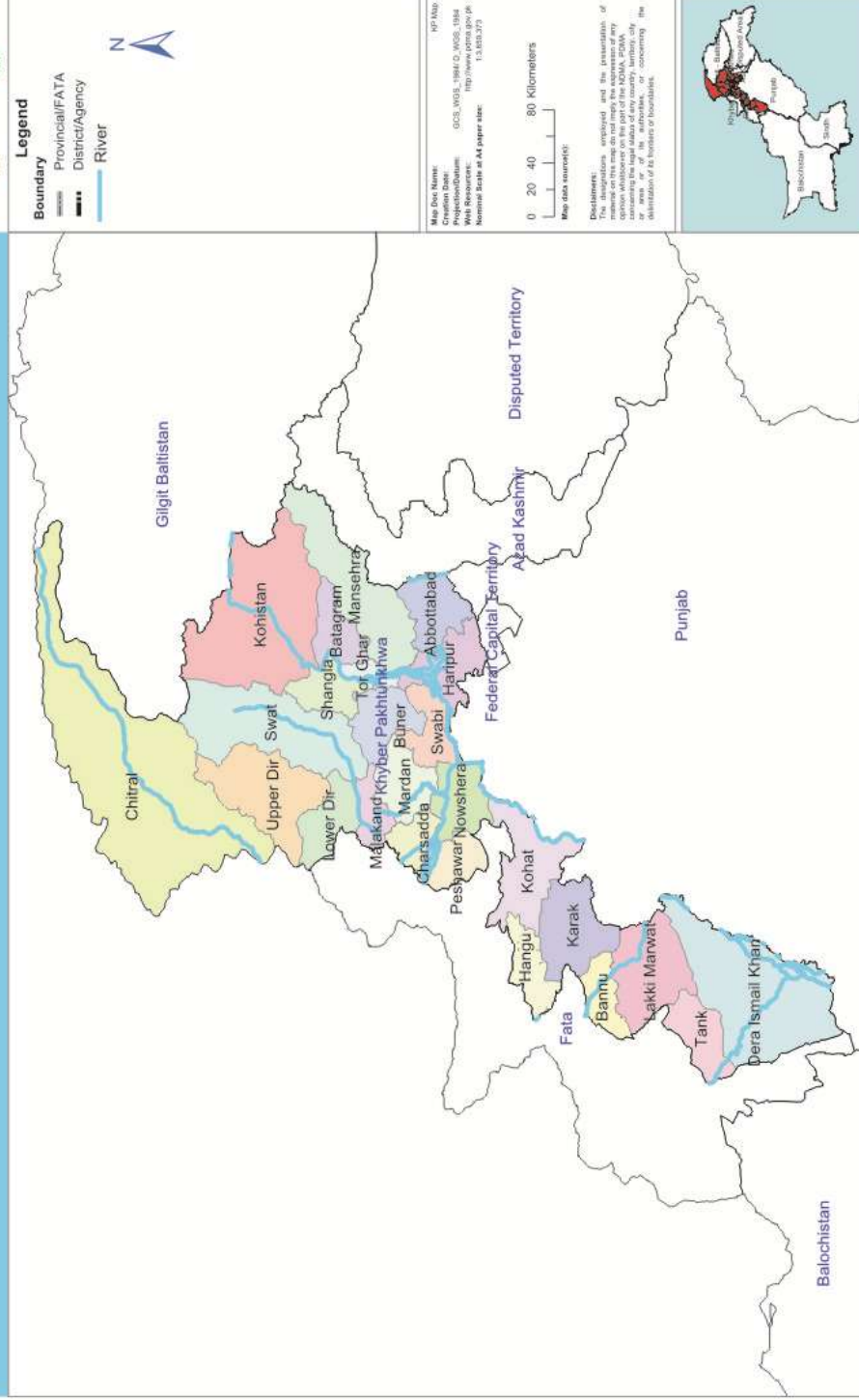


Monsoon Contingency Plan, Khyber Pakhtunkhwa 2013



Khyber Pakhtunkhwa Map



Chapter-5

Needs and Gap Analysis	55
5.1 District level - Need and Gap Analysis	56
5.2 Funds Required For immediate Relief	63
5.3 Protracted Needs for Food-Whole Province	63

Chapter-6

Monsoon Preparedness and Planning -Coordination Mechanism	64
6.1 Coordination mechanism	65
6.2 Roles & Responsibilities	65
6.3 Monsoon Preparation Strategies	69
6.4 Red Crescent Presence in Khyber Pakhtunkhwa	75

Annexures	76
------------------------	----

Annexure 1

Pakistan Meteorology Department Seasonal forecast	77
---	----

Annexure 2

Major Losses of Flood 2010	78
----------------------------------	----

Annexure 3

Important Contacts	79
--------------------------	----

Chapter-4

District Wise Hazard Risk and Vulnerability Mapping Based on flood 2010	25
4.1 District Charsadda	26
4.2 District Peshawar	27
4.3 District Nowshera	30
4.4 District Mardan	31
4.5 District Swabi	33
4.6 District Mansehra	35
4.7 District Tor Ghar	37
4.8 District Abbottabad	38
4.9 District Battagram	38
4.10 District Kohistan	38
4.11 District Haripur	39
4.12 District Shangla	40
4.13 District Swat	41
4.14 District Malakand	43
4.15 District Upper Dir	43
4.16 District Lower Dir	44
4.17 District Chitral	45
4.18 District Buner	47
4.19 District Dera Ismail Khan	48
4.20 District Tank	49
4.21 District Bannu	50
4.22 District Lakki Marwat	51
4.23 District Kohat	51
4.24 District Hangu	52
4.25 District Karak	53

Table of Contents

	Page No.
Acronyms	1
Executive Summary	3
 Chapter-1	
Monsoon Contingency Plan 2013	4
1.1 An Overview	5
1.2 Khyber Pakhtunkhwa-General and Flood Profile.....	6
1.3 Contingency Plan for Monsoon 2013	9
1.4 Floods - 2010	9
1.5 Response to Flood 2010	10
1.6 Lessons Learnt from Floods 2010 and some improvements	11
 Chapter-2	
Disaster Mitigation Measures in Khyber Pakhtunkhwa	13
2.1 Flood protection and restoration work by irrigation Department	14
2.2 DRM Interventions executed by PDMA	14
 Chapter-3	
Hazard Risk and Vulnerability Mapping	19
3.1 Scenarios and Corresponding Caseloads	20
3.2 The High Impact Scenario	20
3.3 Medium Impact Scenario	20
3.4 Planning Assumptions	20
3.5 Planned Relief Caseloads for 2013 Monsoons	21
3.6 Cut-off / Isolated Population	22
3.7 Triggers for Response	22
3.8 Major Rivers Khyber Pakhtunkhwa	23
3.9 Provincial Hazard Risk and Vulnerability Mapping Based on flood 2010	24

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Acronyms

AAD	Additional Assistant Commissioner
AC	Assistant Commissioner
ADB	Asian Development Bank
CP	Contingency Plan
DC	Deputy Commissioner
DDMO	District Disaster Management Officer
DDMU	District Disaster Management Unit
DNA	Damage Need Assessment
HH	House Hold
MC	Municipal Corporation
MO	Municipal Officer
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
UN	United Nations
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations International Child Emergency Fund



Executive Summary

The frequency of disasters in Pakistan has increased significantly since 1980s. Over the last three decades, Pakistan has experienced more than 138 natural disasters. Since then, more than 58 million people have been affected by droughts, floods, cyclones and earthquakes in Pakistan with estimated economic damages of \$ 18.4 billion (EM-DAT, 2010). Disasters in Pakistan are predominately hydro-meteorological, geological and climatological, and mostly comprise of floods, landslides, earthquakes, extreme temperatures, and droughts. Floods being the most frequently occurring disaster affect the most number of people in the country. It has been calculated that eighty percent of the worst natural disasters events happened in since 1900 are floods with three of them in last three consecutive years i.e 2001, 2011 and 2012

Risk and uncertainty are increasing in the region due to climate change, greater frequency of extreme events, warmer temperatures and increased incidence of temperature influenced diseases and pests. It is observed that a 100km west-ward change has been emerged in monsoon region as a result of climate change. This change has caused huge and unpredicted rainfalls in past 3 years in Pakistan particularly in the province of Khyber Pakhtunkhwa. It is also observed that with the massive changes in the weather pattern, the entire Peshawar valley has entered into the monsoon range.

Khyber Pakhtunkhwa, due to its geographical and topographical conditions is the most vulnerable province to floods. As observed in 2010 when the monsoon season brought with it massive destruction on a scale not previously recorded in the region. The emergency started when the easterly monsoon system collided with the developing western system over North-Western Khyber Pakhtunkhwa in July 2010. The resultant high intensity downpour in Khyber Pakhtunkhwa generated floods of unprecedented scale in the Swat and Kabul rivers. The magnitude of the calamity can be gauged from data compiled by the Federal Flood Commission, which states that the flow of rivers Swat and Kabul combined to touch a new historical height of 400,000 cusecs as against the previous figure of 250,000 cusecs recorded in 1929. Khyber Pakhtunkhwa was the only province where all the districts were affected. Another fact highlighted by the floods 2010 was the shortest response time the province can have in case of any such disaster.

This Contingency Plan is thus an effort by the Provincial Government of Khyber Pakhtunkhwa to be prepared for any such event in Monsoon 2013 and respond in the best possible and coordinated manner. The Contingency Plan has been designed for different scenarios (both extreme and medium) identifying gaps in resources and capacities as well as assigning clear roles and responsibilities to all the stakeholders, including Humanitarian Community. The Contingency Plan also takes into consideration the the gaps and shortcomings especially in current Early Warning Systems with a forecast range of only 3-4 days and its very limited or no coverage in Khyber Pakhtunkhwa.

Chapter-1



Monsoon Contingency Plan 2013



1.1 An Overview

While rapid changes in the weather pattern have increased vulnerabilities caused by natural disasters particularly monsoon floods, both flash and riverine, to the Khyber Pakhtunkhwa, an integrated and scientific approach is direly needed to handle catastrophe caused by the flood. Provincial Disaster Management Authority Khyber Pakhtunkhwa is striving hard to line up all of available resources and techniques, in collaboration with stakeholders to mitigate and be prepared for floods in future.

Unfortunately the Provincial Government due to various constraints has not yet been able to invest in the flood management systems. Low water storage capacities of the existing structures, absence of effective regulations combined with very limited or no early warning systems are the major issues facing the province which hinders an effective flood risk management model.

The early warning system mainly relies on flood gauging through telemetry system installed by WAPDA and the system deployed by the provincial Irrigation Department. The Irrigation Department can hardly provide 24-48 hours warning along the Swat River, 5-7 hours along Kabul and 36-48 hours along the Indus at DI Khan. Such forecast, however, does not help evacuation of vulnerable communities to safer locations as witnessed in the year 2010. There are no arrangements to forewarn vulnerable communities of flash flooding across the mountainous regions.

There has been very little investment in water storage that can otherwise reduce the vulnerability of floods. This limited storage capacity has further been undermined by massive silting that naturally reduces their flood impact mitigation capacities. There are only two notable reservoirs in Khyber Pakhtunkhwa, Warsak and Tarbela. The former has lost its storage capacity long ago, while the live storage capacity of the latter has gone down to 6.77 MAF from its original capacity of 9.68 MAF, a 30 per cent decrease during the last 36 years.

There are three major head works including Munda, Amandara and Kurram Garhi in KP, which regulate water discharge to different tributaries of major river systems and canals.

The upper regions of Khyber Pakhtunkhwa constitute the catchment area of River Indus, the main river of the province. The Indus along its course is joined by its tributaries originating from the Northern Areas and some in the province like the River Kabul, Swat and Kurram and numerous minor mountain water channels.

Unfortunately, despite the hectic efforts of the PDMA, the river systems are not fully covered by the flood monitoring mechanism yet, and therefore it is not possible to timely detect the water overflow, except close to Tarbela, leaving very less time for preparedness.

Heavy snow on the northern mountains of the province starts melting with rising temperatures during summer thus causing rise in the water level of River Kabul and Swat. During the same period the monsoon patterns also develop in the region. Heavy precipitation of monsoon results in disproportionate water flow in these rivers which ultimately generate floods around the banks of rivers. Flash flooding in numerous hill torrents across the province is also a common phenomenon. The simultaneous occurrence of riverine and flash floods, melting of snow, heavy precipitation and the cloud bursting make the situation horrific.

Faced with such critical possible scenarios adopting an integrated approach for monsoon contingency planning is thus considered as top priority by PDMA KP.

