiader- Kolachi Tehsil, Zam Darbban - Tehsil Darbban, Zam Chowdwain		
Tank	Gomal Zem, Tank Zam Shuza Algad, Galarah Algad, Suheil Alged	**108,400**	**65,550**
Bannu	River Kurram and Gambilla		
Lakki Marwat	River Kurram and Gambilla, and Kharoba , Garaban Lorah and Chunia Nullah		

Kohat	River Indus ,Tolang, Ghorzai Raisan,Usterzai ,Usterzai, Chenna, Sheikhan		
Karak Hangu			

4.8.3.1 **DI Khan:**

The district has an area of 7,326 km^2 and a population of 1.26 million. The district is subdivided into three Tehsils which contain a total of 48 UCs.

- Riverine Floods. It is vulnerable to flooding along River Indus, in particular *Paharpur* Tehsil which is mainly affected by Indus. However, the peculiar physical layout of the district makes it vulnerable to the flash flooding from five hill torrents; Tehsil *Kolachi* is the most vulnerable. In 2005, 70 villages were flooded, affecting 5000 households. In 2010 about 56, 374 HHs were affected by the floods. Following are the most vulnerable population centres in district :
    - **Tank Zam –** Yarik and Kech
    - **Gomal Zam –** Kolachi Tehsil
    - **Zam Shiekh Hiader-** Kolachi Tehsil
    - **Zam Darbban -** Tehsil Darbban
    - **Zam Chowdwain-** Kolachi Tehsil
    - **River Indus**- Tehsil Paharpur (More than 150 Villages) , DI Khan and Parowa

The list of waterways other than River Indus which have tendency to spill over is as under:

- Tank Zam
- Gomal Zam
- Zam Shiekh Hiader
- Zam Darbban
- Zam Chowdwain

These Zams are particularly infamous for spilling over along the siphons of CRBC Canal.

4.8.3.2 **Tank:**

The district has an area of 1679 km^2 and a population of .343 Million. The district has I Tehsil and 16 UCs.

Following are the most vulnerable population centres in district:

- **Gomal Zam**:
  - Gomal: Gomal Town , Kot Murtaza
  - Loni: Kot Azam, Raghza, Sheikh Sultan, Mamrez Jamal
  - Warren Canal :Diyyal, Chaddar, Sheikh Uttar, Kot Allahdad
- **Tank Zam**
  - Takwara: Tajori, Chinni Michankhel, Tati mianwali
  - Sidqi: Shah Alam, Kot Pathan, Kot Ali Khel, Janaki, Kiri Haider, Kiri Pak
  - Chowa: Tank City , Umar Adda
  - Warooki Bahara: Janadar, Aba Khal, Tank City,Kauro Khan, Ranawal Warooki Kalay
  - Pir kach: Tank City, Gara Baloch
  - Lowra
  - Kiryani
- **Shuza Algad**: Shuza Tajori, Abizar
- **Galarah Algad:** Galarah: Umar Khel, Mullazai
- **Suheil Alged**: Rodh Suheil: Amma Khel, Pai, Mohammad Akba, Wanda Zalo, Daraki

The list of waterways which have tendency to spill over is as under:

- **Gomal Zam:** Gomal, Loni, warren Canal
- **Tank Zam :** Takwara,Sidqi,Chowa,Warooki Bahara,Pir kach,Lowra,Kiryani
- **Shuza Algad**: Shuza

- **Galarah Algad**: Galarah,Rodh Suheil
- **Suheil Alged**

4.8.3.3 Bannu:

The district has an area of 1227 Sq Kms. Its total population is 0.938 Million. The district has one Tehsils and 49 UCs. The list of waterways which have tendency to spill over is as under:

- River Kurram
- River Gambilla

4.8.3.4 Lakki Marwat:

The district has an area of 3,164 Sq Kms. Its total population is 0.708 Million. The district has 2 Tehsils and 33 UCs. The list of waterways which have tendency to spill over is as under:

o River Kurram	o River Gambilla
o Kharoba Nullah	o Garaban Nullah
o Lorah Nullah	o Chunia Nullah

4.8.3.5 Kohat:

The district has an area of 952 Sq Kms. Its total population is 0.669 Million. The district has 2 Tehsils and 28 UCs.

- Floods:

  Following are the most vulnerable population centres in district:

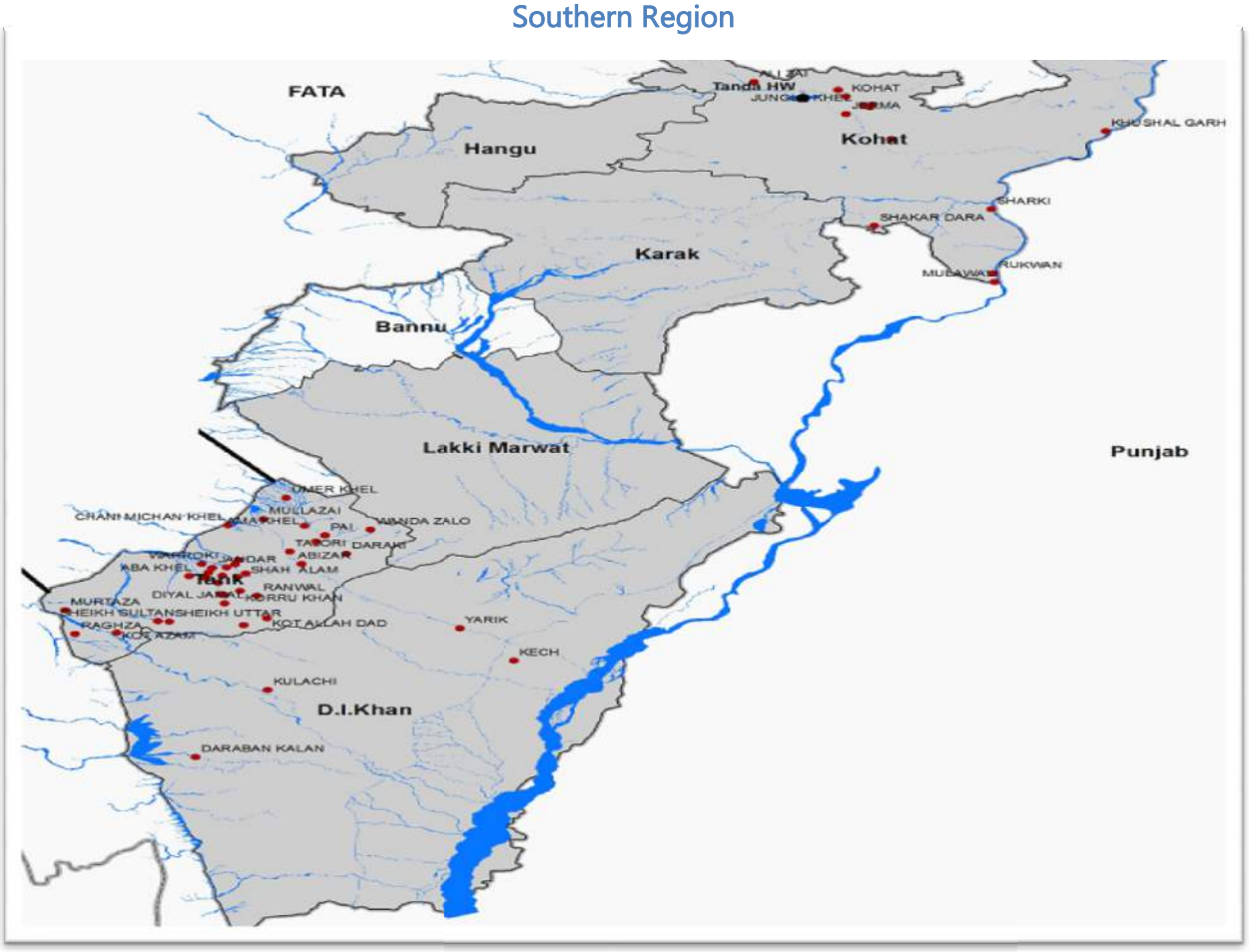
  - **Tolang, Ghorzai Nullah** -Ali Muhammad Zai, Shahput
  - **Aurakzai Nullah** -Germa
  - **Indus River**- Shakardara,Sheraki, Rokhwan,Mulawali, Faqirabad, Bangirabad,Boisobari, Khushal Garh
  - **Usterzai Nullah** -Hafizabad

- **Chenna Nullah** - Jungle Khel, Cantt, Bahadarkot, Bahawal Nagar , Togh Payan
- **Shiakhan Hill Nullah** Togh Bala

The list of waterways which have tendency to spill other than Indus over is as under:

- Tolang, Ghorzai Nullah
- Raisan,Usterzai Nullah
- Usterzai Nullah
- Chenna Nullah
- Sheikhan Hill Torrent

Southern Region



4.8.4 Chitral:

The district has an area of 14,850 km^2 and a population of 0.42 Million. It has six tehsils with 26 UCs.

District	Potential threat RiverS and water ways	Anticipated Relief Caseload HHs – High Impact Scenario 2012	Relief Caseload HHs Medium Impact Scenario 2012
Chitral	River Chitral, Chitral Gol Molen Gol, Uchust Gol Jughoro Gol, Bomborate Gol, Birir Gol, Arkri Gol Jingerate Gol, Laldam Gol Shishikoh	**9800**	**5000**

- Floods. The main river Chitral flows in deep ravine, hence chances of its overflowing are minimal, however flash floods vulnerability is fairly high. Following are the most vulnerable population centres in district:

• Booni	• Sonoghar
• Chuinj	• Brep
• Owir	• Terich

The list of waterways which have tendency to spill over is as under:

River Chitral	Chitral Gol
Molen Gol	Uchust Gol
Jughoro Gol	Bomborate Gol
Birir Gol	Arkri Gol
Jingerate Gol	Laldam Gol
Shishikoh	

Chapter-5

Needs and Gap Analysis

5.1 District level - Need and Gap Analysis

The contingency planning consultations with district governments and provincial departments resulted in pinpointing immediate risk reduction measures both structural and non-structural. Primarily the exercise aimed at (1) identifying pre-monsoon structural and non structural measures for reducing the adverse impact (s) and (2) highlighting resources available vis-à-vis the anticipated response (rescue) and humanitarian relief needs, thereby pinpointing the gaps. From this exercise, it is possible to pick out appropriate type and areas (district) of response activities to support people.

In addition, the information in shape of need and gap analysis (anticipated caseload) is utilized to calculate in a spreadsheet minimum assistance likely to be necessary to restore normalcy (this can be updated as necessary), and an estimate of overall quantities is gauged. The quantities of material assistance (Food and NFI) worked out will serve as a contingency planning baseline for the entire province and even at district level. This can be, if required converted to budgetary allocations and / or stockpiling decisions and will also guide initial planning and budgeting estimates.

Table No 8: Need and Gap Analysis Monsoon 2012 - Peshawar Valley

Region/ Districts	Anticipated Needs Pre- monsoon		Anticipated Needs during and after Floods			Funds Required Rs Million	
	Structural	Non Structural	Rescue	Relief	Public services Health etc	High Impact	Medium Impact
Peshawar	• Clearance works waterways • Removal of Encroachments	Sand bags Dewatering pumps	Boats and vehicles, excavators etc	Cooked food, Animal fodder, Tents, Drinking water, Vaccination, POL, medicines	Water supply, restoration of damaged sewerage system, de-watering, Machinery for Removal of carcasses and debris from drainage system,	350	100
Nowshera	• Clearance of water ways • Removal of encroachments	Sandbags, Procurement of local available boats Improvement in Early warning Training of civil defence employees on rescue boats Dewatering Pumps	Helicopters, boats and vehicles	Tents, Cooked food , Safe drinking water, POL, Animal fodder, Tents, , Vaccination	Water supply, restoration of damaged sewerage system, Machinery for Removal of carcasses and debris from drainage system	350	100
Charsadda	• Clearance of water ways • Removal of encroachments	Sand Bags Procurement of local available boats	Helicopters, boats and vehicles	Cooked food Safe drinking water POL, Tents, , Vaccination	Machinery for Removal of carcasses and debris from drainage system, Water supply, restoration of damaged sewerage system	400	100
Mardan	• Clearance of water ways • Removal of encroachments	Sand bags	Vehicles	Food, Drinking water, vaccination	Machinery for Removal of carcasses and debris from drainage system	150	50
Swabi	• Clearance of water ways • Removal of encroachments	Sand bags	Vehicles	Food, Drinking water,	Machinery for Removal of carcasses	150	50

				vaccination	and debris from drainage system		
					Total Funds Required	**1400**	**400**

Evacuation Centers: Colleges, schools, govt buildings and tent camps identified as evacuation purpose

Table No 9: Need and Gap Analysis Monsoon 2012 - Northern Mountainous Region and Hazara Division

Region/ Districts	Anticipated Needs Pre- monsoon		Anticipated Needs during and after Floods			Funds Required Rs Million	
	Structural	Non Structural	Rescue	Relief	Public services	High Impact	Medium Impact
Mansehra	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Boats, vehicles	Tents, Cooked food, Safe drinking water,	Removal of carcasses and debris, Water supply, restoration of damaged sewerage system, Water supply	60	20
Shangla	• Clearance of water ways • Removal of encroachments	Sandbags, Improvement in Early warning against flash flooding	Helicopters, vehicles	Tents, Food for Isolated population ,POL	Restoration of roads and bridges and Water supply	210	70
Swat		Sand bags, Improvement in flood warning system against river flooding, Regular updating of weather and flood forecasting Water monitoring system by communities	Sandbags , Helicopters, boats *Local Jallas (Boats),*	Tents, Cooked food , Safe drinking water, POL, food for isolated population	Water supply, restoration of damaged sewerage system, Restoration of roads and bridges	450	150
Dir Upper	• Clearance of water ways • Removal of encroachments	Sandbags, Improvement in Early warning against flash flooding, Regular updating of weather and flood forecasting	Helicopter, vehicles	Cooked food , Safe drinking water, POL, food for isolated population	Water supply, restoration of damaged sewerage system, Restoration of roads and bridges	180	60
Lower Dir	• Clearance of water ways • Removal of encroachments	Sandbags, Improvement in Early warning against flash flooding, Regular updating of weather and flood forecasting	Helicopter, vehicles	Cooked food , Safe drinking water, POL, food for isolated	Water supply, restoration of damaged sewerage system, Restoration of roads and bridges	200	50

				population			
Malakand	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense/ communities	Helicopters, boats and vehicles	Food , Safe drinking water, POL, food for isolated population	Restoration of roads and bridges, restoration of damaged sewerage system, Restoration of roads and bridges	45	15
Kohistan	• Clearance of water ways • Removal of encroachments	Need for enhanced capacity of flash flood rescue , Improvement in flash flood warning system , Regular updating of weather and flood forecasting	vehicles	Cooked food , Safe drinking water, POL	restoration of damaged sewerage system, Restoration of roads and bridges	150	50
Buner	• Clearance of water ways • Removal of encroachments	Regular updating of weather and flood forecasting	vehicles	Cooked food , Safe drinking water, POL,		30	10
Haripur	• Clearance of water ways • Removal of encroachments	Regular updating of weather and flood forecasting, Improvement in flash flood warning system , Regular updating of weather and flood forecasting	vehicles	Cooked food , Safe drinking water, POL,		30	10
Abbottabad	• Clearance of water ways • Removal of encroachments	Need for enhanced capacity of flash flood rescue, Improvement in flash flood warning system , Regular updating of weather and flood forecasting	vehicles	Cooked food, Safe drinking water, POL,		50	20
Tor Ghar	• Clearance of water ways • Removal of encroachments	Need for enhanced capacity of flash flood rescue , Improvement in flash flood warning system , Regular updating of weather and flood forecasting	vehicles	Cooked food, Safe drinking water, POL,		50	20
Battagram	• Clearance of water ways • Removal of encroachments	Need for enhanced capacity of flash flood rescue, Improvement in flash flood warning system , Regular updating of weather and flood forecasting	vehicles	Cooked food, Safe drinking water, POL,		50	20
					Total Funds (Rs. Million)	**1505**	**495**

Evacuation Centers: Colleges, schools, govt buildings and tent camps identified as evacuation purpose

Table No 10: Need and Gap Analysis Monsoon 2012 – Chitral District

Region/ Districts	Anticipated Needs Pre- monsoon		Anticipated Needs during and after Floods			Funds Required Rs Million	
	Structural	Non Structural	Rescue	Relief	Public services	High Impact	Medium Impact
Chitral	Clearance of water ways Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Food, financial aid	Water Supply, restoration of damaged sewerage system, restoration of roads and bridges	180	60

Evacuation Centers: Government Buildings (Schools and Colleges)

Table No 11: Need and Gap Analysis Monsoon 2012 – Southern Districts

Region/ Districts	Anticipated Needs Pre- monsoon		Anticipated Needs during and after Floods			Funds Required (Rs Million)	
	Structural	Non Structural	Rescue	Relief	Public services	High Impact	Medium Impact
DI Khan	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Tents, Cooked food , Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	450	150
Tank	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	150	50
Karak	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	45	15
Lakki Marwat	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	45	15
Kohat	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting, Availability of dewatering equipment in urban areas, Enhanced capacity of flood rescue, Water monitoring system by civil defense communities	Rescue equipment for first response	Tents, Cooked food, Safe drinking water, POL	Water supply, restoration of damaged sewerage system	60	20

Bannu	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting,	Rescue equipment for first respon	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	90	30
Hangu	• Clearance of water ways • Removal of encroachments	Sand bags Improvement in flood warning system against flash flooding, Regular updating of weather and flood forecasting,	Rescue equipment for first respon	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	60	20
					Total funds	**900**	**300**

Evacuation Centers: Government Buildings (Schools and Colleges, Helth centers, raised platform for camps)

Table No 12 – Summary of NFI Stock Positions Held by Districts

S#	Distt	Tents	Matresses / Sleeping bags	Plastic Sheets/Tarpaulin	Quilts/ Blankets	Water cooler/ Jerry Cans	Buckets	Kitchen Sets	Stoves	Hygiene Kits	Net Mosquito	Dewatering Pumps	Generators
1	Nowshera	194	0	0	0	0	0	0	0	0	0	0	0
2	Charsadda	192	0	0	0	0	0	0	0	0	0	0	0
3	Peshawar	100	0	0	0	0	0	0	0	0	0	0	0
4	Swabi	0	0	0	1200	1000	0	0	0	0	0	16	16
5	Mardan	11	0	0	0	0	0	0	0	0	0	6	0
6	Mansehra	907	0	13248	7515	297	0	0	3	0	0	0	0
7	Dir Lower	700	0	0	4000	0	400	700	150	70	0	0	6
8	Dir Upper	30	20	45	0	150	0	0	0	0	0	0	0
9	Malakand	36	0	0	0		63	77	0	0	0	0	
10	Abbottabad	150	0	0	0	0	0	0	0	0	0	0	0
11	Kohistan	230	0	113	12900	60	0	56	8	0	0	0	0
12	Shangla	200	50	60	2050	0	0	25	10	0	0	0	0
13	Buner	0	0	0	0	0	0	0	0	0	0	0	0
14	Swat	380	0	300	0	20	30	0	0	0	18	0	0
15	Chitral	300	0	0	2500	0	0	0	0	0	0	0	0

16	Haripur	290	0	0	0	0	0	0	0	0	0	0	0
17	Torghar	0	0	0	0	0	0	0	0	0	0	0	0
18	Karak	60	0	0	70	0	10	0	0	0	0	0	0
19	Lakki Marwat	0	0	0	0	0	0	0	0	0	0	2	0
20	Hangu	500	1500	500	3000	3000	1500	500	2000	2500	1800	4	2
21	Battagram	1615	195	700	12000	0	0	0	0	0	0	0	0
22	Kohat	84	232	0	584	0	0	0	0	0	0	0	0
23	Bannu	170	0	0	0	0	0	0	0	0	0	0	0
24	DIKhan	85	500	48	2100	0	0	40	0	0	530	1	10
25	Tank	70	0	300	0	0	0	0	0	0	0	4	0
Total		**6304**	**2497**	**15314**	**47919**	**4527**	**2003**	**1398**	**2171**	**2570**	**2348**	**33**	**34**

Table No 12 – Summary of NFI Stock Positions Held by PDMA & Districts

S.No.	Items	Stock with Districts	Stock with PDMA	Stock with PRCS	Total Stock Held (Nos)
1	Tents	6304	4919	908	12131
2	Matresses/Sleeping bags/Plastic Sheets/Tarpaulin	17811	1217	3011	22039
4	Quilts/Blankets	47919	18148	6752	72819
5	Water cooler/Jerry Cans	4536	1323	2761	8620
6	Buckets	2003	0	58	2061
7	Kitchen Sets	1398	200	272	1870
8	Stoves	2171	300	763	3234
9	Hygiene Kits	2570	0	267	2837
10	Mosquito Net	2348	3480	0	5828
11	Dewatering Pumps	33	0	0	33
12	Generators	34	153	0	187

Table 13: Estimated Humanitarian Response (relief items) Required Monsoon 2012 High Impact Scenario

S#	Districts	Anticipated Affected HH 2012	FOOD	Shelter and NFIs									WASH	Health					
			FOOD HH 3 Months	Tents	Plastic Sheet	Blanket	Kitchen Set	Hygiene Kits	Jerry can	Buckets	Tarpauline	Stoves	Drinking water Population	Anti Cholera Population cover	IEHK-MEHK Population cover	Immunization	Measles Vaccination	Static Clinics	Mobile Health Teams
1	Peshawar	33,800	33,800	11,267	11,267	45,067	11,267	22,533	22,533	22,533	3,756	11,267	67,600	100% Population Coverage with Priority to the vulnerable					
2	Charsada	71,000	71,000	23,667	23,667	94,667	23,667	47,333	47,333	47,333	7,889	23,667	142,000						
3	Nowshera	71,000	71,000	23,667	23,667	94,667	23,667	47,333	47,333	47,333	7,889	23,667	142,000						
4	Mardan	2,800	2,800	933	933	3,733	933	1,867	1,867	1,867	311	933	5,600						
5	Swabi	2,200	2,200	733	733	2,933	733	1,467	1,467	1,467	244	733	4,400						
6	Tank	21,200	21,200	7,067	7,067	28,267	7,067	14,133	14,133	14,133	2,356	7,067	42,400						
7	D I Khan	56,300	56,300	18,767	18,767	75,067	18,767	37,533	37,533	37,533	6,256	18,767	112,600						
8	Laki Marwt	4,000	4,000	1,333	1,333	5,333	1,333	2,667	2,667	2,667	444	1,333	8,000						
9	Kohat	5,500	5,500	1,833	1,833	7,333	1,833	3,667	3,667	3,667	611	1,833	11,000						
10	Mansehra	3,200	3,200	1,067	1,067	4,267	1,067	2,133	2,133	2,133	356	1,067	6,400						
11	Dir Lower	25,800	25,800	8,600	8,600	34,400	8,600	17,200	17,200	17,200	2,867	8,600	51,600						
12	Malakand	6,400	6,400	2,133	2,133	8,533	2,133	4,267	4,267	4,267	711	2,133	12,800						
13	Shangla	11,500	11,500	3,833	3,833	15,333	3,833	7,667	7,667	7,667	1,278	3,833	23,000						
14	Dir Upper	30,000	30,000	10,000	10,000	40,000	10,000	20,000	20,000	20,000	3,333	10,000	60,000						
15	Kohistan	66,000	66,000	22,000	22,000	88,000	22,000	44,000	44,000	44,000	7,333	22,000	132,000						
16	Swat	90,500	90,500	30,167	30,167	120,66	30,167	60,333	60,333	60,333	10,056	30,167	181,000						
17	Karak	7,200	7,200	2,400	2,400	9,600	2,400	4,800	4,800	4,800	800	2,400	14,400						
18	Hangu	6,500	6,500	2,167	2,167	8,667	2,167	4,333	4,333	4,333	722	2,167	13,000						
19	Chitral	9,800	9,800	3,267	3,267	13,067	3,267	6,533	6,533	6,533	1,089	3,267	19,600						
20	Battagram	1,488	1,488	496	496	1,984	496	992	992	992	165	496	2,976						
21	Bannu	7,700	7,700	2,567	2,567	10,267	2,567	5,133	5,133	5,133	856	2,567	15,400						
22	Buner	802	802	267	267	1,069	267	535	535	535	89	267	1,604						
23	Haripur	8,000	8,000	2,667	2,667	10,667	2,667	5,333	5,333	5,333	889	2,667	16,000						
24	Abbottabad	2,500	2,500	833	833	3,333	833	1,667	1,667	1,667	278	833	5,000						
25	Tor Ghar	2,500	2,500	833	833	3,333	833	1,667	1,667	1,667	278	833	5,000						