1.2 Khyber Pakhtunkhwa-General and Flood Profile

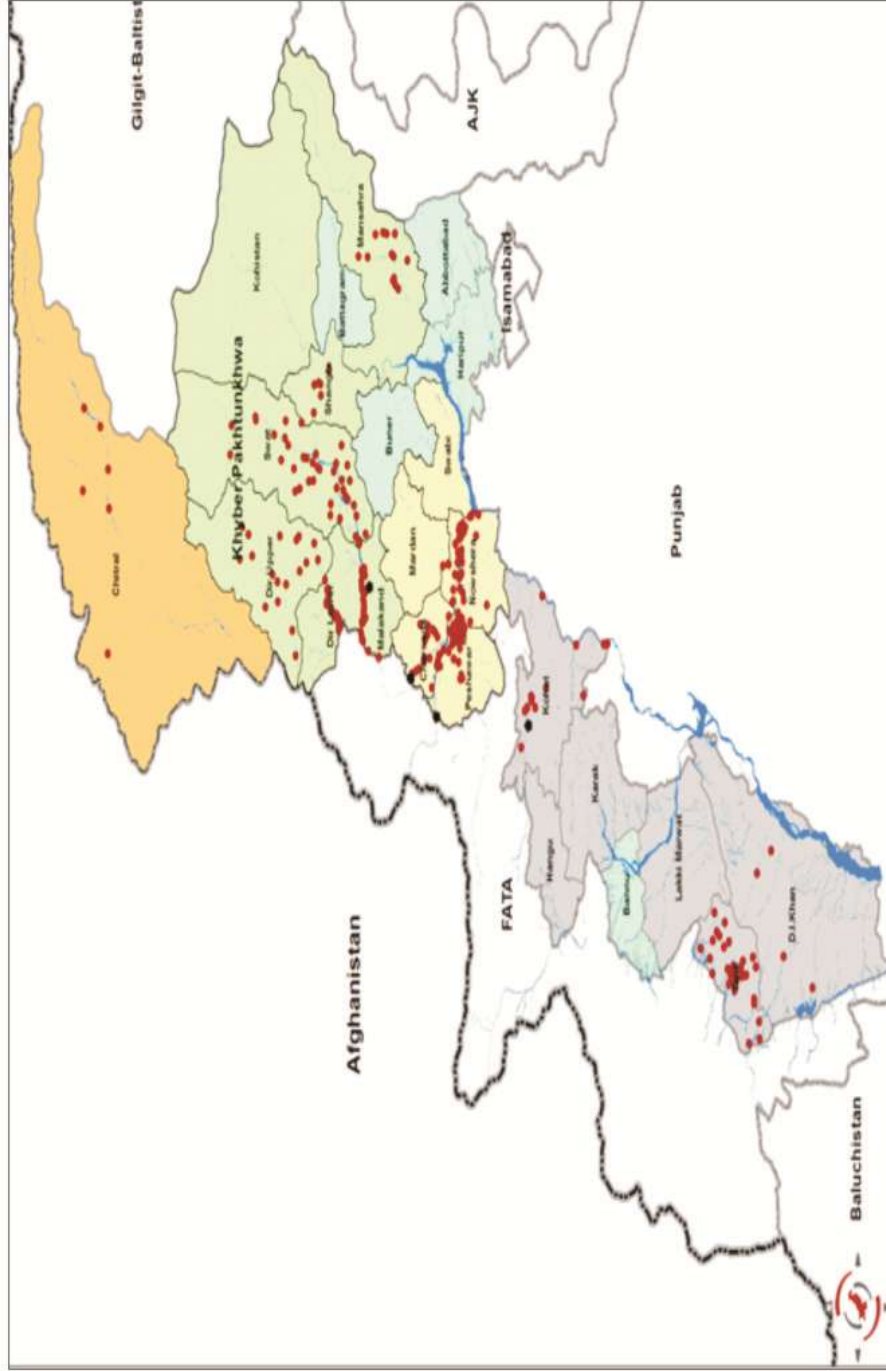
The Province Khyber Pakhtunkhwa is the smallest Province of Pakistan in terms of geographic area; it is 9.4% of the country's total area. Khyber Pakhtunkhwa covers an area of 74,521 sq. km and is located on both banks of the river Indus and stretches from the Himalayas in the north to deserts of D.I 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 Khyber Pakhtunkhwa, the Indus River, which forms the boundary with Punjab and passes from Attock to Dera Ismail Khan in the south; and River Kabul flows down to join the Indus River from Afghanistan. Rainfall in Khyber Pakhtunkhwa 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 Khyber Pakhtunkhwa, while flash floods also occur astride these rivers, sometimes resulting in colossal losses.

The floods in Khyber Pakhtunkhwa 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, 1992, 2005, 2006, 2007 and 2010.

Almost every year, more frequent during the monsoon, the province also suffers from flash floods. Flash floods have occurred more in recent years owing to changing weather patterns. 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, Mansehra, Battagram, Mardan, Kohat and D.I Khan. 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 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.



Monsoon Hazard Map Khyber Pakhtunkhwa (Source: IMMAP)

1.2.1 Spatial Shift in Monsoon Impact:

Studies conducted by Sustainable Development Policy Institute² - SDPI indicate 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;

1.2.2 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.

1.2.3 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.

Water Flow Comparison

Rivers	Max Flow Recorded before 2010	2010 Floods Levels (Assumed High Impact) Flow Level for 2013)	Assumed Flow Levels For Medium Impact Flood Level 2013 (Approx)
Swat - Amandara	160,0 00 cusecs (1929)	295,0 00 cusecs	150,000 cusecs
Swat - Munda	170, 0 00 cusecs (1929)	367, 0 00 cusecs	200,000 cusecs
Kabul River Nowshera	169,0 00 cusecs (2005)	500,0 00 cusecs	300,000 cusecs
Indus River	900,0 00 cusecs (1929)	1,100,000 cusecs	750,000 cusecs

Source: Irrigation Department Khyber Pakhtunkhwa

1.3 Contingency Plan for Monsoon 2013

Aim

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

- 1 Source: Pakistan Metrological Department
- 2 NDMA and OCHA Contingency Planning exercise document 2011

Objectives:

While encouraging stakeholder's participation, following are the objectives set for monsoon contingency plan:

- i. To enhance the effectiveness and timeliness of emergency response.
- ii. To ensure that emergency response is coordinated, through the clarification of goals, strategies, roles and responsibilities.
- iii. To anticipate and overcome difficulties.
- iv. To strengthen response coordination between Provincial Government Departments, District Governments, humanitarian organizations (UN Agencies, PRCS) and INGOs/NGOs.

Scope

- i. Stakeholder's participation, awareness and mobilization through Monsoon contingency planning.
- ii. Determine disaster scenarios and corresponding caseloads.
- iii. Resource Mapping for response and identifying deficiencies.
- iv. Define sectoral response strategies, plans and coordination measures

1.4 Floods - 2010

The 2010 monsoon brought with it massive destruction on a scale not previously recorded in Pakistan. The Province of Khyber Pakhtunkhwa which was already recovering from the consequences of militancy and resulted IDP's crisis was severely 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 or almost non-existent early warning system inflicted heavy losses on the people of the Khyber Pakhtunkhwa.

1.4.1. Summary of Damages:

Table 1: Affected Population

Total Districts Affected	All 25 districts (in 2010 it was 24 as Tour Garh, which was then called as Kala Dhaka was the part of District Mansehra
Population Affected	3.8 million
Deaths	1,070
Injured Villages Affected	1,056
Villages affected	544
Population displaced	0.912 million
Population Cut Off	0.66 million

Table 2: Damages

1	Education	870 schools, 30 colleges
2	Health	190 health facilities
3	Governance	880 buildings
4	Transportation	6511km Road
5	Irrigation	13 canal systems; 7 embankments
6	Water & Sanitation	2812 WSS; 1,111 Sanitation schemes
7	Housing	295,684 houses (out of which 119,000 were completely damaged)
8	Agriculture	Crop area: 121.5 thousand ha
		Small animals: 67,800
		Poultry 6,213,000
		Water Courses: 1790 No.
8	Business	89 industrial units, 17,702 shops & hotels

1.5 Response to Flood 2010

1.5.1 Compensation:

The Government of Khyber Pakhtunkhwa paid a special compensation package, amounting to a total of Rs. 437.7 million, to the families of dead and injured people.

1.5.2 Watan Cards:

In order to provide financial assistance to the affectees of the flood 2010 to reconstruct their houses and rehabilitate their livelihoods a cash grants distribution was initiated jointly financed by the Federal and the Provincial Government (called as Phase-I) and later on joined by the Development Partners like USAID, DFID etc (called as Phase-II). Under the Citizen Damages Programme (CDCP) commonly known as watan cards programme Rs 60,000 were disbursed to each affected family in three equal installements of Rs 20,000. Khyber Pakhtunkhwa was the only province where Watan cards were issued on the basis of rapid housing survey completed by PDMA by the end of September 2010. All the other provinces were asked later by the Cabinet Division and Development Partners to follow the same methodology for the last two installements (Phase-II). Under CDCP 299, 320 households have been compensated with a total of Rs. 17.3 billion

1.5.3 Relief:

Provincial Government through PDMA and DCs 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 Dcs	Rs. 1,144.487 million
Funds used by other line Depts.	Rs. 56.5 million
Funds given to Pak Army	Rs. 165.691 million
Funds spent by PDMA for Purchase of Fls & Nfls	Rs. 635 million
Share in waran Cards Program	Rs. 1706.3 million
Total:	Rs. 19063.97 million (Rs. 19.1 billion)

1.5.4 Early Recovery:

The NDMA and PDMA KP in coordination with the Humanitarian Community put in place a viable mechanism for early recovery activities PDMA and UNDP at the Provincial level led the process with eight sectoral working groups formed having representation of respective line departments and humanitarian organizations. 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.

1.5.5 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 has been spent on the re-enforcement and strengthening of existing flood protection infrastructure. Similarly, the Government spent Rs. 2426.04 million for the restoration of damaged roads and buildings through C&W and Rs. 591.0 million for restoration of Water Supply Schemes through Public Health Engineering Department.

1.6 Lessons Learnt from Flood 2010 and some improvements

1.6.1 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. The table below shows the limited existing flood protection arrangements in the province.

Flood Protection Arrangements

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

1.6.2 Inadequate Flood Early Warning Arrangements:

Owing to non existence of floods early warning radars, the existing arrangements rely on flood gauging through telemetry system of WAPDA and some basic system of gauges deployed by the Irrigation Department of Khyber Pakhtunkhwa. A very limited capacity of forecasting through this arrangement provided very less time to prepare for the floods.

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 has also been completed during FY 2011-12.

1.6.3 Encroachments:

Encroachment was one of the major causes of losses (both life and property) during 2010 floods. Intrusion of population along Panjkora, Swat and Kabul rivers, partly along Indus and the flood prone hill torrents in the north were notably responsible for the loss of life and property. Similarly, blocked and heavily encroached drainage systems of settlements especially in Peshawar valley played major role in inundation and resultant damages and destruction.

1.6.4 Lack Preparedness:

It was noted that there lack of monsoon preparedness and coordination mechanisms at the district and provincial level. The said factor along with inadequate resources undermined the response capacities at both the levels. The reactive response strategies at district and provincial level did help save lives and provide solaces to the flood affectees to large extent and extraordinary efforts were required to bridge the gap at that critical time.

1.6.5 Non observance of Early Warning by General Public:

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

1.6.6 Insufficient Water Storage and Regulation Capacity:

The water storage facilities in Khyber Pakhtunkhwa have been reduced drastically ranging from 30-70% in different storage reservoirs, mainly due to silting, which has ultimately reduced their flood mitigation capacities. In addition, the regulatory facilities i.e. Munda and Amandara head-works on Swat River sustained damages in 2010 Floods and took two years to be rehabilitated. Though both of these head-works have been restored with Munda Head works restoration with enhanced capacity yet water flow control of 275000 cusecs remains a question.

Chapter-2



Disaster Mitigation Measures In Khyber Pakhtunkhwa



2.1 Flood protection and restoration work by Irrigation Department

2.1.1 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 damaged infrastructure of 2010 floods. A Directorate for the Restoration of Flood Damages (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 and Munda Headworks has been completed. 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.

2.1.2 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 reinforcement of the water reservoirs and has installed 185 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.

2.2 DRM Interventions executed by PDMA

2.2.1 Establishment of Provincial Emergency Control Centre (PEOC)

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 was Rs. 34.707 million fully funded by European Commission and supported by UNDP. The establishment of PEOC has facilitated the coordination and execution of emergency response in case of the disastrous events.



I. Objectives of the PEOC:

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

II. Core functions of the PEOC:

- In-time Coordination and communications.
- Improve emergency response.
- Manage and mitigate disasters.
- Analyse, disseminate and manage all the information.
- Preparing operational updates, situation reports.
- Facilitating the higher authority in making better estimation for relief and rehabilitation.

III. Equipments available at PEOC:

State-of-the-art equipments for communication have been installed at PEOC including

- Telephone & Fax
- VOIP (Voice over IP) 3CX
- CMS (Communication Management System)
- Thuraya IP Satellite Communication System
- Live Video Transmission System.

IV. Software available at PEOC:

- EDEN (Emergency Development Environment).
- ARC GIS (geographic information system) to display and analyse spatial data/ geographical data as well as computerized mapping of disaster prone/hit areas.
- SMS Software for the purpose of disseminating real-time weather forecast and other updates to officials and departments concerned.
- Wireless Communication with other control rooms

2.2.2 Establishment of Women Desk

Women Desk PDMA was established on 1st April 2012 with the goal of “an institution to promote gender perspective and promotion for sustainable human settlement through providing equal opportunities to women and men”.

PDMA realizes that building the capacity of women is very important for DRR/DRM and for this purpose a number of initiatives have been undertaken by Women Desk. A video on preparedness of women during floods has been made in Pushtu, Hindku, Saraiki and Urdu languages. Minimum Initial Service Package (MISP) has been endorsed by PDMA to address the reproductive health needs of women. PDMA has also endorsed Rapid Gender Needs Assessment (RGNA) that will be carried out once disaster is declared, so as to effectively address needs and concerns of women.

2.2.3 Establishment of Child Protection Cell:

Child protection in emergencies is a vital element of general protection that ensures the care and protection of children who come under vulnerable population group. Provincial Disaster Management Authority Khyber Pakhtunkhwa and UNICEF partnered to develop a functional coordination mechanism to mainstream child protection. A designated person at PDMA for child protection has been nominated who will act as focal person for child protection issues during any future disasters.

2.2.4 Capacity Building of PDMA Employees:

The PDMA launched a rigorous training programme for all officials of PDMA on DRM concept, methodology and contemporary practices. Officials of PDMA have been trained in different institutions across the country. The programme is still undergoing.

2.2.5 Strengthening of DDMUs in Khyber Pakhtunkhwa:

The strengthening of District Disaster Management Units (DDMU) is essential for coordination of DRM interventions at districts level which serve as management units of PDMA. District Disaster Management Officers have been notified in every district and support staff has been sanctioned and recruited in most of the districts.

A training program has been developed and implemented for the capacity building of the DDMOs and other district staff. The PDMA is successfully implementing orientation sessions on DRM concepts and practices in collaboration with Provincial Academy for Rural Development Peshawar.

2.2.6 Creation of post of District Disaster Management Officer (DDMO):

Khyber Pakhtunkhwa can only be made a disaster resilient province if the disaster management structure of the districts, being first responders, is strengthened. For this purpose, besides other initiatives, government of Khyber Pakhtunkhwa has created one post of District Disaster Management Officer (BS – 17), one post of Computer Operator (BS – 12) and one post of Naib Qasid (BS -1) for each District Disaster Management Unit (DDMU).

In order to strengthen the DDMUs and to ensure systematic disaster resilient activities at district level through ownership, dedicated post of DDMO has been created. In next financial year, DDMOs will be formally appointed.

2.2.7 Strengthening of Civil Defence Department & Rescue Service 1122

In a move of strengthening disaster response authorities, disaster preparedness and response mechanism as well pooling resources of different authorities at one destination, the provincial government of Khyber Pakhtunkhwa has integrated Civil Defence directorate, which has its presence in 16 districts of Khyber Pakhtunkhwa i.e. Peshawar, Mardan, Abbottabad, Kohat, D.I.Khan, Swat, Bannu, Dir Lower, Chitral, Mansehra, Nowshera, Hangu, Charsadda, Batagram, Malakand and Upper Dir, and Emergency Rescue Service 1122 directorate which has presence in two districts of Khyber Pakhtunkhwa at the moment i.e. Peshawar & Mardan, under the umbrella of Relief, Rehabilitation & Settlement (RR&S) department.

It is evident from a long track record that 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 DCs. Volunteers are an integral and essential part of department and are the main strength of Civil Defence.

In order to ensure coordinated response to any disaster, operational integration of Civil Defence & PDMA and focusing Community Based Disaster Risk Management (CBDRM), it has been decided that capacity of Civil Defence department will be enhanced by providing necessary rescue and safety kits as well trainings to staff and volunteers of the organization in well reputed national institutions. A PC-I costing Rs. 120.00 million with allocation of Rs. 16.191 million for the capacity building of Civil Defence department was approved in FY 2012-13. As a component of this programme training programme of volunteers as well as core staff of Civil Defence Department has been completed. Procurement of almost all required items for civil defence has also been completed.

The Rescue Service 1122 Khyber Pakhtunkhwa has also become an attached department of Relief, Rehabilitation and Settlement department. In a very short interval of 2½ years time, this service has proved its worth. Role of this service, during all kinds of natural & manmade disasters, has been appreciated by all and sundry. The provincial government tends to extend the coverage area of the service to whole of the province. Provincial government is also striving for strengthening its capacity to handle disasters effectively.

2.2.8 Construction of Provincial Humanitarian Response Depots

The maintaining of sufficient stocks of food and other essential items will enhance coping capacity of the govt authorities in case of any disaster. 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 (WFP) 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.

The Provincial Disaster Management Authority has purchased a 7 acres piece of land for the construction of a state-of-the-art warehouse at Jalozaï district Nowshera. Land acquisition has been completed under Land Acquisition Act. Construction work will be started soon. This warehouse will provide sufficient capacity for the storage of relief related items for all districts adjoining Peshawar.

2.2.9 Provision of pre-fabricated storage facilities in 11 districts of Khyber Pakhtunkhwa

The World Food Program has been extending all-out support to PDMA Khyber Pakhtunkhwa for enhancing its preparedness capacity as well as district govts through construction of provincial warehouse as well as installing 11 pre-fabricated Flosspans (warehouses) in different districts. The pre-fabricated Flosspans 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 enhance the capacity for a better response in case of disaster.

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

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

11-Eng Corps of Army arranges training for the operators of Outboard Motors (Boats). Such trainings have been held last year where nominated persons by the Irrigation Department, Civil Defence Department and Rescue 1122 were given training. The same has been undergoing this year as well.

2.2.11 Installation of Doppler Weather Radar System at Cherat & Chitral:

Currently Malakand, Hazara and Peshawar regions are out of the monitoring range of RADARs installed in Lahore, Islamabad and Dikhan. In order to strengthen weather forecasting capacity of PMD two Doppler (modern) Weather RADARs Systems have been proposed in Cherat and Chitral. Total cost of the project is about Rs.500.00 million and the PC-I has been prepared and sent to Planning Commission by Ministry of Defence. The PC-I will be placed before the CDWP and funds may be allocated in FY 2013-14. The installation of these RADARs will help PMD to strengthen the capacity of PMD for timely and accurate forecast about precipitation in KP.

2.2.12 Rain Gauging Monitoring System in Kalpani Nulla:

Under this project automatic rain gauges will be installed in the catchment areas of Kalpani Nulla Mardan, with total cost of Rs.251.937 million. The project has been approved by CDWP and funds will be allocated in FY 2013-14. The monitoring system will cover catchment areas of Malakand and Buner and automatic rain gauges will be installed across the nullah. When the rain/water flow level will reach a certain level the alarms installed at various stations including DC, DPO offices will ring. This will help the district administration to timely issue warning/alert and even evacuate the people if needed.

Chapter-3



Hazard Risk and Vulnerability Mapping



3.1 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 damages, which are usually the most noticeable, easily measured, and first, reported. However, social impacts, which include psychosocial, demographic, economic, and political impacts, can develop over a longer period and can be difficult to assess when they occur. 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 a result of extensive consultation with district governments. This scenario development has been based on the input from NDMA, PMD and irrigation department.

3.2 The High Impact Scenario:

The High Impact scenario corresponds to Floods 2010 with similar case load though its realisation seems improbable going by PMD's outlook. 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.

3.3 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 assumptions approximate the 1929 Flood levels. 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.

3.4 Planning Assumptions:

The level of flood and corresponding caseload is based on the following River Water Flow assumption during 2013 Monsoons.

Table No 5: River Water Flow Assumption during 2012 Monsoons

S.No	Rivers	1929 Flow Level	High Impact Flood (Floods Level 2010)	Medium Impact Floods (Assumed Floods Level for 2013)
1.	Swat-Amandara	160,000 cusecs	259,000 cusecs	150,000 cusecs
2.	Munda	170,000 cusecs	367,000 cusecs	170,000 cusecs (plus)
3.	Kabul River at Nowshera	169,000 cusecs	500,000 cusecs	200,000 cusecs
4.	Indus	900,000 cusecs	1,10,00,000 cusecs	750,000 cusecs

3.5 Planned Relief Caseloads for 2013 Monsoons

Table No 6- Relief Caseloads 2013 Monsoons -KP

S. No	Districts	Affected HH High Floods (210 based)	Affected HH Medium Floods (Assumed for 2013)	Affected HH" Low Floods (Assumed for 2013)
Peshawar valley				
1	Peshawar	33,800	11605	5802.5
2	Charsadda	71,000	24377	12188.5
3	Nowshera	71,000	24377	12188.5
4	Mardan	2,800	961	480.5
5	Swabi	2,200	755	375.5
Southern Districts				
6	Tank	21,200	7279	3639.5
7	D.I. Khan	56,300	19330	9665
8	Lakki Marwat	4,000	1373	686.5
9	Kohat	5,500	1888	944
10	Karak	7,200	2472	1236
11	Bannu	7,700	2644	1322
12	Hangu	6,500	2232	1116

North and Hazara				
13.	Mansehra	3,200	1099	549.5
14.	Dir Lower	25,800	8858	4429
	Malakand	6,400	2197	1098.5
15.	Shangla	11,500	3948	1974
16.	Dir Upper	30,000	10300	5150
17.	Kohistan	66,000	22660	11330
18.	Battagram	1,488	511	255.5
19.	Buner	802	275	137.5
20.	Haripur	2,200	2747	429
21.	Abbottabad	8,000	858	429
22.	Torghar	2,500	858	429
23.	Swat	90,500	31072	15536
24.	Chitral	9,800	3365	1682.5
Grand Total		547,390	188,040	94020

3.6 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;

Population Isolated - 2013 Monsoon (anticipated) Based on 2010 floods

Districts	No of HHs	Anticipated Population
Swat	16,123	112,858
Kohistan	6,591	46,137
Shangla	11,504	80,528
Total	34,218	239,523

3.7 Triggers for Response:

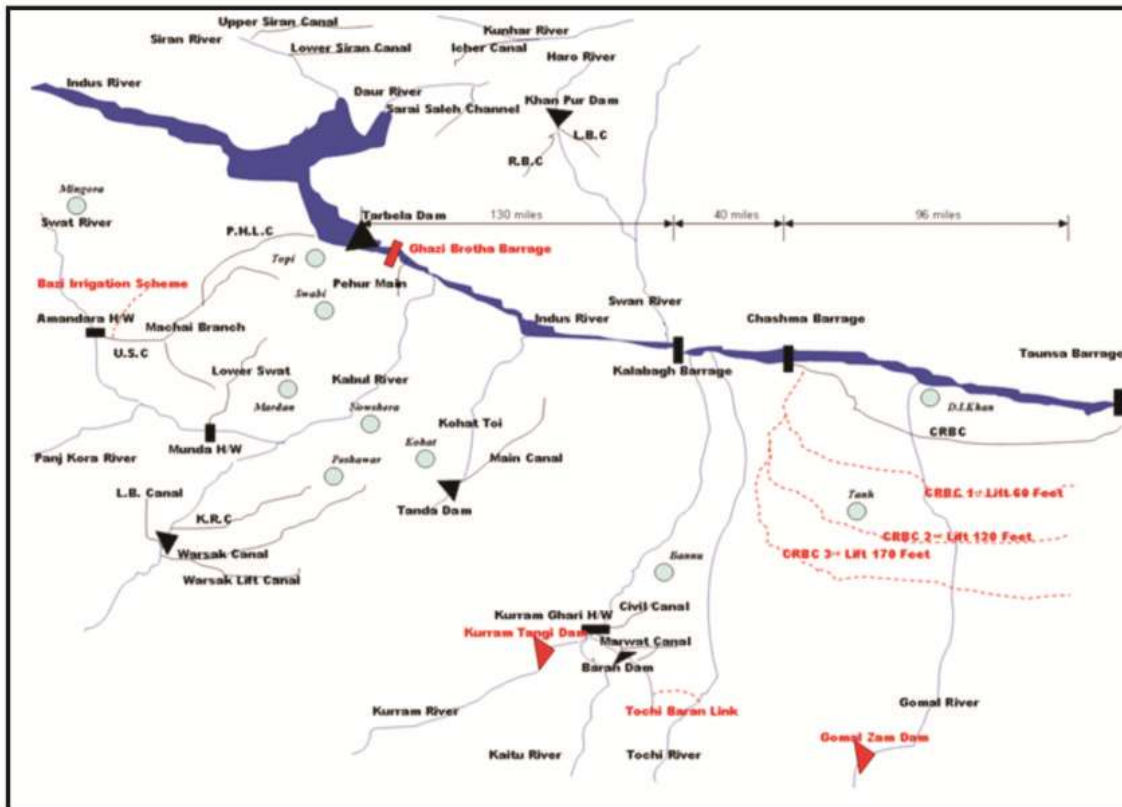
3.7.1 Kabul and Indus River System

- Flooding / overtopping of Warsak Dam; early warning through WAPDA and Irrigation Department.
- Early Warning through the existing mechanisms.
- PMD Flood Forecasts /Warnings and Weather Forecasts.
- Flood Warnings by the Local Administration and community based mechanisms.

3.7.2 The Swat River System

- a) Early warning through WAPDA and Irrigation Department's early warning systems.
- b) PMD Monsoon forecasts of heavy precipitation in Swat River catchments that extend also into GB.
- a) Flood Warnings by the Local Administration and community based mechanisms.