Grand Total	547,690	547,690	182,563	182,563	730,253	182,563	365,127	365,127	365,127	182,563	60,854	1,095,380	

Table 14: Estimated Humanitarian Response (relief items) Medium Impact Scenario 2012

S#	Districts	Anticipated Affected HH 2012	FOOD	Shelter and NFIs									WASH	Health					
			FOOD HH 3 Months	Tents	Plastic Sheet	Blanket	Kitchen Set	Hygiene Kits	Jerry can	Bucket	Tarpauline	Stoves	Drinking water Population	Anti Cholera Population cover	IEHK-MEHK Population cover	Immunization	Measles Vaccination	Static Clinics	Mobile Health Teams
1	Peshawar	10,000	10,000	3,333	3,333	13,333	3,333	6,667	6,667	6,667	1,111	3,333	20,000	100% Population Coverage with Priority to the vulnerable					
2	Charsada	20,000	20,000	6,667	6,667	26,667	6,667	13,333	13,333	13,333	2,222	6,667	40,000						
3	Nowshera	25,000	25,000	8,333	8,333	33,333	8,333	16,667	16,667	16,667	2,778	8,333	50,000						
4	Mardan	900	900	300	300	1,200	300	600	600	600	100	300	1,800						
5	Swabi	730	730	243	243	973	243	487	487	487	81	243	1,460						
6	Tank	16,500	16,500	5,500	5,500	22,000	5,500	11,000	11,000	11,000	1,833	5,500	33,000						
7	D I Khan	40,000	40,000	13,333	13,333	53,333	13,333	26,667	26,667	26,667	4,444	13,333	80,000						
8	Laki Marwat	3,000	3,000	1,000	1,000	4,000	1,000	2,000	2,000	2,000	333	1,000	6,000						
9	Kohat	1,550	1,550	517	517	2,067	517	1,033	1,033	1,033	172	517	3,100						
10	Mansehra	2,000	2,000	667	667	2,667	667	1,333	1,333	1,333	222	667	4,000						
11	Dir Lower	8,000	8,000	2,667	2,667	10,667	2,667	5,333	5,333	5,333	889	2,667	16,000						
12	Malakand	3,000	3,000	1,000	1,000	4,000	1,000	2,000	2,000	2,000	333	1,000	6,000						
13	Shangla	4,000	4,000	1,333	1,333	5,333	1,333	2,667	2,667	2,667	444	1,333	8,000						
14	Dir Upper	10,000	10,000	3,333	3,333	13,333	3,333	6,667	6,667	6,667	1,111	3,333	20,000						
15	Kohistan	20,000	20,000	6,667	6,667	26,667	6,667	13,333	13,333	13,333	2,222	6,667	40,000						
16	Swat	12,500	12,500	4,167	4,167	16,667	4,167	8,333	8,333	8,333	1,389	4,167	25,000						
17	Karak	1,000	1,000	333	333	1,333	333	667	667	667	111	333	2,000						
18	Hangu	1,000	1,000	333	333	1,333	333	667	667	667	111	333	2,000						
19	Chitral	5,000	5,000	1,667	1,667	6,667	1,667	3,333	3,333	3,333	556	1,667	10,000						
20	Battagram	490	490	163	163	653	163	327	327	327	54	163	980						
21	Bannu	2,500	2,500	833	833	3,333	833	1,667	1,667	1,667	278	833	5,000						
22	Buner	260	260	87	87	347	87	173	173	173	29	87	520						
23	Haripur	2,600	2,600	867	867	3,467	867	1,733	1,733	1,733	289	867	5,200						

24	Abbottabad	830	830	277	277	1,107	277	553	553	553	92	277	1,660
25	Tor Ghar	800	800	267	267	1,067	267	533	533	533	89	267	1,600
	Total	191,660	191,660	63,887	63,887	255,547	63,887	127,773	127,773	127,773	21,296	63,887	383,320

Table No 15: Overview of NFI Need and Gap Analysis

S.No.	Items	Stock with Districts	Stock with PDMA	Stock with PRCS	Total Stock Held	Requirements		Deficiency/Gap	
						High Impact Scenario	Medium Impact Scenarion	High Impact Scenario	Medium Impact Scenarion
1	Tents	6304	4919	908	12131	182,563	63887	170,432	51,756
2	Matresses / Sleeping bags	2497	394	3011	5902	182,563	63887	176,661	57,985
3	Plastic Sheets/Tarpaulin	15314	798	2245	18357	182,563	63,887	164,206	57,985
4	Quilts/Blankets	47919	18148	6752	72819	730,253	255,547	657,434	182,728
5	Water cooler/Jerry Cans	4536	1323	2761	8620	365,127	127,773	356,507	119,153
6	Buckets	2003	0	58	2061	365,127	127,773	363,066	125,712
7	Kitchen Sets	1398	200	272	1870	182,563	63,887	180,693	62,017
8	Stoves	2171	300	763	3234	182,563	63887	179,329	60,653
9	Hygiene Kits	2570	0	267	2837	365,127	127,773	362,290	124,936
10	Mosquito Net	2348	3480	0	5828	100,000	50,000	94,172	44,172
11	Dewatering Pumps	33	0	0	33	1000	100	967	67
12	Generators	34	153	0	187	1000	500	813	313

5.2 Overview of Food Items Need and Gap Analysis

Food Items	Quantity	
	In bags/Packs	In Kgs
Pasta(Rice) bags (50 Kg)	1200 Bags	60,000 kg
Water bottles (Donation)	00	00
Black Tea Bags (Kg 20)	400 Bags	8000 kg
Sugar (50- Kg bags)	750 Bags	37500 kg
Suij in bags (20 kg)	12 Bags	240 kg
Salt (Packs/Cartons)	310 Packs	728

Table No 16: Details of Food Stock Held by PDMA

5.3 Funds Required For Immediate Relief: (Rs. Million)

a	High Impact Scenario	**3,985.00**
b.	Medium Impact Scenario	**1,255.00**
c.	Fund Available with Districts	**124.982**
d.	Fund Available with PDMA for Relief Operations	**107.524**
e	Total Funds Available : c + d	**232.506**
f	Funds Required / Shortfall : HI Scenario (a-e)	**3,752.49**
g	Funds Required / Shortfall : MI Scenario (b-e)	**1,022.49**

5.4 Protracted Needs for Food–Whole Province

Planning Figures to Determine Food Needs for Survival Food Rations for Populations in Protracted Crisis Situations (food quantity in MTs, based on 2,100 Kcal/per day/ per person)

5.4.1 High Impact Scenario:

5.4.2

- Number of persons per day = 903 Metric tons per day for 3,284,340 population
- 3 Months Food Rations approximately = **81,287 Metric Tons**

5.4.3 Medium Impact Scenario:

- Number of persons per day = 316 Metric tons per day for 1,149,960 population
- 3 Months Food Rations approximately = **28,462 Metric Tons**

5.4.4 Prepositioning:

Immediate Needs for Pre-positioning -Madyan, Kalam, Bahrain and Kandiya Valley (Swat, Shangla and Kohistan)

For 232,221 people for 30 days= 1554.743 MTs (As per details below)

Table-17 Tentative Contengency Monthly Food Requirments For Requirments For Swat, Kohistan & Shangla

District	UC	No. of expected Families	Benef:	Required Commodities in MTs						
				RICE (30 kg)	Oil (4 kg)	Pulses (8 kg)	HEB (2.5 kg)	Salt (1 kg)	P-doze (1.3 kg)	Total
Swat Fatehpur Hub	Madyan	828	5796	24.84	3.312	6.624	2.07	0.828	1.076	**38.75**
	Bishigram	979	6853	29.37	3.916	7.832	2.448	0.979	1.273	**45.817**
	Bahrain	1963	13741	58.89	7.852	15.704	4.908	1.963	2.552	**91.868**
	Mankayal	2089	14623	62.67	8.356	16.712	5.223	2.089	2.716	**97.765**
	Balakot	3285	22995	98.55	13.14	26.28	8.213	3.285	4.271	**153.738**
	Kalam	4385	30695	131.55	17.54	35.08	10.963	4.385	5.701	**205.218**
	Utror	2124	14868	63.72	8.496	16.992	5.31	2.124	2.761	**99.403**
Total (7-Ucs):		**15,653**	**109.571**	**469.590**	**62.612**	**125.224**	**39.133**	**15.653**	**20.349**	**732.56**
kohistan Barsin/ Dassu	Gabrial	1635	11445	49.05	6.54	13.08	4.088	1.635	2.126	**76.518**
	Karang	1741	12187	52.23	6.964	13.928	4.353	1.741	2.263	**81.479**
	Kareen	1547	10829	46.41	6.188	12.376	3.868	1.547	2.011	**72.4**
	Thoti	1476	10332	44.28	5.904	11.808	3.69	1.476	1.919	**69.077**
Total (4-Ucs):		**6,399**	**44,793**	**191.97**	**25.596**	**51.192**	**15.998**	**6.399**	**8.319**	**299.473**
Shangla Shahpur/Damorai	Kuz Kana	1853	12971	55.59	7.412	14.824	4.633	1.853	2.409	86.72
	Shahpur	2842	19894	85.26	11.368	22.736	7.105	2.842	3.695	133.006
	Damorai	2485	17395	74.55	9.94	19.88	6.213	2.485	3.231	116.298
	Pir Khana	3989	27923	119.67	15.956	31.912	9.973	3.989	5.186	186.685
Total (4-Ucs):		**11,169**	**78,183**	**335.07**	**44.676**	**89.352**	**27.923**	**11.169**	**14.52**	**522.709**
Grand Total (15 Ucs):		**33221**	**232547**	**996.63**	**132.884**	**265.768**	**83.053**	**33.221**	**43.187**	**1554.743**

Source: World Food Program, KP Office

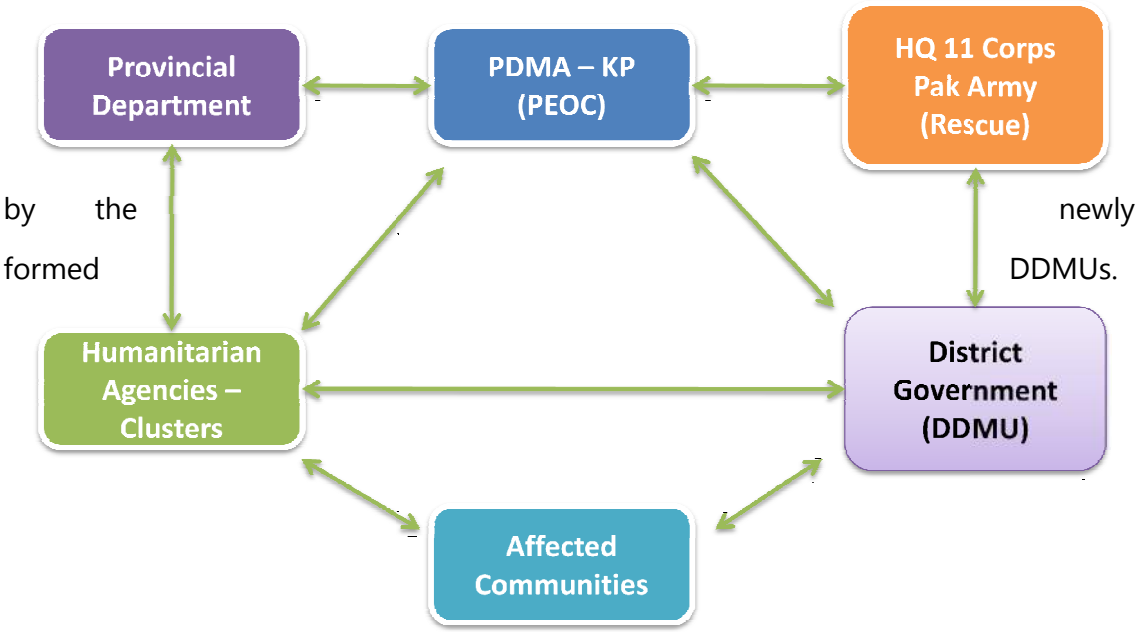
Chapter-6

Monsoon Preparedness and Planning-Coordination Mechanism

6.1 Coordination mechanism

The coordination mechanism entails horizontal coordination with host of government line departments and autonomous bodies that furnish early warning, undertake search and rescue, conduct relief operations and meet needs of vulnerable segments, while vertical coordination occurs with Districts. PDMA coordinates execution of these functions with all provincial entities and federal agencies i.e. Pak Armed Forces, NDMA, Emergency Relief Cell, National Logistic Cell, Pakistan Metrological Department etc. PDMA also constitutes the point of contact for deploying external assistance for disaster response through the General Coordiantion Meeting (GCM) to UN agencies, INGOs and donors consistent with provincial and national policies. Similar processes are followed at the district tier by DCOs assisted by the newly formed DDMUs.