3.8 Major Rivers Khyber Pakhtunkhwa



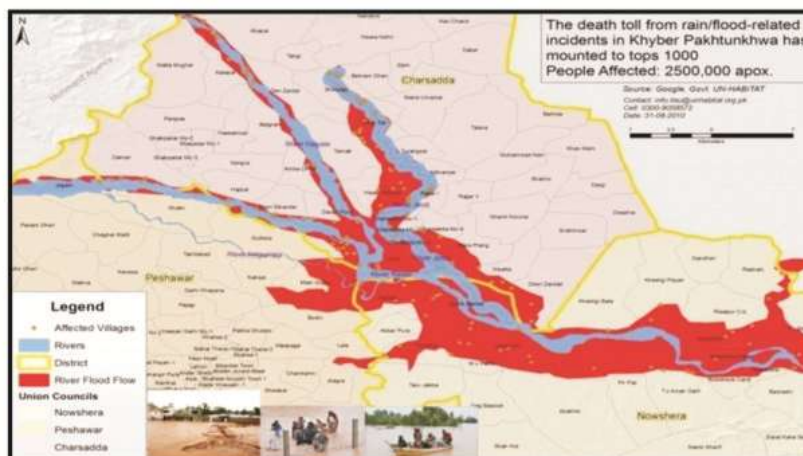
Source: Irrigation Department

3.9 Provincial Hazard Risk and Vulnerability Mapping Based on flood 2010

3.9.1. Peshawar Valley

Districts	River Systems and potentially threatening water ways	Anticipated Relief Caseload HHs- High Impact Scenario 2013	Relief Caseload HHs- Medium-Impact Scenario 2013
Charsadda	Adezai, Swat River and Jindi River	186,224	62,075
Peshawar	Kabul River, Budnai Nullah, Shahikata, Sangu Sarband		
Nowshera	River Kabul, Bara Chinkar Nullah, Chillah, Spin Khak Khawar, Dagai Khawa, Amangarh Khawar, Surya Khawar and Kalpani Nullah		
Swabi	Indus River, Partugai Drainage system, Lahore Khwar, Jalsai Khwar, Palo Khwar, Badrai Nullah, Naranji Nullah, Buller Nullah, Bazargai man drainage, Ismaila Drain		
Mardan	Kalpani Nullah, Bagiare Nullah, Muqam Nullah		

3.9.2. Flood-Water Flow in Peshawar Valley during Floods 2010



Chapter-4

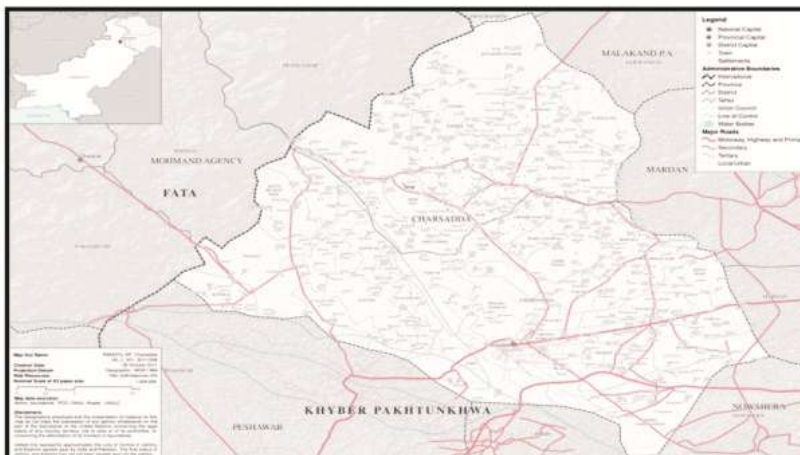


District Wise Hazard Risk and Vulnerability Mapping Based on flood 2010



4.1 District Charsadda

Charsadda is one of the fertile districts of Khyber Pakhtunkhwa province. It is located at 25 kilometers from Peshawar and is bounded by Malakand district on the north, Mardan district on the east, Nowshera and Peshawar districts on the south and the Mohmand Agency of the Federally Administered Tribal Areas on the west. Total area of the district is 996 square kilometers (243753 acres) in which cultivated area is 210255 acres (61 %). The irrigated area is 180339 acres, i.e. 86% of the total cultivated area. District Charsadda is administratively subdivided into three Tehsils i.e. Charsadda, Tangi & Shabqadar which contained a total number of 49 Union Councils. The number of union councils in Tehsil Charsadda is 25, in Tehsil Tangi is 12 and in Tehsil Shabqadar is 12.



4.1.1. Rivers in district Charsadda:

There are three rivers flowing in district Charsadda i.e. River Kabul also known as Sardaryab, River Swat known as Khiali and Jindi nullah (locally known as 'seend'). These are the main sources of irrigation in the district. These three rivers merge at union council Maira Prang and enter into Nowshera to join the .

4.1.2. Flood Devastation in District Charsadda 28th July 2010:

Tehsil	Total UCs	Affected UCs	No. of Affected Village	Affected households	Affected Individuals
Charsadda	25	20	156	38693	290198
Tangi	12	10	42	9938	74535
Shabqadar	12	06	36	9609	72068
Total	49	36	234	58240	4,36800

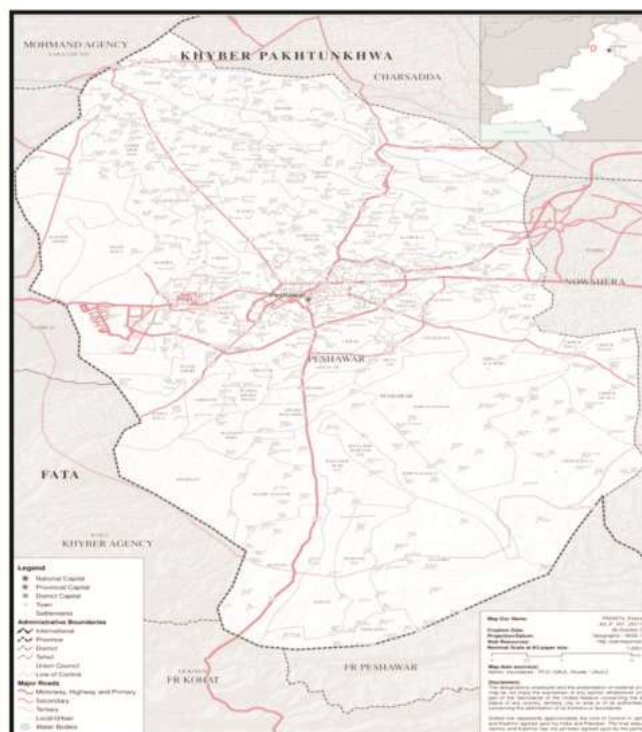
4.1.3. List of vulnerable villages on river Kabul & Swat and Jindi Nullah:

RIVER KABUL	RIVER SWAT	JINDINULLAH
1. Agra	1. Abazai village	1. Umerzai
2. Shabara	2. Sardar Garhi	2. Turangzai
3. vino Garhi	3. Mian Wali	3. Utmanzai
4. Bunyadi	4. Turlandai	4. Rajjar
5. Dab Killi	5. Sarasang	5. Solay Kamar
6. Rashakai	6. Dildar Garhi	6. Marchaki
7. Tarkha	7. Isugai	7. Ameerabad
8. Hajizai	8. Shahi Kulali	8. Hisara Yaseenzai
9. Garhi Mikhkam Shah	9. Chiti Shahai	9. Charsadda
10. Jamat	10. Maruzai	10. Chuti Pul
11. Garhi Chiragh Shah	11. Nahqai	11. Mirzagan
12. Ghuambak	12. Kharakai	12. Qazi Khel Qadeem
13. Dheri Sikandar Khan	13. Doaba	13. Qazi Khel Jadeed
14. Bakayana	14. Sukar	14. MC-I
	15. Bela No. 4	15. MC-II
	16. Mula Khela	16. MC-III
	17. SrieKh Marozai	17. MC-IV
	18. Agra Bala	
	19. Agra Payan	
	20.	

4.2 District Peshawar:

Peshawar is the capital of Khyber Pakhtunkhwa. Its area is 1257 square kilometre comprising of 92 UCs, 44 Urban and 48 Rural. Its population is 3.115 million out of them 1588671 are men and 1431617 are women.

There is a history of flash floods emanating from Bara River, Budhni Nalah and other water channels that caused lot of damages and losses to life and property in Peshawar city and adjoining areas. During the Flood 2010, Peshawar was one of the 10 most affected districts of Khyber Pakhtunkhwa. About 33867 house hold were affected. Moreover, a lot of damages also occurred to the infrastructure, agriculture and live stock sector.



4.2.1. Geography:

Peshawar is situated near the eastern end of the Khyber Pass and sits mainly on the Iranian plateau along with the rest of the Khyber-Pakhtunkhwa. Peshawar is literally a frontier city of South-Central Asia and was historically part of the Silk Road.

The Valley of Peshawar is covered with consolidated deposits of silt, sands and gravel of recent geological times. The flood Plains/Zones are the areas between Kabul River and Budni Nala. The meander flood plain extends from Warsak in the Northwest towards Southeast in the upper Northern half of the district. The Kabul River enters the district in the Northwest. On entering the Peshawar Plain, the Kabul River is divided into several channels. Its two main channels are the Adizai River Eastward flows along the boundary with Charsadda District. Another channel branching from the right bank of the Naguman River is the Shah Alam, which again merges with Naguman River further in the East. In general the sub-soil strata is composed of gravels, boulders, and sands overlain by silts and clays. Sand, gravel and boulders are important aquifer extends to a depth of about 200 feet (61 m). As further confined water bearing aquifer occurs at depths greater than 400 feet (120 m).

4.2.2. Potential Hazards of the District

- Riverine Floods
- Flash Floods
- Heavy rains
- Bomb explosions /Terrorism
- Road accidents
- Biological hazards
- Industrial hazards
- Earthquake
- Secondary hazards are Building collapse, urban fire, electric currents, snake bite, epidemics, soil erosion etc.

4.2.3. Water Channels/Rivers of the District

Kabul river, Naguman River, Shah alam River, Budhni Nallah, Nullah at Sango Sarband, Shahi Katta, Bacha Gul Khuwar, Kafoor Dehri Khuwar, Chari Sherdad Irab, Charpariza Drain, Putwar Drain, Pir Bala Khuwar, Nasapa Drain, Shahi Bala Main Shah Noor Baba Drain, Mamo Kallay Drian, Lala Niko Khan Drian, Bela Neko Khan Drian, Daman Shakar Pura Drian and Shahi Bala Khuwar are the rivers which can pose potential threat to the people of Peshawar.

4.2.4. Risk Assessment:

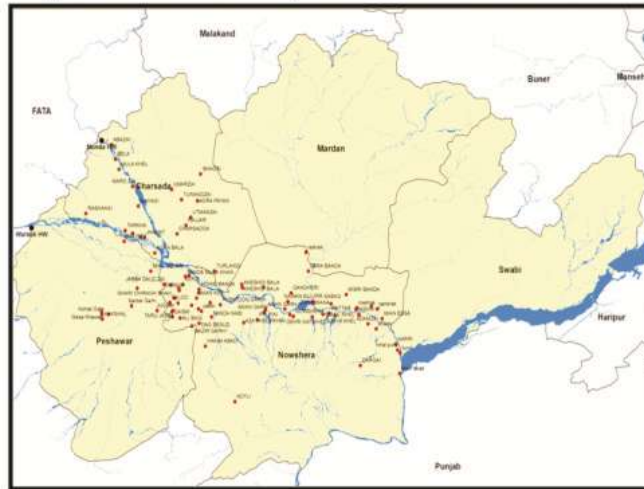
Kabul River, Budnai Nullah, Shahikatha, Sangu Sarband are the most damaging rivers and Nullahs of the District. List of the rivers and the UCs which are vulnerable to that rivers and the population is as follow:-

S. No.	Rivers.Nullah	S. No.	Rivers.Nullah
1	Kabul River	2	Bara River
3	Naguman River	4	Shah alam
5	Budhni Nallah	6	Sango Sarband
7	Shahi Katta	8	Kafoor Dehri Khuwar
9	Chari Sherdad Irab	10	Charpariza Drain
11	Putwar Drain	12	Pir Bala Khuwar
13	Nasapa Drain	14	Shahi Bala Main Shah Noor Baba Drain
15	Mamo Kallay Drain	16	Lala Niko Khan Drain
17	Bela Neko Khan Drain	18	Koh Daman Shakar Pura Drain
19	Bacha Gul Khuwar	20	Shahi Bala Khuwar

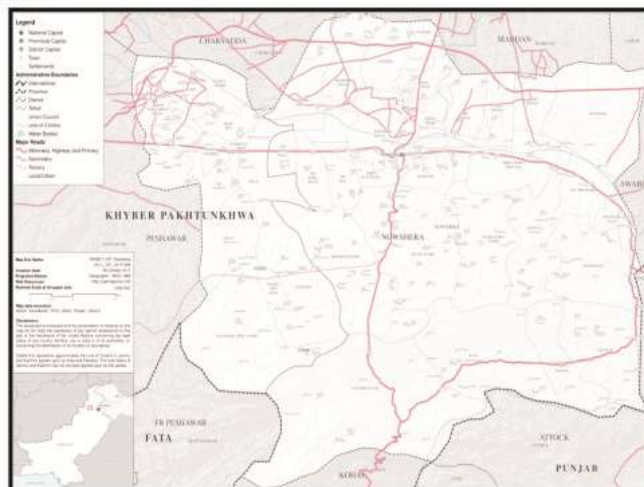
4.2.5. Vulnerable Union Councils and Population of district Peshawar:

In case of unusual floods the following UCs and population would be more exposed to the perilous brunt:-

S. No.	Union Council	Population	S. No.	Union Council	Population
1	Achini Bala	42,978	2	Khatki	28,495
3	Mera Suzizai Payan	25,801	4	Urmer bala	36,993
5	Shahi Bala	32,222	6	Takhtabad	42,800
7	Panam Dehri	32,584	8	Mathra	44,622
9	Jogani	30,468	10	Kafoor Dehri	32,912
11	Chaghar Matti	28,391	12	Musazai	26,687
13	Chamkani	32,324	14	Haryana Payan	40,004
15	Budhni	30,182	16	Wadpaga	29,604
17	Mera Kichori	39,312	18	Nahaqi	39,566
19	Kankola	39,910	20	Gulbela	38,384
21	Lala	26,330	22	Khazana	36,037



4.3 District Nowshera:



District Nowshera is bordered to the west by Peshawar, to the northeast by District Charsadda and Mardan, to the east by Swabi and to the Southeast by Attock district. Western Peshawar basin is endangered by both riverine as well as flash floods. The riverine floods are caused by high discharge in seven rivers. The major rivers of Swat and Kabul as they enter Peshawar basin are divided into distributaries, which include Jindai and Khyali (River Swat), Sardaryab, Naguman and Shah Alam (River Kabul). Other notable rivers include Kalpani from north of Mardan and Bara from south of Peshawar. Except for Kalpani and Jindi rivers, rest of these distributing rivers converge into main Kabul River within an area of 5 km immediately upstream the Kabul river bridge on M1 Motorway. Bara river joins the Kabul river immediately after passing the M1 on Kabul river bridge while Jindai and Kalpani join the Kabul river further downstream near Nowshera. Kabul River is primarily the confluence area for seven major river courses, which not only makes this region most vulnerable to flood hazards, but is supplier of an influx of flood water for Nowshera district.