Coordination Mechanism for Monsoon 2012



6

6.2 Roles & Responsibilities

6.2.1 District Governments:

1) Formulation of District level contingency plans
2) Establishment of District level flood control rooms and dissemination of contact details
3) Arrangements for Quick dissemination of flood warning and establishment of Observation Posts (OPs)on the likely flood areas.
4) Activation of Civil defence staff and volunteers for rescue and relief operations
5) Identification of flood disaster prone areas and threatening water channels in respective districts
6) Earmarking evacuation arrangements routes, building and guidance etc
7) District level food stock (wheat) and NFIs quantities and locations
8) Coordination with humanitarian agencies i.e. INGOs, NGOs and UN agencies
9) Need and gap analysis of funds and stores.
10) Formulation of comprehensive health response plans in coordination with EDO health.
11) Carry out necessary liaison with Pak Army, Frontier Constabulary and Scouts for initiation of rescue operations.

[6] The Humanitarian Agencies will provide support through General Coordination Meeting (GCM)

12) Tasking of local police authorities in evacuation and keep law and order situation
13) Identification and removal of encroached areas along with BOR staff and TMAs
14) Excavation work of threatening water channels
15) Maintenance of flood protection works in respective district with sand bags and locally available material (Except in DI Khan Irrigation Dept is not mandated to stage active flood fighting)
16) The training of human resource, especially for operating rescue boats
17) Coordination and tasking of all relevant departments for putting in place requisite preparedness measures before the monsoons

6.2.2 Provincial Irrigation Department

1) Establishment of Provincial and district level Flood Emergency Cells
2) Formulate and execute flood emergency response plan
3) Establishment of Flood/water Monitoring Network
4) Provide early warning:
    a. 16 – 24 hours warning along Swat River
    b. 5-7 hours along Kabul
    c. 36 – 48 hours along Indus at DI Khan
5) Removal of encroached areas with the assistance of DCOs, TMA and C&W Department
6) Necessary liaison with Pak Army, Frontier Constabulary and Scouts for initiation of flood fighting operations (DI Khan Only)

6.2.3 Provincial Communication and Works Department

1) Establishment of Provincial Flood Emergency Cell
2) Formulate and execute flood emergency response plan
3) Identification of vulnerable infrastructure (buildings, roads and bridges)
4) Preposition available machinery/ plants at vulnerable areas

5) Restore severed land communication
6) Liaison with local Army Authorities

6.2.4 Provincial Health Department

1) Establish a Health Emergency Preparedness and Response Cell- HEPR
2) Carry out detailed planning with district officials (EDOs) and formulate district level health plans for execution
3) Carry out need and gap analysis for medicines and required stocks
4) Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls

6.2.5 Provincial Food Department

- Keeping stock of wheat available as per the requirement at various places in the province

6.2.6 Provincial Information Department

1) Notifying the establishment of a flood emergency control room/unit
2) Broadcast advance warnings to sensitize the public
3) Guide the public about the nearby safer places, routes and other precautionary measures
4) Publication of the flood-related reports on daily-basis in the local, regional and national newspapers
5) Arrange press briefings/press conferences for any officer/official

6.2.7 Provincial Disaster Management Authority -PDMA

1) Carry out flood preparedness coordination meetings with districts and provincial departments
2) Formulate provincial monsoon contingency plan
3) DG PDMA in consultation with Secretary Relief, Rehabilation & Settled Department and Chief Secretary KP will be responsible for Response & Relief Operations.

4) Director Relief PDMA will head a Composite Team (comprising representatives of Lead Agency/Department and focal persons of support organizations) to coordinate response & relief operations
5) Establish Provincial Emergency Operation Centre
6) Make available requisite funds and resources for DCOs to make up the gaps in preparedness measures
7) Undertake need based coordination with all UN Agencies and other humanitarian partners to fill in the response and relief gaps before, during and after floods
8) Undertake coordination with Pak Army for initiating emergency response if required

6.2.8 Local Government & Rural Development Department

1) Notifying the establishment of a provincial flood emergency control room/unit
2) Arrange potable drinking water and sanitation facilities for flood affected areas
3) Preparation of TMA-wise list/ stock position of flood emergency response equipments and machineries
4) Arrange for the removal of carcasses and debris after floods
5) Contingency plans for immediate restoration of water supply, sanitation, cause ways, culverts, links roads, street lights and public latrines
6) Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls
7) Arrange for requisite *Water and Sanitation* in all the earmarked evacuation centres in coordination with education department

6.2.9 TMAs

1) TMOs to be declared focal person for his respective TMA

2) Ensure to remove the encroachments through close coordination with Revenue, Irrigation and other relevant departments
3) Keep close liaison and coordination with respective DCO's and DDMU's round the clock during the emergency
4) TMO's and their staff should be trained/sensitized by the respective DCO's/ DDMU for monsoon emergency response and role and responsibilities

   Cleanliness of sewerage and nullah by the respective TMAs

6.2.10 Public Health Engineering Department

1) Notifying the establishment of a provincial flood emergency control room/unit
2) Arrange potable drinking water and sanitation facilities for flood affected areas
3) Contingency plans for immediate restoration of water supply, sanitation, cause ways, culverts, links roads, street lights and public latrines
4) Arrange for the removal of carcasses and debris after floods
5) Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls
6) Arrange for requisite *Water and Sanitation* in all the earmarked evacuation centres in coordination with education department

6.2.11 Provincial Education (E&SE) Department

1) Notifying the establishment of a provincial flood emergency control room/unit
2) Provide support to the District Admin for establishing evacuation centres in schools /colleges
3) Identification of all schools/ colleges earmarked for evacuation centres
4) Arrange continuation of education in flood affected areas

5) Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls

6.2.12 Provincial Agriculture Department

1) Notifying the establishment of a provincial flood emergency control room/unit
2) Arrange for live stock fodder and vaccination cover of live stock
3) Arrange for provision of seeds and agriculture inputs after floods
4) Arrange for de-silting of channels and levelling of Agri- land
5) Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls

6.2.13 Provincial Home Department

1) Facilitate DCOs through Police Wireless Net in case of communication failure of other networks i.e. provision of necessary hardware and a dedicated frequency for emergency use of DCOs before during and after floods/monsoon.
2) Facilitate the irrigation department flood monitoring / gauging persons in communication and transmitting of water flow and discharge information through Police Wireless Network, whereever wireless equipped police station or post exists in vicinity of irrigation department gauge.

6.2.14 Civil Defence,

1) Establishment of Flood Emergency Control Cell in respective districts
2) Keeping the volunteers on alert
3) Performance of rescue operations
4) Assist in the performance of relief activities.

6.2.15 Rescue 1122, and others

1) Establishment of Flood Emergency Control Cell in respective districts (Peshawar & Mardan)
2) Performance of rescue operations

6.2.16 Provincial Police

1) Maintain law and order situation in the districts and assist district administration for an orderly evacuation if such situation arise
2) Facilitate DCOs through Police Wireless network in case of communication failure of other networks.
3) Facilitate the irrigation department flood monitoring / gauging persons in communication and transmitting of water flow and discharge information through Police Wireless Network, where ever wireless equipped police station or post exists in vicinity of irrigation department gauge.

6.2.17 Pakistan Meteorological Department (*Provincial Chapter)*

1) Establishment of Flood Emergency Control Cell
2) Provide reliable and in time weather forecasts for KP and its catchment areas
3) Coordinate, liaison and exchange (credible and comprehendible) information with Irrigation Dept and PDMA for early warning as agreed

6.2.18 Environment Forest Department

1) Undertake assessment of vulnerabilities of the natural resources
2) Minimize the cutting of trees before and during monsoons
3) Arrange for removal the logs from Nullah and stock them at safe places.

6.2.19 Provincial Social Welfare,

1) Formulate their organizational Flood Contingency and Response Plans, catering for the needs of women, children and other socially vulnerable groups
2) Keep the flood response stocks available and carry out need and gap analysis
3) Provide support to the Provincial / District Governments to cover the needs of socially vulnerable groups

6.2.20 Humanitarian Community- UN Agencies, Pakistan Red Crescent Society PRCS, INGO & NGOs

1) Formulate their organizational Flood Contingency and Response Plans consistent with provincial and national policies, to cater for the unmet response needs as given in tables 13-17.
2) The HRT consolidates the cluster Flood Contingency and Response Plans with PDMA.
3) Through the forum of the GCM the consolidated Flood Contingency and Response Plans is shared with PDMA KP
4) Through the GCM pre-agreement will be reached for joint assessment and monitoring based on the model agreed at the Federal level between NDMA and OCHA and training of numerators will be assured.

5) At the GCM PDMA KP coordaintes the deployment of humanitarian assistance and flood response consistent with provincial plan, and based on the results of the common needs assessment or tasked to do so. Special attention will be given to :

    a. The immediate relief needs of the affected communities such as food & water, shelter, health and NFIs during and after the monsoon season see table 20 to 25.

b. Follow-up relief measures should preferably include support for repair of houses, repair/replacement of health infrastructure, repair/replacement of community damaged infrastructure, replanting of Rabi crops, education and to immediately recover main source of income to support in meeting their needs.

c. Special emphasis will be placed on the identification of the weaker and vulnerable groups in society that suffer worst from floods, especially, the young and the very old, women, the disabled and certain occupational groups. Identification and extension of appropriate relief packages for such groups will also be a priority.

6) The humanitarian community will report progress on a regular basis using the 4Ws monitoring tool.

6.2.21 Pakistan Army (HQ 11 CORPS)

1) Establish flood Coordination Centres as per Army's Plan
2) Assist provincial government in search & rescue and response operations when called in aid of civil administration
3) Coord with PDMA and other departments to make up the short falls

6.3 Monsoon Preparation Strategies

6.3.1 District Level Flood Preparedness

Districts across province reflect diverse capacity to respond. However, basing on the experience of 2010 floods all the districts have already put in place a comprehensive mechanism for prevention, mitigation and response of floods. The DCOs assisted by the District Disaster Management Officers will spearhead response. The district governments have to perform the following functions:

- District level contingency plans have been made and notified.
- District level control rooms will be operational (24 hours) from 15th June 2012 till 15 September 2012.The control rooms will be district focal points for flood response and will essentially perform coordination and information management functions. (Details of control rooms/ focal persons are appended as Annexure C)
- To receive real time information about water levels, a network of community level organizations and community volunteers have been organized in the catchment areas, especially for mountainous districts.
- For quick dissemination of flood warning revenue department and irrigation departments have joined efforts. Moreover, mosques schools and other community networks will also be utilized.
- Irrigation departments have been tasked to establish Observation Posts on the likely areas and forewarn the emerging threat.
- District level food stock (wheat) quantities and locations have been notified
- The NFIs stocks available with district government are accounted for and notified.

- Civil defence staff and volunteers where they exist have been made fully functional.
- All sensitive flood disaster prone areas and threatening water channels have been identified and notified.
- DCOs have taken on board all the humanitarian agencies i.e. INGOs, NGOs and UN agencies present in the district.
- The evacuation centres are earmarked with the assistance of education department and have been notified
- For sensitive government buildings and record each department has made its own SOPs
- Requisite funds and stores have been requested by the districts from PDMA.
- District level coordination meetings have been held resulting in clear roles and responsibilities of all relevant departments in case of any emergency
- DCOs along with district health have formulated comprehensive health response plans.
- DCOs have directed the works and services staff to keep strict vigilance on the roads and bridges and initiate necessary measures whenever required.
- Necessary liaison has been done/ underway with Pak Army, Frontier Constabulary and Scouts for initiation of rescue operations.
- The local police authorities have been directed to assist in evacuation and keep law and order situation in case of any situation.
- The encroached areas are identified and DCOs along with DOR and TMA staff are initiating the requisite measures. In addition at some places excavation work of threatening water channels is also under way.
- The training of human resource is underway, especially for operating rescue boats with the assistance of Pak Army.

6.3.2 Pakistan Army Response Measures

The Army has established six regional disaster management hubs all over Pakistan for monsoon 2012. For Northern region hubs have been established at Rawalpindi and Peshawar. Regional hub Peshawar will work directly under Head Quarters 11 Corps and stores/ equipment will be stored at Risalpur/ Peshawar.

Army will only assist civil administration in rescue phase of floods. On formal requisitioning of Army in flood relief operation, all available resources will be mobilized. The main flood relief centre will be established at Peshawar and regional centres at *Khawaz akhela*, Nowshera and DI Khan. The assets provided by PDMA and available at regional Hubs are as under:

Table No 18: Pakistan Army Water Rescue Assets Available- Provided by PDMA

Items	Peshawar	Kohat	Swat	D I Khan	Akora Khattak	Nowshera	Risalpur Engr Centre	**Total**
Boats (All Types)	40	10	5	13	7	-	26	**101**
OBM (All Types)	48	12	5	17	13	-	26	**121**
Life Jackets (All Types)	466	-	140	28	105	-	-	**739**
Rope	600ft (On required basis)							
Tire tubes	300 Nos (On required basis)							

Army arranged trainings for Civil Defense, Rescue 1122 and Irrigation Department staff in operating rescue boats. Two boat operator courses were arranged in *Akora Khattak* in May 2012.

6.3.3 Irrigation Department Flood Preparedness Measures

- The provincial irrigation department has established a Flood Emergency Cell, Hydrology Department. The XEN Hydrology will be the focal person of the department details attached as Annexure C. The emergency cell will be operational 24 hours from 1st June 2012. The cell will collect and transmit the information thrice daily in flood season and hourly in emergency situation. The contact details are appended as Annexure D.
- Flood monitoring network with the gauges present at various locations has been established. The department has 180 river water and 58 rain water gauging sites. The department will issue early warning as under:
    - 16 – 24 hours warning along Swat River
    - 5-7 hours along Kabul
    - 36 – 48 hours along Indus at DI Khan
- District level Flood Emergency Cell will also be established in flood prone district from 15th June onwards till recession of floods.
- The encroachments identified shall be removed with the assistance of DCOs, TMA and C&W Department.
- In D.I.Khan flood advisory committee headed by Chief Engineer will be reactivated with the following composition:

    - Chief Engineer (South) Chairman
    - Chief Engineer (North) Member
    - Director General, Small Dams Organization Member
    - Director General, Flood Damages RestoratonDirectorate Member
    - Engineer Raqib Khan, member IRSA Member
    - Engineer Akhtar Parvez, Retired Chief Engineer, Irrig depatt Member
    - Enginer Faqir Ahmed Paracha Member
    - Technical Representative of Commissioner DIKhan Member

- Technical Representative of 174 Engr Battalian, Pak Army DIKhan Member
- Superintending Engineer Irrigation DIKhan
  Member

- Challenges:

Irrigation Department Pre Monsoon Flood Mitigation Strategies

- After flood 2010 per Damage Need Assessment (DNA) was conducted in November 2010 and damages sustained by the Flood Protection infrastructure in KP are initially estimated at PKR 5,810 million or USD 68 million [7]. The Provincial Government has created 'Floods Damages Restoration Directorate' under the Irrigation Department.

- The directorate has formulated response strategy to minimize and mitigate the flood impact. The FDRD has been able to execute 61 number of schemes so far, out of which 22 have been completed. More importantly the repair work on Amandara Headwork has been completed whereas major part of the Munda Headwork is almost completed and 5 out of 8 bays will be completed till June 30th 2012. Similarly the major part of the restoration work remains unattended in the shape of 299 leftover schemes costing Rs 5.00 billion due to non availability of funds.
- The floods of 2010 have exposed the water regulatory infrastructure to tremendous pressures. The water which flowed surpassed the earlier records by many folds. The performance of these regulatory facilities is doubtful even if subjected to slightly higher pressures than their design capacity.

[7] Pakistan Floods 2010, Preliminary Damage and Needs Assessment, November 2008. P. 28.

6.3.4 Communication and Works Department Preparedness Measures

- The provincial C& W Department will establish a Flood Emergency Cell in the office of DG FDRD, Peshawar. It will be operational 24 hours from 1st June 2012.The contact details are appended as Annexure-M.
- Available machinery/ plants have been prepositioned at vulnerable areas in Shangla, Dir lower/Upper, Swat and Buner to restore the accessibility. The details of plant/ machinery are attached at Annexure G.
- Challenges:
  - The unprecedented floods of 2010 have exposed the communication infrastructure to tremendous pressures. The water which flowed surpassed the earlier records by many folds; the strength of communication infrastructure is doubtful even if subjected to slightly higher pressures than their design capacity.

6.3.5 Transport Department Response Measures

- The department shall coordinate the evacuation of affected population in an orderly manner. The RTAs in all respective divisions have been directed to coordinate with respective DCOs for needful arrangements.

6.3.6 Health Department Flood Preparedness Measures

- The Health Department has established a Health Emergency Preparedness and Response Cell- HEPR in Peshawar. The contact details are appended.
- The department has carried out detailed planning with district officials (EDOs) and district level health plans are in place for 2012 monsoon.
- Challenges:
  - The reduced presence of NGOs and INGOs in districts is adversely affecting the outreach of health facilities and in case of 2012 flood emergency the department will not be able to perform as in 2010 floods.

- The potential of 2012 floods to deteriorate the health situation of population summons special attention. Severe floods can not only cause destruction to health care infrastructure (already scarce health facilities in Province which were adversely affected in 2010 floods) but it will also affect health indicators of the affected population.
- The vulnerability to endemic diseases stands enhanced after the floods due lack of safe water and sanitation facilities, poor hygiene, conditions conducive for vector borne diseases. These conditions amplify the risk for spread of acute watery diarrhoea (AWD), typhoid fever, malaria, measles, relapsing fever and acute respiratory illnesses.
- In addition the damaged/blocked roads /infrastructure decrease access to health services and increase the challenges for timely and effective delivery of preventive and curative health services for flood victims.

6.3.7 Food Department Flood Response Measures

- The department is keeping stock of wheat available as per the requirement at various places in the province. The detail of wheat stock held is attached as Annexure-F.

6.3.8 Information Department Flood Response Measures

- The Directorate of Information during the upcoming monsoon season 2012 in the interest of the people has arranged following:
- The Pakhtunkhwa Radio FM 92.2 MHz Peshawar and Pakhtunkhwa Radio FM 92.6 MHz Mardan will broadcast advance warnings to sensitize the public as soon as they are received. Both the FM Radios will also guide the public about the nearby safer places, food stuff, health-care facilities, health tips and other precautionary measures.
- Besides ensuring the publication of the flood-related reports of the Irrigation Department on daily-basis in the local, regional and national

newspapers, the Directorate will also arrange press briefings/press conferences for any officer/official.

- The FM Radio Stations, whenever needed, will broadcast special programs to facilitate the flood-affectees and officers from the health, irrigation, population.
- The directorate will liaison with all other concerned departments to participate in such programs to share their views.
- **Challenges:** To achieve and undertake above, the department needs updated information. Therefore, PDMA, Irrigation Department, PMD and others will have to liaise with the focal person of this Directorate and keep him abreast of the flood situation, imminent dangers and remedial measures, which will be consequently passed on to the people of the province through mass media in order to avoid possible losses both to life and property.

6.3.9 Provincial Disaster Management Authority - PDMA Flood Preparedness Measures

- PDMA has undertaken a series of flood preparedness meetings with districts and provincial departments. This contingency plan is the outcome of the consultations.
- **Articulation of Command and Control:** DG PDMA in consultation with Seretary, RR&S Department and Chief Secretary will be responsible for Flood Response & Relief Operations. Director Relief PDMA on his behalf will head a Composite Team (comprising representatives of Lead Agency/Department and focal persons of support organizations) to coordinate response & relief operations.
- All relevant departments/Agencies to provide focal person / representative to form part of the provincial response team when requested.
- **Provincial Emergency Operation Centre** has been established and notified. The cell will be functional from 1 June 2012 till the recession of floods. The

cell shall receive and transmit flood / water level information thrice in flood season and on hourly basis during emergency. The contact details are appended as Annexure E.

- **Purpose:** The coordination and collection of information and resources to support disaster/emergency/ incident management activities
- **Location:** PDMA HQ
- **Functions:** The PEOC will be a central coordination, command and control facility responsible for carrying out emergency preparedness and emergency management functions at a strategic level in an emergency situation, and ensuring the continuity of response operations. PEOC will perform following core functions:
  - Coordination and communications;
  - Policy / Plan /Decision making
  - Operations
  - Resource dispatch and tracking
  - Information collection, analysis, and dissemination
  - Preparing operational updates situation reports and
  - Hosting Visitors (VIPs) briefings and debriefings

- **Early Warning**: Early Warning (EW) especially resulting in evacuation of an area or areas will not be issued by any single provincial department. However, local DCO has the authority to do so if the condition/ situation demands. For issuing timely EW and evacuation advisory a joint cell of Provincial irrigation department, Metrological department and PDMA has been established. PEOC after consultation with all relevant parties will only issue Early Warning and evacuation advisory if required in coordination with local DCO at provincial level.

- To make up for the deficiencies in Flood Early Warning System and to receive real time information on water levels for onward dissemination,

Metrological Department and Irrigation Departments along with PDMA KP have arranged following:

- Finalization of arrangements to provide reliable and in time weather forecasts for KP and its catchment areas and putting in place a practical system for flood early warning
- Reaching standardization on flood threat levels for evacuation of area (s)
- Making the information received from Metrological and Irrigation departments i.e. water level and weather forecasts comprehendible and impending threat related
- In addition, the DCOs are also tasked for putting in place a network of community level organizations and community volunteers in the catchment areas, especially for mountainous districts, to receive real time information on water levels resulting in early warning.

- PDMA has placed requisite funds at the disposal of all DCOs. The DCOs are directed to utilize the funds to make up any deficiency in preparedness measures for 2012 monsoons.
- 101boats and 121 OBMs (Out Board Motor) are procured and placed at the disposal of Army Headquarters 11 Corps.
- PDMA shall undertake need based coordination with all UN Agencies and other humanitarian partners to fill in the response and relief gaps before, during and after floods. If needed a separate coordination mechanism will be notified for this purpose.
- PDMA will coordinate with all UN agencies and humanitarian partners to maintain a stock of at least 1/3 of required humanitarian needs (Food and NFI including shelter) for the 2012 monsoons.

- Challenges:
  - The focus is to restore social services delivery, livelihoods and bringing normalcy after meeting the basic shelter, health and food security needs.

This is where general inadequacy in both resources and planning has been identified in most of the districts.

- Sectors that need to be supported substantially by both provincial resource mobilization and through humanitarian / federal support are housing, health, livelihood regeneration, agriculture and livestock, restoration of road access and above restoration public services i.e. water supply, communication and education.
- Given the frequent incidences of floods in Khyber Pakhtunkhwa during monsoon season the government has taken adequate measures for flood control and management down to district level. The resource and technical inadequacy in response will be made up by the Pakistan Army which is expected to play a significant role by providing search and rescue services and emergency relief in affected areas.
- The civil unrest has played a vital role in enhancing the vulnerability of the populace across province. The post insurgency adverse security situation has particularly hampered the provision of social services like health and emergency care to the victims of emergencies and disasters. Pakistan Army and security agencies are expected to assist in creating favorable humanitarian relief space so that government and humanitarians can assist those affected.