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

4.3.1. Riverine Floods

It is excessively vulnerable to Riverine floods in River Kabul. In 2006 approximately 20,000 families were temporarily displaced due to floods in the River. In 2010 floods affected population was 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	- Daman	- Babi
- Ismail	-	-
- Babi Jadeed	- Jabba Khalisa	- Taru
- Qasim Wazir	- Dag Besud	- Dheri Ishaq
- Garhi	-	-
- Chowk Drub	- Aman Kot	- Pashtoon Garhi
- Dagai	- Banda Nabi	- Khudrazi
- Chowk Mumriz	- Aman Garh	- Nowshera Khurd
- Nowshera Kalan	- Nowshera cantt	- Hakim abad
- Pir Sabaq	- Surya Khel	- Ismail Khel
- Wattar	- Akora Khattak	- Essori
- Adamzai	- Shaidu	- Misri Banda
- Ali Muhammad	- Mehsak	- Mughalkai
- Mian	- Essan	- Nandrak
- Dheri Khatta	- Kund	- Narri
- Nehal Puran	- Khairabad	-

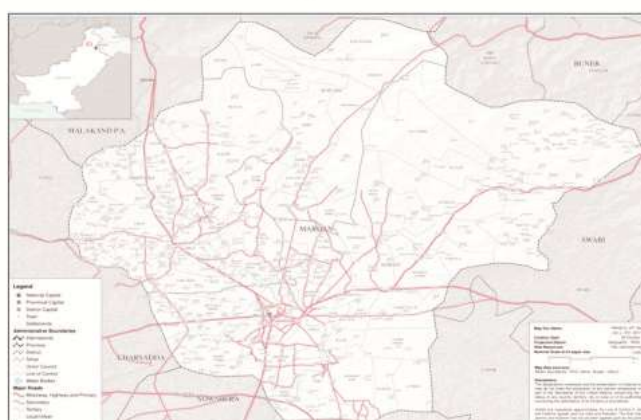
The list of waterways which have tendency to spill over other than Kabul River is as under:

● Bara Nullah	● Chinkar Nullah
● Chillah	● Spin Khak Khawar
● Dagai Khawar,	● Amangar Khawar,
● Surya Khawar	● Kalpani Nullah

4.4 District Mardan:

Mardan district came into existence in 1937. Prior to this it was a part of Peshawar district. In the year 1988 Mardan was given the status of a Division, consisting of Mardan and Swabi district. Total area of District Mardan is 1632sq Km. It is bounded on north by Swat District and Malakand Agency, on the East by Swabi, on the South by Nowshera District and on the West by Charsadda District. Presently District Mardan comprises of Three Tehsils namely Mardan, Takht Bahi and Katlang. District Mardan may be locally divided into two parts; North Eastern Hilly Areas and South-Western plains. Number of villages, Union Councils and Population data in district Mardan is as follows:

- No of villages in District Mardan. 173
- No of Union Council in District Mardan. 76
- Population of District Mardan 1.9 Million
- Population of Tehsil Mardan. 0.8 Million
- Population of Tehsil Takht Bahi. 0.6 Million
- Population of Tehsil Katlang. 0.5 Million



4.4.1. Main Nullahs in District Mardan:

District Mardan is prone to flash Floods. There are 03 main water courses and numerous small water channels that run through Mardan District before falling into River Indus and River Kabul.

- Kalpani nullah starting from the foothills of district Malakand near Kharki and Kalo Shah area running through Lund Khwar, Kati Ghari and Kalpani, Mardan City, Toru and falling to River Kabul.
- Another rain fed ravine starts from Sangao, passing through Babozai, Shamoza, Kallang, Jamal Ghari, Zando Derai and Join Kalpani Nallaha.
- The third stream “Shahbaz Ghari Khwar” starts from Behroach bordering District Buner with a course through Rustam, Khairabad, Gujarat, Shahbaz Ghari, Ghari Amazai and falls in River Kabul first joining Kalpani.

4.4.2. Map Indicating Vulnerable Areas



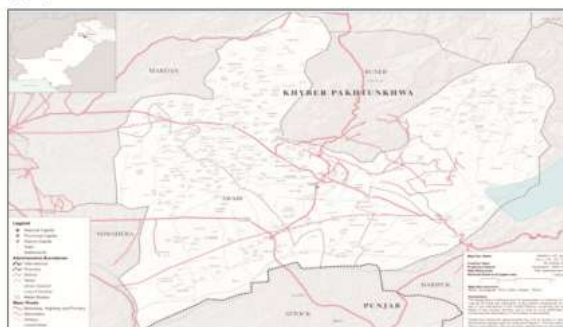
These ravines/Nullahs normally flow silently but sometimes they are over flooded and may turn violent and cause physical devastation, destruction to standing crops, displacement along with health related problems to the community mainly affecting the poor and high risk population.

4.4.3. Vulnerable Areas in District Mardan:

S. No	Vulnerable Area	Vulnerable Population	Vulnerable House	Alternate Places/Campus
1	Sikandari, Pur Dil Abad and Noorman Khel L/bank of Kalpani Nullah	350	40	
2	New Mayar (Lift Irrigation Scheme) Mayar on L/bank of Kalpanu Nullah	150	20	
3	Dhop Mayar L/Bank of Kalpani Nullah	200	25	
4	Asghar Abad Mayar L/Bank of Kalpani Nullah.	100	15	
5	Malik Abad Mayar R/Bank of Kalpani Nullah.	260	30	
6	Umar Khan Killay	400	50	Govt College mardan
7	Arabi Banda	1250	250	G. Commerce College Mardan
8	Kas Korona	4000	500	G.G Degree College
9	Union Council Jandai	3000	300	G.Middle School
10	Union Council Gujar Chari	1300	280	G.H School
11	Faqir Band (R/Side) Srai Baghdada	1600	200	G.Middle School
12	Kochai Abad	900	180	G.College No.2 Mardan
13	Hoti Mardan	2400	300	GPS Pandatai Lundaki
14	Nalai Par Hoti Union Council Khas Mardan	3500	345	GHSS No 1-3 GGHS Rustam Khel
15	Police Station Hoti with related area	4000	500	GMS Dang Baba
16	Bank Road	4000	500	G High School No.2 Mardan
Grand Total		Population 27410	Houses 3535	

4.5 District Swabi:

Swabi is the district having population of 1026804 approximately. The total area of Swabi is 1543 sq. km in which total area under cultivation is 37217 Hectares. There are four (4) tehsil of Swabi namely Swabi, lahor, rajar and topi. where as total union councils are fifty six (56).



4.5.1. Main streams which may cause floods:

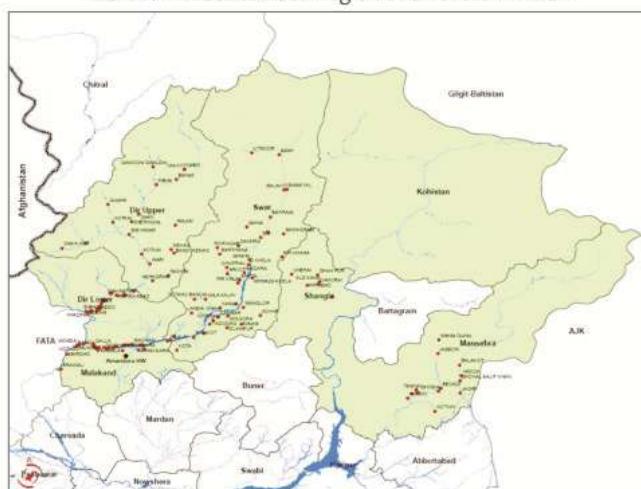
Swabi is home to two great rivers, the Indus and the Kabul. There are also several smaller streams. The mainstream flood creators are Badi Nala, river Indus and Naranji khwar.

Generally, the whole district has uniform rainfall and level of vulnerability is almost same except in Gandaf area, which has remote chances of being involved. After assessment of the area, five main zones have been designated as vulnerable to floods:

4.5.2. Vulnerable Zones:

- Topi
- Kalu khan
- Yar Husain
- Lahore
- Swabi

Northern Mountainous Region and Hazara Division



Districts	River Systems and potentially threatening Waterways	Anticipated Relief Caseload HHs- High Impact Scenario 2013	Relief Caseload HHs- Medium-Impact Scenario 2013
Mansehra	River Siran and Kunhar, Ichar, Shinkian, Perhan, Boli, Satbani, Saroori, Moli, Batakas Nullahs	256,151	85,384
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,		

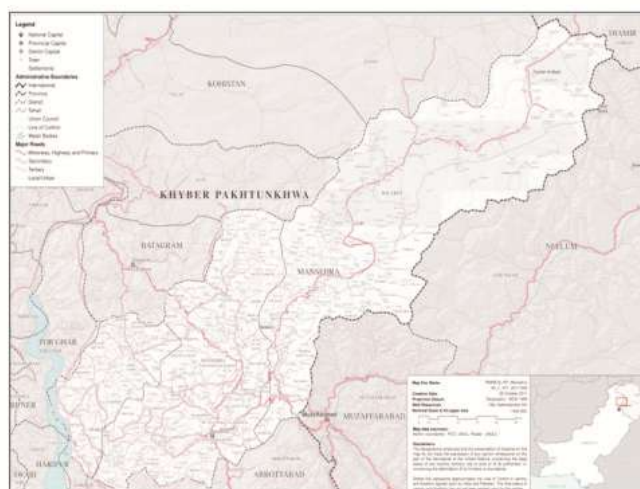
Sigram Khwar, Kanju Khwar, Kotlai Khwar, Ningolai and Dherai Khwar Barikot Khwar, Terang Khwar and Chamgarai Khwar

4.6 District Mansehra:

Mansehra was upgraded to district level on Oct. 1, 1976. It consists of Mansehra, Oghi and Balakot Tehsils. Its total area is 4,579 square kilometers, with population of 1.7 million.

The district boundary links with district Battagram in the North, Muzaffarabad district of Azad Jammu & Kashmir in the East, while to the south it is linked to Abbottabad district and on the west to Shangla district.

Mansehra District was the worst affected district of Khyber Pakhtunkhwa in the earthquake of 2005 in terms of human losses and destruction of physical infrastructure. According to District Administration 15,997 persons died while 9,903 were injured due to earthquake. Besides the loss of precious human lives, the number of housing units destroyed due to disaster was also higher. As many as 108,283 housing units were completely destroyed and 34,001 partially damaged. Balakot city, which is part of Mansehra District, was located on the fault line was destroyed.



4.6.1. Rivers

Indus River, Siran and Kunhar are well known rivers of the district. River Indus enters into the jurisdiction of Kala Dhaka and flows 84km up to Tarbela dam. The Siran starts from Panjool and flows through the western plain of Pakhli. Two canals have been taken out from the Siran River, the upper Siran canal at Dharial and lower Siran canal at Shinkiari. From Pakhli the Siran runs into the Tanawal hills and joins the Indus at Tarbela in the North West. Its total course is between 70 to 80 miles, and it irrigates 6,273 acres of land.

The Kunhar bursts out from the Lulusar at the head of Kaghan valley and after a turbulent course of 110 miles falls in the river Jhelum at Pattan. Some other notable nallas that flow in district Mansehra are Pootkatha (Mansehra), Nadi Unhar (Shergarh), Butkus (joins the Siran near Icharian), Ichar and a small Siran stream that flows in Batagram and joins the river Indus near Thakot.

4.6.2. Lakes

There are three lakes in Mansehra district ie Lulusar, Dudipatsar and Saiful Maluk Sar. The former two lie near Babusar top while the latter one near Naran. These lakes are beautiful assets of the District, but at the same time, pose high risk of overflow of water thus increasing threats to the population in the district.

4.6.3. Land Sliding:

The regions of District Mansehra, particularly Balakot Tehsil is highly vulnerable to landslide hazard. Fragile soil type of mountain ranges and coinuous deforestation is the major cause behind increased incidents of landsliding. Eighty percent of the ecosystem in the region has been de-stabilized due to earthquake 2005. The steep and unstable slopes in the district are highly vulnerable to serious land sliding and are major threats to the already disaster stricken district.

4.6.4. Glacial Lake Outburst Flood (GLOF):

Intense heat wave can increase the occurrence of the phenomenon known as Glacial Lake Outburst Flood (GLOF). A recent study found that, out of the 2420 glacial lakes in the Indus basin, 52 are potentially dangerous and could result in GLOF with serious damages to life and property. The study has also indicated that global warming can increase the potential of GLOF in future. (Indus Basin River system flooding and flood mitigation, H. Rehman, and A. Kamal)

4.6.5. Avalanches

Kaghan and Naran regions in Mansehra district experience avalanches on a regular seasonal basis. Local people in the hazardous region and tourists are vulnerable to this hazard. Increased frequency of avalanches in the valley will help melt the snow rapidly in summer due to global warming and will inundate the valley households. Roads in the area are mostly closed for longer time, increasing physical and socio-economic vulnerabilities of the people.

4.6.6. Deforestation and Desertification:

Over 75% of people are settled in the mountains. The only source of fuel is wood both for cooking and for heating. In cover of huge construction requirement, timber Mafia is playing very active role. De-forestation is very high in the region which leads to serious land sliding and land erosion.

Other vulnerabilities leading to serious flooding and damages to the community in the district are;

- Hilly and difficult topography.
- Institutional degradation(good governance issue).
- Unplanned and overlapping development Infrastructure.
- Axis and orbital problems of the Local Governments.
- Kala Dhaka- the. most neglected area of the country.
- Tanawal- gradually becoming barren due to drought.
- Deforestation- environmental degradation
- Population growth
- Unemployment
- Lack of industry

4.6.7. Vulnerable population

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

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

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

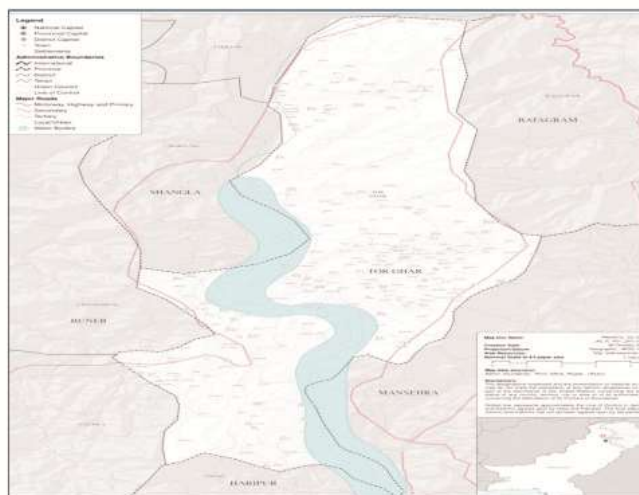
- | | |
|-------------------|------------------|
| ▪ Siran River | ▪ Ichar Nullah |
| ▪ Shinkian Nullah | ▪ Batakas Nullah |
| ▪ Moli Nullah | ▪ Saroori Nullah |
| ▪ River Kunhar | ▪ Satbani Nullah |
| ▪ Magli Nullah | ▪ Boli Nullah |
| ▪ Perhan Nullah | |

4.7 District Tor Ghar:

Tor Ghar (the Black mountain) is one of the smallest districts in Khyber Pakhtunkhwa. It was previously known as Kala Dhaka. It is a Mountainous range which was a provincially Administered tribal area till 27th of January 2011. The federal government declared it as the 25th district of Khyber Pakhtunkhwa on 27.01.2011. Later on the govt of Khyber Pakhtunkhwa notified it on 15.02.2011.

Tor Ghar has a total area of 454 sq. km. Geographically, Mansehra is located on the South of this newly created District. On the West, it borders district Buner. On the North-East is the district of Battagram and on the North West is the District of Shangla. Similarly it borders Swabi and Haripur districts in South West and South East respectively.

The total population of the district is approximately 300,000. According to 1998 Census the population was 1,75,000.



4.7.1. Monsoon Hazards in Tor Ghar

The newly created District of Tor Ghar is prone to a number of disasters due to its unique topography and geography. Most of the houses are muddy that makes them more vulnerable to Disaster. The population of the area is very much scattered. Moreover, people live in remote parts of the Mountains. Monsoon Hazards in the District emerge because of heavy precipitation in the season. Similarly, the simultaneous occurrence of flash floods, heavy precipitation and cloudburst worsen the impacts of Monsoon Disaster in the District.

4.8 District Abbottabad:

The area of district Abbottabad is 1969 Sq Km. Its height is 1210 meters above the sea level. There are 51 Union Councils and 02 Cantonment Boards. The annual rainfall in the district averages around 1,200 millimetres but occasionally it touches 1,800 millimetres.



4.8.1. Potentiality of disaster owing to monsoon rains:

Flooding in seasonal nullahs, choked nullahs, land sliding on hill terrains and damages to mud houses by heavy rainfalls leads to alarming situation. The devastating rainfall in 1992 resulted in huge loss to infrastructure and human lives.

4.9 District Battagram:

District Battagram has a total land area of 1301 square kilometres and the estimated population of Battagram District in 2004–2005 was 361,000.

4.9.1. Potentially hazardous Rivers and nullahs in the district:

River Indus, Battagram Khwar, Chappargram Sorai, Kakarshang Khwargai, Shamlai Hill, Landai, Saroori Tikri, Biari Nullah, Bateela, Allai, Nindihhar Khwar. 70-75 thousand Population alongside these Nullah, cultivable land, Water Mills, Water Channels as well as water supply schemes originating from these Nullahs and other infrastructure alongside will be at risk in case of spill over.

4.10 District 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.



4.10.1. Vulnerability to Floods:

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

- | | | |
|------------------|--------------------|--------------------|
| ▪ 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 |

4.10.2. Vulnerable Areas:

- | | |
|-------------------|----------------|
| ▪ Ghushli | ▪ Madakhel |
| ▪ Summer Nullah | ▪ Gabriel |
| ▪ Thoti | ▪ Chawadara |
| ▪ Moreen (Bankad) | ▪ Supat Valley |
| ▪ Dubair Valley | |

4.11 District Haripur:

Haripur is a rich and developing social capital in Hazara region and gateway to Hazara & Northern Areas. It has 02 Tehsils Haripur (37 UCs) and Ghazi (08 UCs). There are 02 very important water reservoirs; Tarbela Dam & Khanpur Dam. Haripur was founded in 1822 by Hari Singh Nalva, a Sikh General of Ranjeet Singh's Army after whom it is named as Haripur. Haripur became a Tehsil of District Abbottabad and remained so until it acquired the status of District on July 1, 1991. Haripur District is situated at 610 meters above the sea level.



4.11.1. Rivers, Streams & Waterways/Sokas:

Waterways having potential threat during monsoon are:

- The longest river in district Haripur is the river Indus.
- River Dour passing through Tehsil Haripur
- River Haro passing through Khanpur
- River Siren passing through UC Beer, Soha & Kachi falls into Tarbela Dam reservoir.

Apart from these main waterways there are number of Sokas passing mid city of Tehsil Haripur & Ghazi that cause major damages

- Soka passing through Serai Saleh, Ali khan, Talokar, Pandak, Darwesh & Dhenda causes great damages.
- Soka of Cheachian to Kot Najibullah also become dangerous for flash floods

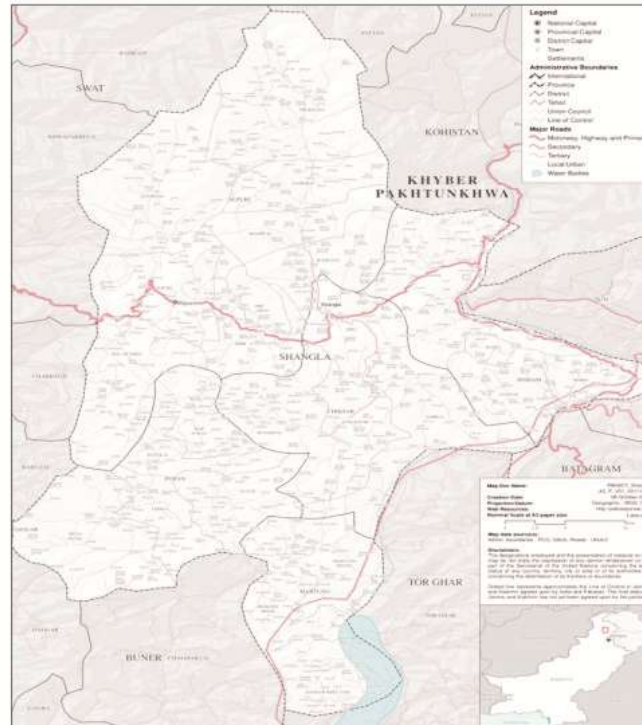
4.11.2. Most Vulnerable Ucs:

Apart from other UCs prone to flash floods, most vulnerable UCs as monitored in floods 2010 are:

▪ Ali Khan	▪ Barkot	▪ Beer	▪ Bait Gali
▪ Kalingar	▪ Ladermang	▪ Muslim Abad	▪ Rehana
▪ Serai Nehmat Khan	▪ Sarai Saleh	▪ Shah Maqsood	▪ Nara Amazai

4.12 District Shangla:

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



4.12.1. Flash Flood:

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

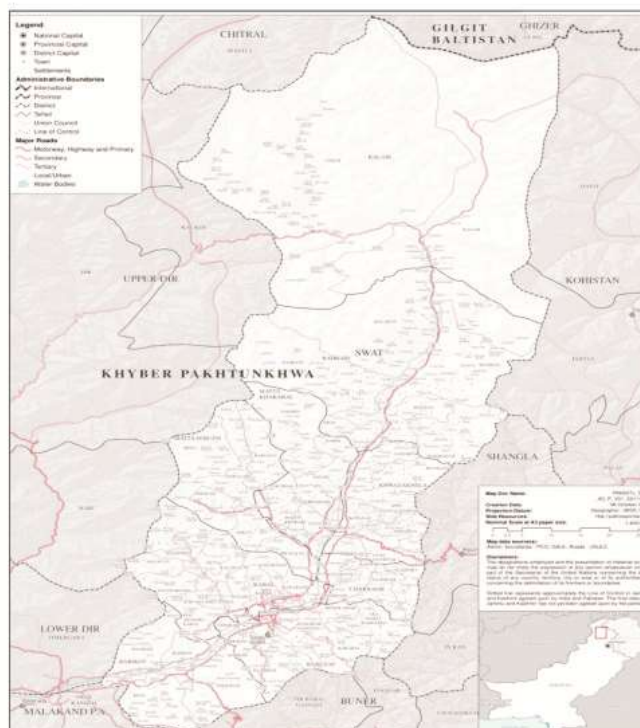
4.12.1. Name of Vulnerable Tehsil, UCs & Villages		
Tehsil	UCs	Villages
Alpurai	Lilownai	Kuzkalay & Khwarkalay.
	Alpurai	Shahtooh area Rahim Abad
Alpurai	Malak khel	Kotkay, Bazarkot
	Kotkay	
	Dehrai	Dehrai
	Pir Abad	Belay Baba
	ShahPur	Shahpur Area
	Pir Khana	Pirkhan, larai, lowder, Bilkanai, olandar,
	Damorai	Damorai, Karshat
Besham	Kuz Kana	Borshat , Scrai
	Ranyal	Ranyal
	Butyal	Shung, Kormang,
Chakisar	Chakisar	Chakisar, Katkoor
	Bunirwall	Bunirwall
	Sarkol	Sarkol
	Opal	Opal
Puran	Aloch	Aloch Nimkalay
	Chawga	Chawga,
	Ismail Khel	Kuz Paw, Braim
Makhuzi	Musa Khel	Shikolai, Pandorai

4.12.1. Waterways with Tendency to Spill Over

Tehsil Alपुरi	Union Council Lilownai	i. Lilownai-Ghwarband Khwar Sagar Lilownai Nullah Larai Lilownai Nallah Amnavi Nallah Dehrai Nallah PirAbad Nallah
		ii. Khan Khwar Larai Pirkhana Nallah Olandar Nallah Lowder Nallah
Tehsil Puran	All UCs	iii. Bagyar Khwar
Sub -Tehsil Mukhuze	Chawgra	iv. Chawga Khwar
	Ismail Khel, Musakhel	Ismail Khel Nallah Shekaolai/Pandorai Nallah
Sub-Tehsil Matung	UC Martung	v. Etai Khwar

4.13 District 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.



4.13.1. Floods Vulnerability:

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.