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Annexure-A Table 25: Major Losses of Flood 2010

District	HHs Affected	Died	Relief Case load	Pop Isolated	Villages Affected	Houses Destroyed	Livestock Damage
Nowshera	71,403	167	3,50,336		27	67,892	
Swat	90,665	95	101,220	350,000	42	14,460	34,470
Charsada	71,819	66	1,45,810		34	33,000	
Kohistan	66,133	85	32,122	150,000	38	2400	
Upper Dir	30,071	77	100,000	100,000	14	655	25,000
Shangla	11.950	162	12,439	60,000	7	13,000 appox	
DI Khan	56,373	31	20,468		26	4000 approx	180252
Tank	21,270	11	35,000		16		
Lower Dir	25,812	35	100,000		7	260	
Mansehra	3267	36	28,644		12	4092	89232
Haripur	8092	37	20, 629		42	4000 approx	
Chitral	9881	21	1155		12	550	150
Total	**546,003**	**1068**	**9,12,999**	**6,60,000**	**544**	**1,91,215**	**5,07,423**

Annexure-B Preliminary Outlook Monsoon 2012

PMD
Tel: + (92-51) 9250367
Fax: + (92-51) 9250368

Government of Pakistan
Ministry of Defence (Defence Division)
Pakistan Meteorological Department
Headquarters Office
Sector H-8/2
Islamabad - 44000
Website: www.pakmet.com.pk
Email: PakMet_Islamabad@yahoo.com

Dated: 7 May, 2012

To:

(i) Secretary, Ministry of Water & Power, Islamabad
(ii) Chairman, National Disaster Management Authority, Islamabad
(iii) Chairman, Federal Flood Commission, Islamabad

Subject: Preliminary Outlook For Monsoon 2012

Pakistan summer monsoon season spans over July to September and under normal atmospheric conditions, onset of summer monsoon takes place during the first week of July. As a routine practice, Pakistan Meteorological Department compiles the seasonal monsoon outlook around mid June incorporating the dynamics of local, regional and global meteorological parameters up to the end of May each year. However, different Regional Climate Outlook Forums designated by World Meteorological Organization (WMO) for issuance of seasonal outlook have started disseminating their products. Predictions made by these forums for South Asia and preliminary outlook of PMD are presented below;

South Asian Climate Outlook Forum (SASCOF)

The consensus outlook indicates that the large-scale summer monsoon rainfall for South Asia and the season (June – September) as a whole would most likely to be within the normal range. However, there is also a slight tendency for the South Asian summer monsoon rainfall to be below normal. In terms of spatial distribution of rainfall, there is likelihood for below normal rainfall over some areas of northwestern and southern parts of South Asia.

Forum on Regional Climate Monitoring and Assessment for Asia (FOCRA-II)

Keeping in view the dynamics of Global Climate System, it is expected that rainfall in summer monsoon season (June-September) over the South Asian Region will range from normal to slightly above normal.

Preliminary Monsoon Outlook by PMD

Thermal regime during winter and spring remained colder than normal in Pakistan due to one of the extremely cold and extended winter. The regional parameters such as heavier snow cover and lower sea surface temperatures reinforce the below normal prediction of monsoon rainfall in Pakistan as far as country's total seasonal rainfall amount is concerned. However, the possibility of erratic monsoon rains is high, as such extreme events with heavy downpour in parts of the country generating urban, riverine and flash flooding cannot be ruled out.

FAX NO. :0092519250368 May. 07 2012 04:01PM P2

Extended winter conditions have delayed snowmelt this year. Any extended heat wave conditions can accelerate the snowmelt causing flooding particularly in Swat and Kabul rivers including their tributaries.

It is therefore suggested that as per normal procedure adopted during monsoon season, the flood fighting and disaster management agencies should keep themselves equipped for coping with extreme events.

Note: ***Regular seasonal monsoon outlook would be issued in mid June and mid-season update would be undertaken in early August.***

Yours Sincerely

(ARIF MAHMOOD)
Director General, PMD

CC:

(i) Secretary, Ministry of Defence, Rawalpindi
(ii) Secretary, Ministry of Climate Change, Islamabad

On alert.

PMD
Tel:+(92-51) 9250367
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No. CO(Isb)-2(4)/SO/2012
Government of Pakistan
Ministry of Defence (Defence Division)
Pakistan Meteorological Department
Sector H-8/2, Islamabad
Website: www.pakmet.com.pk
Email: PakMet_Islamabad@yahoo.com

Dated: 13 June, 2012

Pakistan Summer Monsoon Outlook 2012

1. Summer monsoon season in Pakistan starts normally in July and persists until the end of September. PMD issues Pakistan's monsoon outlook every year before the onset of the monsoon season which gives an idea of country-wide total amount of precipitation expected throughout the season. Main objective of this outlook is the management of available water resources.

2. Last winter and spring were cooler and wetter than normal; consequently yielding heavier snow accumulation over the northern mountains. Snow melt rate is lower than normal due to generally below normal temperatures in Northern Areas and frequent passage of westerlies in May and June. It is envisaged that the snowmelt contribution to riverine flooding will be minimal.

3. El-Nino is likely to develop in August which has negative impact on Pakistan summer monsoon, in general. Likewise heavier than normal winter snow is a signal of weaker monsoon. Nevertheless, the western disturbance will continue affecting northern half of Pakistan and its interactions with monsoon current may produce heavy downpours in parts of the country at times.

4. It is noteworthy to mention that the seasonal predictions of the South Asian monsoon 2012 made by different Regional Climate Outlook Fora are contradictory giving slightly above normal to below normal rainfall over the region.

5. **Monsoon Outlook**

Based on analysis of local, regional and global general circulation of atmosphere and incorporating the previous winter and spring behavior, the outlook for forthcoming monsoon season 2012 is as under:

"There is a strong likelihood that total amount of precipitation in Pakistan during monsoon season 2012 (July-September) will be +05-15% of the long term average. However, erratic spread of monsoon on temporal and spatial scale is likely to be a prevalent feature; as such the possibility of very heavy localized rainfall, at times resulting in flash flooding, may not be ruled out. Further, such localized rainfall events may cause localized flash flooding over the hill torrents of the Suleman Range and Rod-Kohi in Rajanpur, D. I. Khan and D. G. Khan."

Note: An update will be issued depending upon any shift in global weather parameters. Normal monsoon rainfall (July-September) for Pakistan is 137.5 mm.

(ARIF MAHMOOD)
Director General, PMD

Annexure C Provincial Emergency Control Room –PDMA

Telephone Numbers PEOC PDMA	Fax No PEOC PDMA
• 091- 9213845 • 091-5274625 • 091-5274339	• 091- 9212059

Important Contact Details- PDMA

S#	Name	Designation	Contact #	Email Address
1.	Shahzad Bangash	Director General	9213855 0333-9299713	dg@pdma.gov.pk
2.		Director HR/Admn	9213890	
3.	Zulfiqar Ali Shah	Director (Relief, Operation & Coordination)	9211805 0345-9014444	director.operations@pdma.gov.pk
4.	Muhammad Bakhtiar khan	Deputy Director (Relief)	9210975 0345-4999977	bakhtiar@pdma.gov.pk
5.	Muhammad Masood	Deputy Director (Trng & Awareness)	03239296726	masood@pdma.gov.pk
6.	Javed Siddiqui	Assistant Director (Admn)	9212060 0301-8829514	
7.	Asmat Shah	Assistant Director (Warehouse)	2651547 0345-9201581	
8.	Tashfeen Zaman Afridi	Assistant Director (Ops & Cord)	9211854 0333-9264866	
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14.	Shah Nasir	Housing Coordinator	9213250 0345-5000772	shah.nasir@pdma.gov.pk
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17.	Waseem Kundi	Planning Officer	5274340 0321-9026448	waseemkundi@gmail.com
18.	Adnan Khan	Media Specialist	9213250 0321-5195517	adnan@pdma.gov.pk
19.	Faiz Muham	Chief Coordinator IDPs	5284847 0312-9149008	ccidps@pdma.gov.pk

	mad			
20.	Mr. Abdul Latif	Media Communication Officer	0315-9132736 0333-9132736	latifmedia@gmail.com
21.	Mr. Abdur Rashid	Information & Communication Officer	0300-9595049	rasheed@pdma.gov.pk

Annexure-D Divisional/Districts Focal Persons

S#	Division	Name of Commissioner	Office Number	Fax Number	Cell Number
1	Malakand	Dr. Fakhre Alam	0946-9240225 0946-9240185	0946-9240229 0946-9240223	
2	Hazara	Khalid Khan Umarzai	0992-9310460	0992-9310467	
3	Mardan	Muhammad Adil	0937-9230572	0937-9230578	
4	Peshawar	Tariq Jamil	091-9211337	091-9214085	
5	Kohat	Sahibzada Muhammad Anis	0922-9260002	0922-9260105	
6	Bannu	Syed Amirudin Shah	0928-9270044	0928-9270041	
7	DIKhan	Sardar Muhammad Abbas	0966-9280351	0966-9280352	

S. No.	District	Name of DCO	Office	Fax	Cell No
1	Abbottabad	Mr. Imtiaz Hussain Shah	0992-9310200	0992-9310202	0321-9111023
2	Bannu	Mr. Aleef Ur Rehman	0928-9270032	0928-9270079	0347-5102703
3	Battagram	Capt Mian Adeel Iqbal	0997-310030	0997-310051	0342-5999100
4	Buner	Syed Mujeeb Ur Rehman	0939-510450	0939-510427	0300-9029242
5	Charsadda	Mr. Ajmal Khan	091-9220021	091-9220026	0345-4477788
6	Chitral	Mr. Rehmatullah Wazir	0943-412055 0943-412519 0943-413858	0943-412421	0300-9591117
7	D.I.Khan	Mr. Khan Bakhsh Marwat	0966-9280114	0966-9280110	0346-7840579
8	Dir Lower	Mr. Mehmood Aslam Wazir	0945-9250003	0945-9250001	0333-5109329
9	Dir Upper	Mr. Ali Shah	0944-880394	0944-881130	0345-9820345
10	Hangu	Mr. Abdul Kamal	0925-621175	0925-620050	0300-5793687
11	Haripur	Syed Mohsin Shah	0995-613391	0995-615412	0300-5799950
12	Karak	Mr. Muhammad Zubair	0927-210825	0927-210925	0336-9479799
13	Kohat	Mr. Shahidullah	0922-9260032	0922-9260031	0343-9744944
14	Kohistan	Mr. Aqeel Badsha	0998-407002	0998-407001	0312-9624287
15	Lakki Marwat	Mr. Nisar Ahmad Khan	0969-538330	0969-538331	0345-54744721
16	Malakand	Mr. Amjid Ali Khan	0932-411482	0932-412254	0345-9112112
17	Mansehra	Dr. Ambar Ali Khan	0997-304148	0997-305513	0333-5542559
18	Mardan	Mr. Zakaullah Khattak	0937-9230048	0937-9230303	0345-9401402
19	Nowshera	Mr. Muhammad Ayaz Mandookhel	0923-9220098	0923-9220159	0336-9676585
20	Peshawar	Mr. Javed Marwat	091-9212302	091-9212303	0344-9212121
21	Shangla	Mr. Muhammad Ayaz	0996-850005	0996-850002	0333-7033661

22	Swabi	Syed Muhammad Shah	0938-221300	0938-221917	0300-5720796
23	Swat	Mr. Kamran Rehman	0946-9240340 0946-9240329 0946-9240338	0946-9240329	0336-3363300
24	Tank	Mr. Amir Khattak	0963-511326	0963-510300	0300-4262289
25	Tor Ghar	Mr. Muhammad Farid Khan	0997-322529	0997-322029	0300-5615660

Annexure-E Departments Focal Persons

Pak Army

S. No	Name	Department	Contact
1.	Lt. Col. Rashid Iqbal	HQ Engineers XI Corps	091-20132353 0331-3853411
2.	Major Ajmal Afridi	HQ Engineers XI Corps	0334-8398949
3.	Maj Ahsan	HQ Engineers XI Corps	03009506407

Provincial Departments

S.No	Name	Designation	Department	Contact
1.	Khanzada Wazir	Asstt. Secretary	Revenue Department	0300-5840943
2.	Dr. Zia ul Hasnain	DD PH	Department of Health	0346-8606060
3.	Mr. Ghulam Haider	AD. Food	Food Department	0333-9334101
4.	Asif Malik Afridi	Asstt. Director	Population Welfare	091-9211542
5.	M. Imran	Manager (MIS)	Transport Department	091-9214185
6.	Bahadur Nawaz	DS / AS	Energy & Power Deptt	091-9212716/ 9212723
7.	Said Rehman	CWC	LG & RDD	0300-5904093
8.	Abdul Basir	D Director Planning	Environment Department	091-9211477
9.	M. Hizbullah Khan	Director	Industries Department	091-9210287 0333-9155638
10.	Shah Jehan	S.O	Excise & Taxation Department	091-9212717
11.	S.M. Ilyas Shah	Dy. Director (FDRD)	C&W Department	
12.	Shakir Habib	Dy. Secretary (T)	C&W Department	091-9210373
13.	Ishrat Ali	Dy. Secretary	PHED	0300-5905979
14.	Maqbool Hussain	SO-IV	Establishment	091-9210461
15.	Khushal Khan	DG Rescue 1122	Home Department	091-9210047 0333-9305972
16.	Amir Zeb Khan	Asstt. Director	Housing / PHA	0333-9462295
17.	Dr. Asal Khan	Veterinary Officer	Livestock & Dairy Develop	0300-9357981