4.13.2. Vulnerable population

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

Names of Vulnerable Tehsils, UCs & Villages

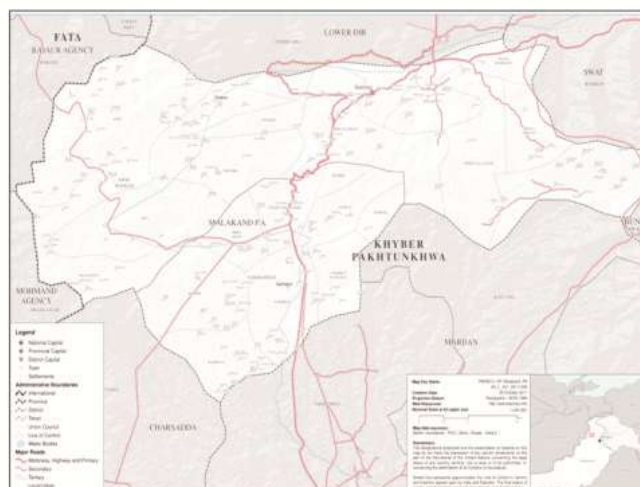
Tehsil	UC	Village	Area (Acres)	Population
Bahrain	Bahrain, Balakot, Mankyal, Madyan, Beshigram, Terat	Baharain, Balakot, Manyal, Madyan, Beshigram, Terat	211504	138362
Charbagh	Gulibagh, Talegram, Keshaura	Gulibagh, Talegram, Keshaura	34975	109514
Kabal	Kabal, Koza, Bardai, Bara Banda, Hazara, Kanju, Koz, Abakhel, Bar, Abakhel, Totanobandai, Qalagay, Kalakalay, Dewlai, Shehdherai, tall	Kabal, Koza, Bandai, Bara Bandai, Hazara, Kanju, Koz, abakhel, Bar, Abakhel, Totanobandai, Qalagay, Kalakaly, Dewlai, Shahdherai, tall	100064	324709
Kalam	Kalam, Uror	Kalam, Utror	510310	45537
Barikot	Barikot, Kot, Shamoza, Ghaligay	Barikot, Kot, Shamoza, Ghaligay	79655	175188
Babozai	Saidu Sharif, Magora, Qambar, Obigram	Saidu Sharif, Mingora, Qamber, Odigram	84093	192437

Waterways with Tendency to spill over

1. **Tehsil Bahrain:-** Kadam, Chamgarai, Torwal, Ramait, Mankyal, Daral Gurnai, Najva, Beshigram, Chail, Dabargay, Shagram, Shankoo, Tirat, Darilai.
2. **Tehsil kalam:-** Jalband, Utror, Dahmaka, Shahoo Matiltan, Kando,
3. **Tehsil Kabal:-** Hazara Khwar Malooch Khwargai, Sigram Khwar, Kanju Khawar, Kotlai Khawar, Noingwalai and Dherai Khwar.
4. **Tehsil Barikot:-** Barikot Khwar, Tirang Khwar, Chamgarai Khwar,
5. **Tehsil Babozai:-** Jambil Kokarai Khwar, Maghazar Khwar

4.14. District Malakand

Malakand is a hilly area consisting of two sub divisions i.e. Swat Ranizai and Sama Ranizai. Total population of District Malakand is approximately 700,000 having area of 952 square kilometres. There are twenty-eight Union Councils in the District Malakand. Malakand Pass is the gateway to Malakand Division and possesses a scenic beauty of mountains with valleys.



4.14.1. Rivers in Malakand:

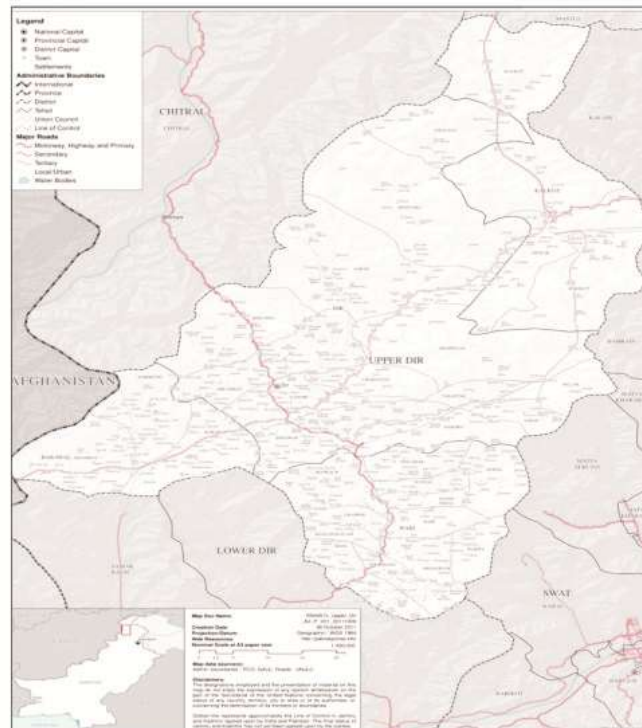
River Swat is the largest and significantly important river of the district. Most of the population of district Malakand resides around the River Swat. In the summer season water level in the River Swat rises and causes damages to adjacent properties, standing crops and trees.

4.14.2. Vulnerable areas of the district:

The most vulnerable Union Councils are Totakan, Batkhela, Khar, Dheri Julagram, Alladand and Khrkai. In Monsoon, season heavy rains with hailstorms results in great damages to kacha houses and human lives.

4.15 District Upper Dir:

The district has an area of 3,699 Sq Kms. Its population is .759 Million.



4.15.1. Floods Vulnerability:

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		

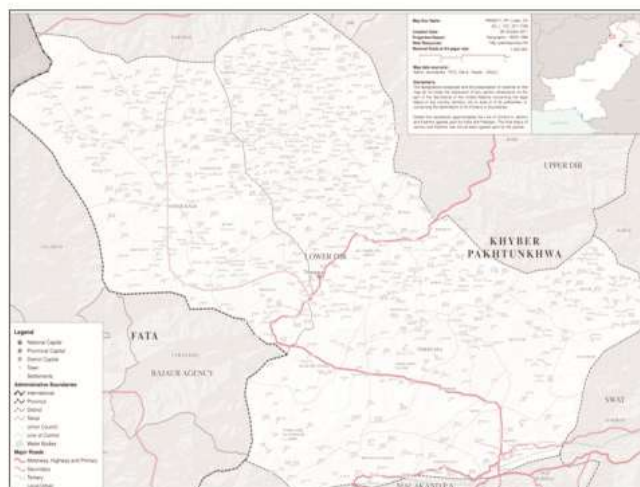
4.15.2. Potentially Hazardous Waterways:

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

- Dir Khawar,
- Ushera Khawar,
- Kohistan Khawar
- Barawal Khawar,
- Nihag Khawar,

4.16 District Lower Dir:

Dir lower is located in the North West of KPK at a distance of 175 km from Peshawar. Dir Upper is situated to the North, District Malakand to the south, District Swat to the East and Bajaur and Afghanistan to the west. Geographical location of district is 34.37-35.07 latitudes N and 71.31-72.14 longitudes E with total area of 1583 square kilometers.



4.16.1. Physical Features /Topography of Lower Dir:

The topography of the district is dominated by the mountains and hills which are a part of the southern Hindukush ranges. In the north, the mountains are much high reaching up to 3000 meters. In the south, the height shows rapid decrease and at the river Swat and Panjkora juncture, it is just 600 meters. These ranges have been deeply cut by rivers, streams and flood plain. Most of settlements are situated in these valleys.

4.16.2. Potentially Hazardous Rivers and Streams:

The important rivers and streams are river Panjkora, river Swat, Roudh Khawar, Maidan Khawar and Talash Khawar. Rivers and nullahs/khwarhs at places mentioned below can threaten human lives and property alongside the

i. River Swat	ii. River Panjkora	iii. Talash Khwarh	iv. Jandol Khwar
Chakdara	Khal	Ziarat	Khazana
Badwan	Rabat	Shamshi	Kotkay
Kamala	Hajiabad	Khan	Maidan
Tauda china	Timergara	Goro talash	Khwah
	Shagokas		Kumar

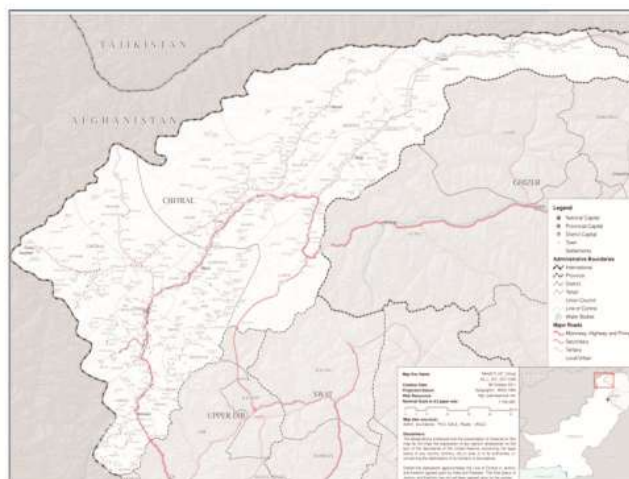
4.16.3. Control Rooms (District & Sub Divisional Level)

S. No	Name of Control Room	Telephone Number	Focal Person
1	District Control Room	0945-9250002/9250032	DDMO
2	Sub Division Maidan	0945-886552	AC Maidan
3	Sub Division Adenzai	0945-761051	AC Adenzai
4	Sub Division Samarbagh	0945-851099	AC Samarbagh

4.17 District Chitral:

Spread over an area of 14,850 sq km, Chitral is area-wise the largest district of Khyber-Pakhtunkhwa with an estimated population of 0.42 Million. There are six tehsils with 26 UCs in the district.

The valleys are narrow; the terrain is rugged, internal road network is poor, that is why heavy vehicles have no access to most of the valleys. The weather is harsh in winter and pleasant in summer though intimidating because of avalanches and floods. The region is linked with other parts of the country via Lowari pass in the South and Shandur passes in the North.



4.17.1. Rivers

The main river Chitral flows in deep ravine, hence chances of its overflowing are minimal, however flash floods vulnerability is fairly high.

4.17.2. Hazard Context Analysis

District Chitral is very prone to many hazards that are climatological phenomena influenced by the Geology, Geo-Morphology, Soil, Water, Weather and Vegetation conditions. One of the serious natures of flooding is Flash floods that occur with little or some time with no warning. It's triggered by extreme cloudbursts, Glacial Lake outbursts Floods (GLOF), and heavy rains, Landslides, Lightning, and Thunderstorm. It damaged critical Infrastructures and Structures and valued Social and Economic assets. Hazard Context analysis shows that District Chitral is facing below mentioned hazards, which may lead towards Medium to High range disaster/Emergency situation:

- Riverine/Flash Floods
- Glaciers are very sensitive to Global Warming
- Land Sliding
- Glacial lake outburst flood (GLOF)
- Avalanches
- Lightning
- Deforestation and Decertification

4.17.3. Profile of Risk Areas to Monsoon Flooding:

Following Nallas (Gol in khowar) are potentially dangerous and vulnerable in future:-

Sub. Div. Chitral:	Ayun Nala, *Molen Gol, Ochust Nala, Rumboor, Birir & Bumborate Nala, Jughoor Gol, *Mori Gol, Chitral Gol, River bank near Airport, River bank Jutilasht, River Bank Ayun *Drosh Gol, Booni Gol, *Kaldam Gol, Shishikoh Nala, *Jingerate Koh Nala, *Tehsil Lotkoh: Begust Togshil Gol, Chinchor Gol, *Ishpalanga Gol, *Muxo Lango Gol, *Monor Gol, *Awlan Gol, *Mushain Gol, *Chephokht Gol, *Awshek Gol, *Murdan Gol, *Xetur Gol, Bheti Gol, Rabat Gol, Akich Gol, Dir Gol, Behixog, Awirat Gol, karimabad Gol, Damil Nala, Arandu Gol, Ashirate
Sub. Div. Mastuj:	Reshune Nala, Charun Nala, Junali Koch (Yarkhoon River) Boombagh, Booni Gol, Gur Nala, Awi Lasht, Sonoghor Nala, Warijune Nala, Shogram Nala, Gohkir Nala, Pakhturi Nala, Chuinj Nala, Khruzg Nala, Bang Nala, Yakum Nala, Miragram No. 2 Nala, Power Nala, Gazain Nala, Dubargar Nala, Merthing Nala, Sorlasapur Nala, Broke Nala, Raman Nala, Herchin Nala, Brep Nala, Istich Nala, Khruz Bala Nala, Chinar Nala, Pasum Nala, Sarghuz Nala, Khot Nala, Dizgh Nala, *Parkusap Nala, Andagach Khot, Yakhdez Gol, Ramtich Gol, Ujo Gol, *Ghoru Nala, *Shich Nala, *Yarkhoon Lasht Nala, *Divesar Nala, *Wasum Nala

4.17.4. Seasons of Various Disasters

Following Nallas (Gol in khovar) are potentially dangerous and vulnerable in future:-

S. No	Hazards	Seasons
1	Earthquake	Round the year
2	Flash Flood	May to August end
3	Avalanche	January to April
4	River high flood	June to August
5	Glacier out burst	June to August
6	Land Slide	April to May
7	Heavy Snow fall	November to March

4.18 District Buner:

Total area of the district Buner is 1,865 km² (720 sq mi). According to the Population Census of 1998, population of the district was 506,048 however it is estimated that at the moment around 700,000 people are living in the district.

District Buner is bounded by the mountains from all sides.. Almost more than half of its area is covered by the mountain. There are small streams in different areas of the District. The major one is called "Barandu", originating from Pir Baba area and going through Daggar, Dewanababa mingles with other streams coming out of the hills of Chagharzai area at budal and pouring to Abbasin River. This stream is deep and bounded by rocks and hills. Looking at the past experiences there are almost little chances of floods causing damages to population, however bank side crops can be damaged. The potentiality of disasters for the district rests in thunder hailstorm, heavy rains and lighting, which cause damages to human lives and crops.