18.	S. Ghulam Murtaza	D.D (Planning)	Agriculture Department	091-9210433 0300-9351520
19.	Firdus Khan	Asstt. Director	Information Department	091-9210199 0301-8598666
20.	Mujahid Saeed	SE (Hq)	Irrigation Department	091-9212174
21.	Hidayatullah	Statistical Officer	Forest Department	091-9213233
22.	Hashmat Ali	Senior Planning Officer	E&S Education Department	091-9210037

Flood Emergency Center- Irrigation Department

Hydrology Division (24 Hours till 15 September 2012)

Engr. Zahoor Khan Executive Engineer Hydrology Division Warsak Road Peshawar	091-9212114, 9211907 03009152983
Engr. Syed Mujahid Saeed Superintending Engineer H/Q (South), Peshawar	091-9212174 03339101017

Flood Emergency Center- Public Health Engineering Department

Mr. Bahranad Khan **Design Engineer**	091-9211514, 9211494 0321-9133650 bahramand@hotmail.com
Mr. Rahmat Ali **Director Design**	091-9212984 091-9210929 03339101017 Mehmood.phed@yahoo.com
Mr. Ghulam Muhammad **Assistant Engineer**	091-9212984 091-9210228 0321-9010455

Flood Control Room- Pakistan Meteorological Department, Peshawar

Syed Mushataq Ali Shah, Director	091-9210190 091-9212080 0333-5041282
Mr. Alamzeb, Deputy Director	091-9214068 0300-5683101

Mr. Imtiaz Ahmed, Meteorologist	091-9212410 0334-9201851
Mr. Irfan, Assistan Meteorologist	091-9212410 0333-9400248
Forecasting/Flood Emergency Control Cell	091-9212410

Lists of focal persons in C&W Deptt & KP Highway Authority

Emergency Control Room- C&W Department

SNo.	Name	Office No.	Mobile No.	E-mail
1	Engr. Shaukat Shah, Chief Engineer (CDO)	091-9213423	0346-9760208	
2.	Engr. Shakir Habib DS-C&W Department	091-9210373	0333-9139292	Shabib98@gmail.com
3.	Engr. Azam Amir (SOR) (Focal Person)	091-9210850	0331-5145521	engineerazam@hotmail.com

Emergency Control Room-KPHA

SNo.	Name	Office No.	Mobile No.
1	Engr. Muhammad Ijaz Yousafzai, MD-PKHA	091-9210557 Fax: 091-9213154	0300-5853788
2.	Engr. Javed Ehsan, Dir-Constn, PKHA	091-9213272	0304-9035674
3.	Engr. Farman Ali, Dir-Maint: PKHA	091-9210963	0300-5744996
4.	Engr. Bakht Rawan, DD-North	0946-9240118	0342-9222007
5.	Engr. Muhammad Uzair, DD-Centre	091-9210444	0300-5923233

Focal persons for all 25-Districts

SNo.	District	Name & Designation	Office No.	Mobile No.
1	Abbottabad	Yousaf Shah, XEN	0992-9310242	0300-8112728
2.	Bannu	Bahadar Said,XEN	0928-9270360	0345-9175599
3.	Battagram	Tassaduq, XEN	0997-310004	0343-9226187
4.	Buner	Tariq, XEN	0939-510328	0300-5617145
5.	Charsadda	Pervez Khan, XEN	091-9220092	0333-5169499
6.	Chitral	Arif Khan,XEN	0943-413400	0346-9065019
7.	DI Khan	Asmatullah, XEN	0966-9280558	0345-8516006
8.	Dir Lower	Jamil Khan, XEN	0945-9250019	0346-9314447
9.	Dir Upper	Hamidullah, XEN	0944-880836	
10.	Hangu	Riaz Arshad, XEN	0925-621509	0333-9163352
11.	Haripur	Faiz Muhammad, XEN	0995-611836	0345-9047353
12.	Karak	Jamshid Khan, XEN	0927-210783	0300-5889393
13.	Kohat	Riaz Arshad, XEN	0922-9260227	0333-9163352
14.	Kohistan	Rafaqat Shah, XEN	0998-407107	0346-9589203
15.	Lakki	Tariq, XEN	0969-538255	0345-9610115
16.	Malakand	Jamil Khan, XEN	0932-412486	0345-9314447
17.	Mansehra	Aziz Khattak, XEN	0979-920190	0300-5762618
18.	Mardan	Shahab Khattak, XEN	0937-9230038	0300-9597067
19.	Nowshera	Fazl-e-Wahab, XEN	0923-9220154	0345-9527733
20.	Peshawar	Kifayatullah, XEN	091-9211371	0333-9123442
21.	Shangla	Qudratullah, XEN	0996-850736	0333-9287145
22.	Swabi	Abdul Ghafoor, XEN	0938-221337	0300-5689900
23.	Swat	Zia-ur-Rahman,XEN	0946-9240454	0333-9125877
24.	Tank	Muhammad Ali,XEN	0963-510190	0307-7115718
25.	Torghar	Hamidullah Khalil, XNE	----	0300-5631009

Annexure F EDOs (Health) Khyber Pakhtunkhwa Contact List

S.No	Name/Designation	Office	Cell Nos
1.	Dr. Zafeer EDO (H) Abbottabad Dr.	0992-9310192	03009112148
2.	Dr. Nek Nawaz Khan EDO (H) Bannu	0928-9270132	03339207237
3.	Dr. Aqil Bangash EDO H Battagram	0997-310507	03339194544
4.	Dr. Adil Farooqi EDO (H) Buner	0939-510044	0323-9520901
5.	Dr. Fazal Akbar EDO (H) Charsadda	9220158	0346-9160536
6.	Dr. Sher Qayum, EDO (H) Chitral	0943-412734/412754	03025488812
7.	Dr. Ashiq Saleem EDO (H) D I Khan	0966-9280199	03449363353 03339961771
8.	Dr. Shaukat Ali EDO (H) Dir Lower	0945-9250098	03005779559 03334888774
9.	Dr. Tila Muhammad EDO(H) Upper Dir	0944-881075	03005717499
10.	Dr. Mohammad Ishaq, Bangash EDO (H) Hangu	0925-623034	03339687317
11.	Dr. Mazhar Shah EDO (H) Haripur	0995-610997	03145002372
12.	Dr. Bilqis khan EDO (H) Karak Dr.Daraz DEDO (H) Karak	0927-210837	03339619063 03339643283
13.	Dr. Habib khan EDO (H) Kohat	0922-9260364	03469003822
14.	Dr. Gulbar EDO (H) Kohistan	0998-407132	03065637712
15.	Dr. Abdul Ghaffar EOD (H) Lakki Marwat	0969-538339	03329899600
16.	Dr. Bakht Zada EDO (H) Malakand	0932-410399	03005744430 03149821600
17.	Dr. Mohammad Javed EDO(H) Mansehra	0997-920169	03005641455
18.	Dr. Ayub Rose EDO (H) Mardan	0937-9230030	03005010742
19.	Dr. Arshad khan EDO (H) Nowshera	0923-580759	03005779597
20.	Dr. Rashid Khattak EDO (H) Peshawar Superintendent Mr. Mukhtiar	9212911 2575588	03339618049
21.	Dr. Anees Ur Rehman EDO H Shangla	0996-850653/850824	
22.	Dr. Gul Mohammad, EDO (H) Swabi	0938-221606	0345-9684549
23.	Dr. Khurshid ALi EDO (H) Swat	0946-9240139	03005740430
24.	Dr. Aslam Baloch EDO (H) Tank	0963-510755	03467871733

Annexure-G Details of Plant/ Machinery C&W Department

District	Equipment	Quantity	Location	Condition
Swat	Bulldozer 160k.w	2	Pak Army	Working
	Bulldozer 100k.w	1	Gulibagh	
	Bulldozer 160k.w	3	Pak Army	
	Excavators 124 k.w	2	Pak Army	
	Excavators 180 k.w	2	Pak Army	
	Truck with Crane	2	Gulibagh	
	PTR	4	Gulibagh	
	Total	**16**		
Upper Dir	Bulldozer 160k.w	1	Xen office Dir upper	Working
	Bulldozer 100k.w	1		
	Excavators 124 k.w	1		
	Excavators 180 k.w	0		
	Truck with Crane	1		
	PTR	0		
	Total	**4**		
Lower Dir	Bulldozer 160k.w	1	Xen office Lower Dir at Timergarah	Working
	Bulldozer 100k.w	1		
	Excavators 124 k.w	1		
	Excavators 180 k.w	0		
	Truck with Crane	1		
	PTR	0		
	Total	**4**		
Buner	Bulldozer 160k.w	1	Near Xen Buneroffice at Daggar	Working
	Bulldozer 100k.w	1		
	Excavators 124 k.w	1		
	Excavators 180 k.w	1		
	Truck with Crane	1		
	PTR	0		
	Shahzor No.1	1		
	Shahzor No.2	1		
	Road Roller China	1		Repairable
	Tar Bioler No.1	1		
	Road Roller Dynapav (Tandum)	1		
	Total	**10**		
Shangla	Bulldozer 160k.w	1	Near DCO office Shangla at Halpuari	Working
	Bulldozer 100k.w	1		
	Excavators 124 k.w	1		
	Excavators 180 k.w	0		
	Truck with Crane	0		
	PTR	0		
	Total	**3**		

Chitral	Bulldozer 160k.w	0	Chitral Town	Working
	Bulldozer 100k.w	1		
	Excavators 124 k.w	2		
	Total	**3**		
Peshawar	Bulldozer 160k.w	2	Peshawar	Working
	Bulldozer 100k.w	0		
	Excavators 124 k.w	1		
	Excavators 180 k.w	2		
	Truck with Crane	2		
	PTR	6		
	Total	**13**		
D.I.Khan	DRR Shahzoor NO.1	**1**	Kala Pani Road	Working
	DRR Shahzoor NO.2	**1**	C&W Godown DI khan	Repairable
	DRR Shahzoor NO.3	**1**		
	DRR Shahzoor NO.4	**1**		
	DRR Shahzoor NO.5	**1**		
	DRR Shahzoor NO.6	**1**	Attal Sharif Road DI khan	Working
	DRR Shahzoor NO.7	**1**	C&W Godown DI khan	Repairable
	DRR Shahzoor NO.8	**1**		
	DRR China	**1**		
	Wheal Dozer No. 48	**1**		
	Dynapac	1	Chama Road	Working
	Total	**11**		
Kohat	DRR Shahzore KT-3	1	C&W Office Kohat	Repairable
	DRR Shahzore KT-19	1		
	DRR Shahzore KT-20	1		
	Dyanapic Road Roller	1		
	Motor Grader	1		
	Tar Boiler	1		
	Total	**6**		
Mansehra	Pay Dozer J.C.B 425 (1990)	1	C&W Office Mansehra	Repairable
	Pay Dozer WA-180	1		
	Chain Dozer	1		
	Pay Dozer J.C.B 425 (1989)	1		Un-serviceable
	Pay Dozer J.C.B 430	1		Un-serviceable
	Dyna Pack	1		Repairable
	Snow Blower	1		Repairable
	Total	**7**		
Haripur	Steel Rope 5/8"	One Bundle		Useable
	Grader 511-A	1		Working
	DRR Shazor No.12	1		

	DRR Shazor No.7	1		
	DRR Shazor No.11	1		
	Dynapac -3	1		
	Suzuki Jeep model 1986-87 purchase 1988	1		Condom
	Total	**6**		
Abbottabad	Nigata Asphalt Plant	1	Havelian Plant	Serviceable
	Nigata Paver	1	Gambeer Malach Road	
	Air Man Generator	1	Havelian Plant	
	Wheel Loader W-120-1	1	Havelian Plant	
	PTR SV-120	1	Gambeer Malach Road	
	Wheel Loader W-120	1	Havelian Plant	
	Dyna Pac Roller 1	1	Gambeer Malach Road	
	Dyna Pac Roller II	1	Havelian Plant	Repairable
	Shahzor Roller No.I	1	Lower Barrian	
	Shahzor Roller No. II	1	Iqbal Road Supply	
	Shahzor Roller No. IV	1	Havelian Plant	
	Shahzor Roller No.14	1	Havelian Plant	Recovered
	Shahzor Roller No.15	1	Missing	
	Shahzor Roller No.21	1	Danna Goreeni Road	Serviceable
	Nisan Dumper No.1	1	Havelian Plant	Working
	Nisan Dumper No.2	1		
	Nisan Dumper No.4	1		
	Hin Dumper No.PRK 8649	1		Working
	Hin Dumper No.PRK 8653	1		
	Suzuki Jeep 1225-MR	1		
	Chipping Spreader	1		Serviceable
	Total	**22**		

Annexure H Contact List of TMOs Khyber Pakhtunkhwa

S.#	District	TMA	Name of TMO	Office #	Cell #
1	Peshawar	Town-I	Azmatullah Wazir	9210327	03339456789
		Town-II	Riaz Khan	9213583-84-85-86-87	03366818304
		Town-III	Noor Daraz Khattak	9218209/9216094/9216440	03339107172
		Town-IV	Javed Amjad	9211364-65	03339104225
2	Charsadda	Charsadda	Mian Anis ur Rehman	9220042-43-44	03005865512
		Tangi	Sarir khan	6555206	03005712296 03365712296
		Shabqadar	Bakhtiar Muhammadzai	6281002	03349851517
3	Nowshera	Nowshera	Alam Zeb	0923/9220069-200-201	03018852065
4	Mardan	Mardan	Mohabat swhah afridi	0937/9230103-104	03449135664
		Takht Bhai	Asadullah	0937-552807 553839	03149731116
5	Abbottabad	Abbottabad	Syed Farman Ali Shah	0997-9310373	03439149990
		Havelian	Sarfaraz Khan	0992/810825	03339333335
6	Bannu	Bannu-I	Faridullah	0928/9270062 9270206	03339733432
		Bannu-II	Abdul Gaffar	0928/9270134-134-188	03469503972
7	Battagram	Batagram	Sajid Khan	0997/310176	0300-5633900 03135633900 03212700051
		Allai	Ghulam Yousaf	0997/311645	03018168485
8	Buner	Dagger	Liaqat Khan	0939/510247	03439636370
		Sowari	Zeshan Arfif	0939/555664-66Fax555432	03028094090
9	Chitral	Chitral	Qasid Naseer	0943/413500	03025566936 03455566936
		Mastuj	Zahir Khan	0943/470285	03025253125
10	Dir Lower	Timergara	Hayat Shah	0945/9250115	03459362321
		Samara Bagh	Abdul Samad	0945/850003	03025540992
11	Dir Upper	Dir	Muhammad Sardar	0944/880119	03009023778
		Wari	Naeem Khan	0944/841254	03159465363
12	DI Khan	DIKhan	Umer Khan Kundi	0966/9280173-174	03009098218
		Paharpur	Mansoor Haider	0966/775312	03005790903
		Kulachi	Muhammad Ismail	0966/760312	03326566759
		Darban	Munir Akhtar	0966/790009	03339963515
		Parova	Ihsanullah	0966/754282	03028093613
13	Hangu	Hangu	Akhtar Munir	0925/621530	03453060713
		Thall	Noor Shehbaz	0925/	03319111010
14	Karak	Karak	Gul Naib khan	0927/210109	03469168509
		B.D. Shah	Zahidullah	0927/333174	03319111010
		Takht-e-Nusrati	Ajmal khan	0927/250593-596	03469280039
15	Kohat	Kohat	Muhammad Shoaib	0922/9260038	03339618735 03459237050

		Lachi	Muhammad Amin	0928/550027	03339640775
16	Kohistan	Dassu	Mir Baz		03449494110
		Palas	Owais Khan	0998/405104	03219820123 03469522285
		Pattan	Abdur Razzaq	0998/405021	03459610039
17	Lakki Marwat	Lakki Marwat	Qalam Badshah	0969/511580	03339988924 03469245670
		Serai Naurang	Amin Gul	0969/352090	03339247740
18	Malakand	Batkhela	Hamid Islam	0932/413673	03339848182
		Dargai	Arshad Ali Zubair	0932/331670/331160	03339363636 03006502579
19	Swat	Mingroa	Nisar Khan	0946/9240150-151-152	03339471650
		Matta	Ihsanullah	0946/792202	03459417779
20	Mansehra	Mansehra	Khan Afsar	0997/920061-62	03339612776
		Oghi	Ijaz Rahim	0997/	03009064344
		Balakot	Arif Baloch	0997/360631	03005677393
21	Swabi	Swabi	Muhammad Aqil	0938/222285	03005717112
		Lahor	Isarullah	0938/300244	
22	Shangla	Alpuri	Muhammad Afzal	0996/850672	
		Purran	Muhammad Afzal	0996/853314	03088882442
23	Haripur	Haripur	Shehyar	0995/613478-612166	03009004110
		Ghazi	Sajjad Haider	0995/661200	03005958563
24	Tank	Tank	Muhammad Ayub	0963/510760	03005765735

Annexure-I Details of Flood Fighting Machinery with Irrigation Department

S#	Name of Machine	Quantity	Location		
			Peshawar	DIKha	Mardan
1	F/E Loader Large Size	4	1	1	2
2	F/E Loader Small Size	2	1	1	-
3	Dozer D6 Medium	4	1	1	2
4	Dozer Small Size	1	1	-	-
5	Excavator Supply Long Boom	2	2	-	-
6	Loader Backhoe	5	2	2	1
7	Excavator Medium Size	1	1	-	-
8	Dump Truck	3	-	3	-
9	Heavy Duty Trailer (35-45 Tons)	1	1	-	-
10	Light Duty Trailer (25-30)	1	-	-	1
11	Light Duty Trailer (10-15)	1	-	-	1
12	Flood Light Unit	1	1	-	-

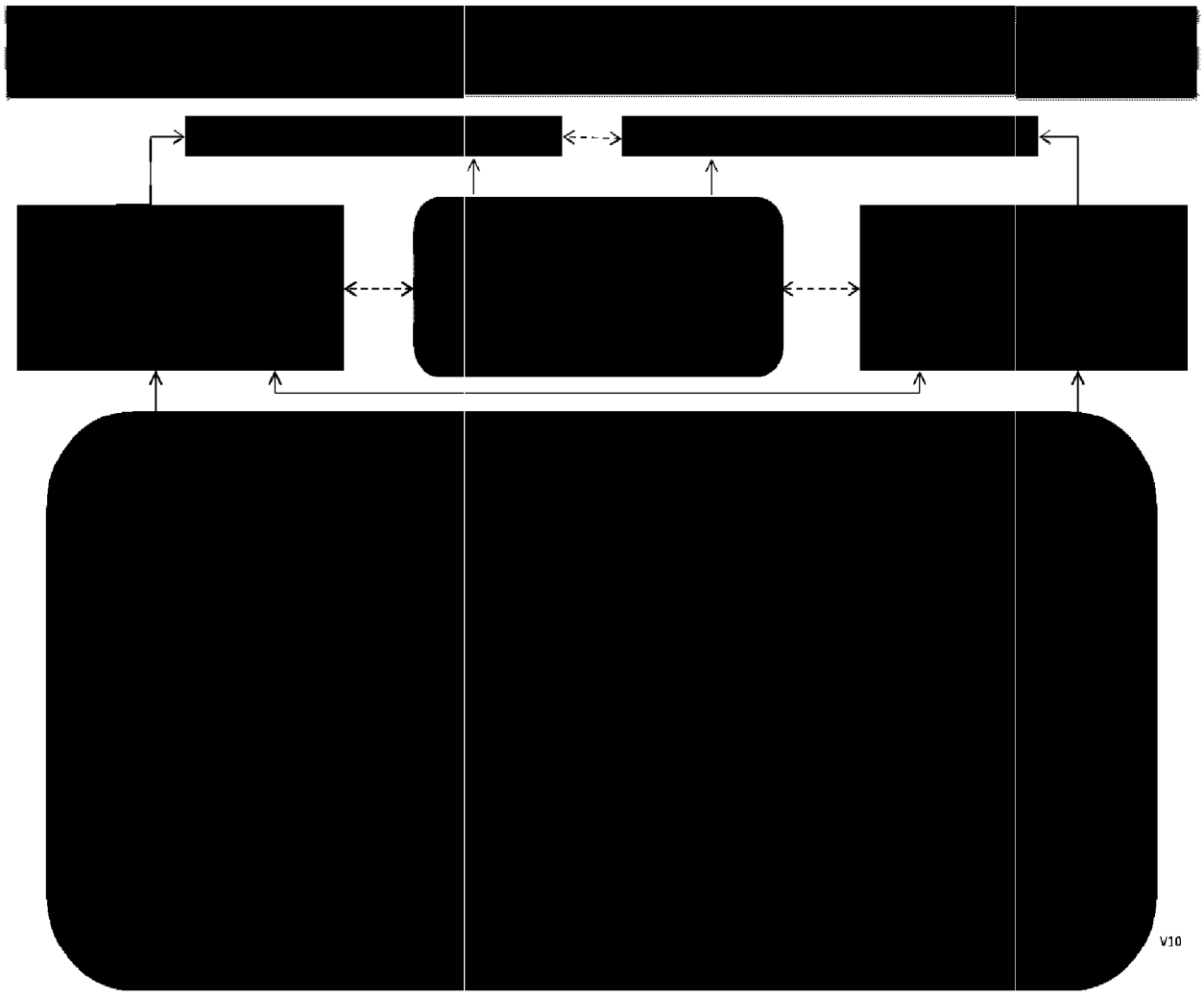
Annexure-J Catagories of Districts Affected by Flood 2010

Category I		***Category II***		***Category III***	
Severely Affected		***Medium Affected***		***Least Affected***	
1	**Charsada**	**1**	**Bannu**	**1**	**Buner**
2	**D.I.Khan**	**2**	**Battagram**	**2**	**Hangu**
3	**Dir Lower**	**3**	**Chitral**	**3**	**Haripur**
4	**Dir Upper**	**4**	**Karak**	**4**	**Mardan**
5	**Nowshera**	**5**	**Kohat**	**5**	**Abbottabad**
6	**Peshawar**	**6**	**Lakki**		
7	**Shangla**	**7**	**Malakand**		
8	**Swat**	**8**	**Mansehra**		
9	**Tank**	**9**	**Swabi**		
10	**Kohistan**				

Annexure-K Stock Position-Pakistan Red Crescent Society

S#	Items	PHQ	Mansehra	Batgram	Kohistan	Shangla	Chitral	D.I. Khan	TOTAL
1	Tents	399	60	141	50	58	200	-	**908**
2.	Blankets	3880	530		625	406	931	380	**6752**
3	Tarps	2245	-			116	400		**2761**
4	Jerry Cans	2245	85		110	116	-		**2556**
5	Stoves	470	100		60		133		**763**
6	Hurricane Lamp	-	140		40		-		**180**
7	Kitchen set	81	-			58	133		**272**
8	Hygiene Kit	76	-			58	133		**267**
9	Sleeping Bags		250						**250**
10	Buckets					58			**58**

Annexure-L Coordination Framwork, Humanitarian Response



Annexure-M Wheat Stock Position Khyber Pakhtunkhwa– June 2012

S.No	Station	Stock in Hand (Metric tons)
1	Peshawar	54951
2	Nowshera	11366
3	Charsadda	10173
4	Azakhel	94062
5	Mardan	31101
6	Kohat	10614
7	Hangu	3053
8	Bannu	20535
9	S.Naurang	2144
10	DIKhan	73731
11	Tank	1319
12	Swabi	0
13	Haripur	26446
14	Havelain	23168
15	Manshera	19261
16	Kohistan	719
17	Battagram	62
18	Dargai	7825
19	Dir (Lower)	2965
20	Dir (Upper)	0
21	Karak	3472
22	Swat	7311
23	Shangla	0
24	Wana	0
25	Chitral	12329
	Total	**416,607**