THE SOUTHERN REGION



Districts	River System and potential Threat Water ways	Anticipated Relief Caseload HHs - High Impact Scenario 2013	Relief Caseload HHs - Medium Impact Scenario 2013
D.I Khan	Indus River, Tank Zam - Yarik and Kech, Gomal Zam - Kolachi Tehsil, Zam Shiekh Haider- kolachi Tehsil, Zam Darbban - Tehsil Darbban, Zam Chowdwain	111,652	37,217
Tank	Gomal Zem, Tank Zam Shuza Algad, Galarah Algad, Suheil Alged		

Bannu	River Kurram and Gambilla
Lakki Marwat	River Kurram and Gambilla, and Kaharoba, Garaban Lorah and Chunia Nullah
Kohat	River Indus Tolang, Ghorzai Raisan, Usterzi, Usterzai, Chenna, Sheikhan
Karak	Gangatoo, Lakki Ghundaki, Taerkha, Kashu, Changoza, Lawagher, Zarki Nasrati, Machaki, Mianki, shenawa Godi Khel, Teri toi, shakar Khel, Mir Kalam, Sharki
Hangu	River Kuram

4.19 District Dera Ismail Khan:

The district has an area of 7,326 km² and a population of 1.26 million. The district is subdivided into three Tehsils which contain a total of 48 Ucs

4.19.1. 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 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:

- o **Tank Zam** – Yarik and Kech
- o **Gomal Zam** – Kolachi Tehsil
- o **Zam Shiekh Haider-** Kolachi Tehsil
- o **Zam Darbban** - Tehsil Darbban
- o **Zam Chowdwain-** Kolachi Tehsil
- o **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.

4.20 District Tank:

Tank is a southern district in the Khyber Pakhtunkhwa province of Pakistan consisting of sixteen union councils. The district has an area of 1679 km² and a population of .343 Million. The district has 1 Tehsil and 16 Ucs.

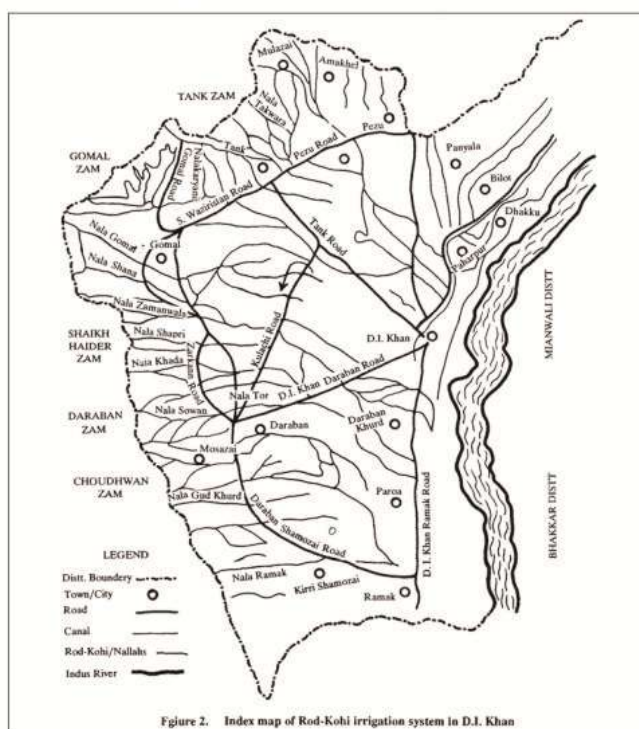


Figure 2. Index map of Rod-Kohi Irrigation system in D.I. Khan

Following are the most vulnerable population centres in district:

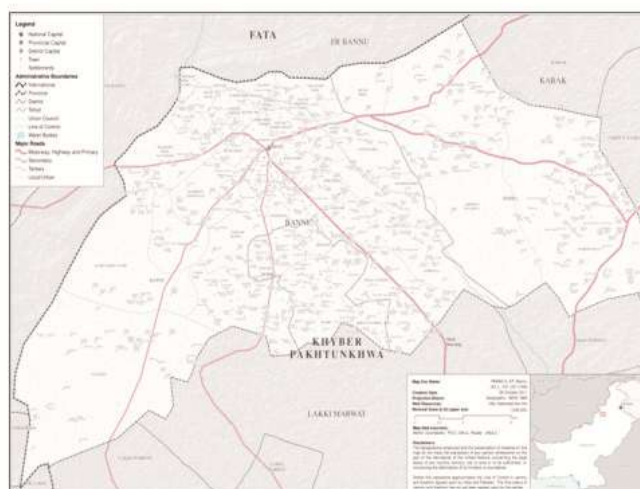
4.20.1.Flood Channels and Susceptible Areas in the District:

Zam/Algad	Rodh/Canal	Vulnerable Settlements
Gomal Zam	Gomal	Gomal Town, Kot Murtaza
	Loni	Kot Azam, Raghza, Sheikh Sultan, Mamrez Jamal
	Warren Cana	Diyal, Chaddar, Sheikh Uttar, Kot Allah Dad
Tank Zam	Takwara	Tajori, Chni Michankhel, Tati Mainwali Not usually Dangerous
	Sidqi	Shah Alam, Kot Pathan, Ali Khel, Janakay, Kirri Haider, Kirri Pak
	Chowa	Tank City, Umer Adda
	Warooki Bhara	Warooki Kalay, Jandar, Marwati, Rehmatabad, Aba Khel, Tank city, Kauro Khan, Ranwal
	Pir Kach	Tank City, Pir Kacha, Gara Baloch
	Lowra	Gara Budha, Tatoor, Gara Hayat, Diyal Adamabad
	Kiryani	Sheikh Sultan, Boltan Abad, Chesssan Katch, Bazai, Baba Khel, Lati Khel, Umar Khan, Dabak, Kot Gulan
		Tajori, Abizar
Shuza Algad	Shuzal	
Galarah Algad	Galaraha	Umer Khel, Mullazai
Suheli Algad	Rodh Sohali	Ama Khel, Pai, Mohd:Akber, Warda Zalo Daraki

4.21 District 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:

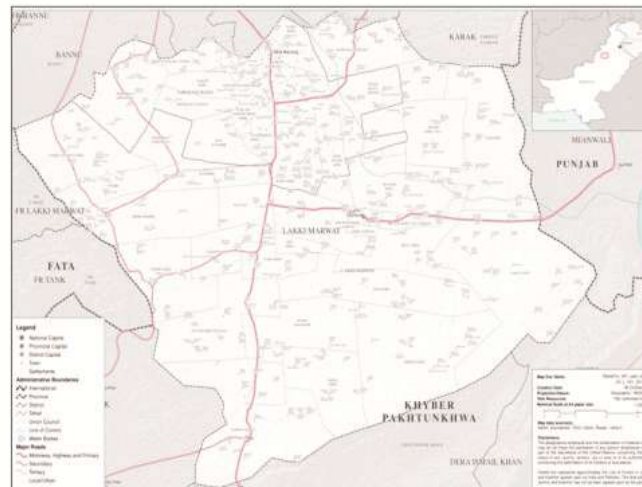
- River Kurram
- River Gambilla



4.22 District 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.

- | | |
|--------------------------------------|--------------------------------------|
| <input type="radio"/> River Kurram | <input type="radio"/> River Gambilla |
| <input type="radio"/> Kharoba Nullah | <input type="radio"/> Garaban Nullah |
| <input type="radio"/> Lorah Nullah | <input type="radio"/> Chunia Nullah |

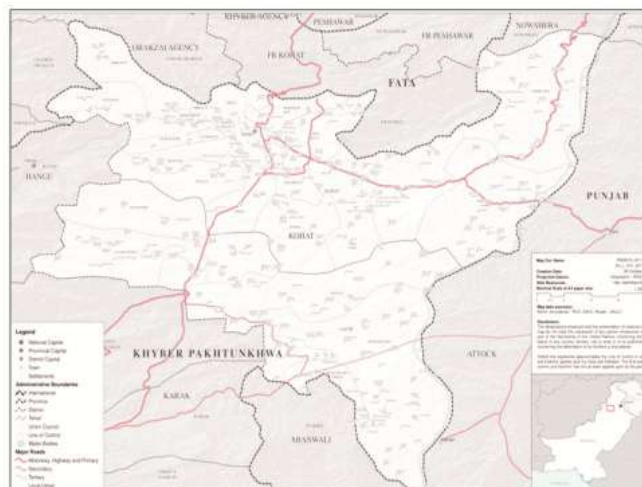


The list of waterways which have tendency to spill over is as under:

- | | |
|--------------------------------------|--------------------------------------|
| <input type="radio"/> River Kurram | <input type="radio"/> River Gambilla |
| <input type="radio"/> Kharoba Nullah | <input type="radio"/> Garaban Nullah |
| <input type="radio"/> Lorah Nullah | <input type="radio"/> Chunia Nullah |

4.23 District 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.



4.23.1. Rivers & Streams in the District

The Indus River forms the eastern boundary of the district, which separates it from the province of Punjab. Kohat Toi is the principal stream, which enters from Hangu district and flowing to east and southeast, drains into river Indus. It has a small perennial flow, which disappears before it reaches the town of Kohat. It reappears again at some distance downstream and then flows continuously to the Indus. The Kohat Toi has several small torrents or tributaries, which join it at different places. Another stream Teri Toi, which flows from west to east, in the southern half of the district, joins the river Indus. It has little or no perennial flow.

4.23.2. Monsoon Hazards

District Kohat is more prone to flash floods than riverine floods. There are nullas and springs that have tendency to spill over. The red dots in below map are identified as major hazards.

Following are the most vulnerable population centers in district:

- | | |
|----------------|-------------|
| ▪ Shakardara | ▪ Darmalak |
| ▪ Khuslalgargh | ▪ Shahpur |
| ▪ Hafizabad | ▪ Sudal |
| ▪ Jerma | ▪ Usterzai |
| ▪ Nusrat Khel | ▪ Togh Bala |
| ▪ Bahadarkot | |

4.23.3. Potentially Hazardous Waterways:

Following are the waterways in the district, which have the tendency to spill over.

- Aurakzai Nullah
- Usterzai Nullah
- Chenna Nullah
- Sheikhan Hill Torrent

4.23.4. Floods:

Following are the most vulnerable population centres in district:

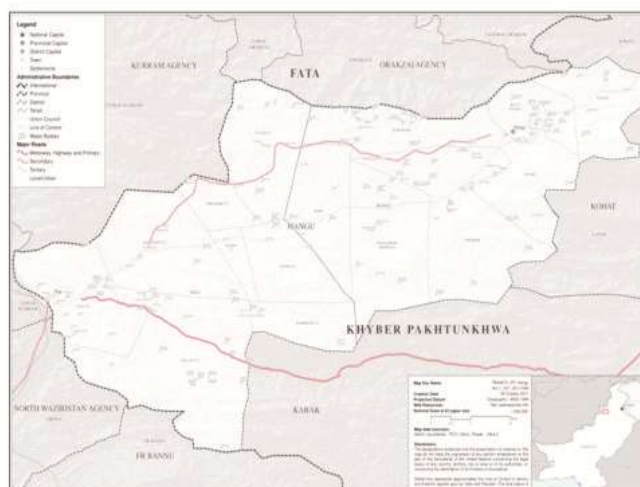
- **Tolang, Ghorzai Nullah** -Ali Muhammad Zai, Shahput
- **Aurakzai Nullah** -Germa
- **Indus River**- Shakardara, Sheraki, Rokhwan, Mulawali, Faqirabad, Bangirabad, Boisobari, Khushal Garh
- **Usterzai Nullah** -Hafizabad
- **Chenna Nullah** - Jungle Khel, Cantt, Bahadarkot, Bahawal Nagar , Togh Payan
- **Shiakhan Hill Nullah** Togh Bala

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

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

4.24 District Hangu:

District Hangu consists of 1097 Square Kilometers. Its population is approximately 0.459 Million with 2 Tehsils (Hangu & Thall) and 19 Union Councils.

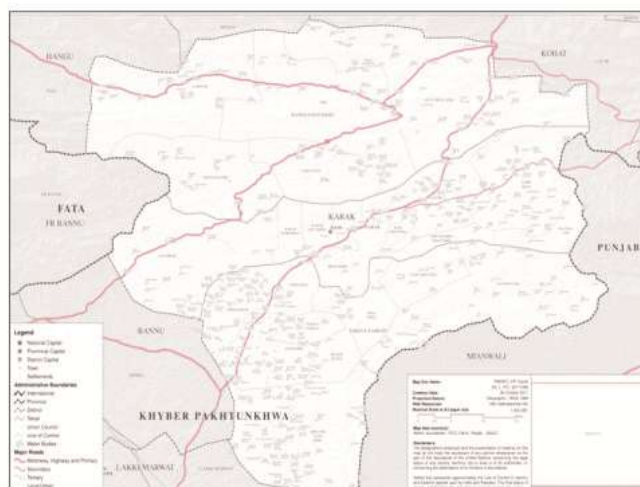


4.24.1. Vulnerable Areas in district Hangu:

S. No	Name of Union Council	Population
1	Raisan	58331
2	Katch Banda	22910
3	Togh Sarai	17022
4	Kotki	28321
5	Khan Bari (Hangu cityo	30205
6	Thall Rural	20330
7	Thal Urban	23500
8	Doaba	12439
9	Naryab	21056

4.25 District Karak:

Karak is located to the South of Kohat District, and North of Bannu and Lakki Marwat Districts on the main Indus between Peshawar and Karachi. It is 123 Km from the provincial capital Peshawar. It is situated between 70.40-70.30 N latitude and 32.48.33.32 longitude E. It has an elevation of 600-1,482 from sea level.



4.25.1. Floods Disasters Risk:

There is no major river in Karak District, however there are many water channels called Algadas. During the rainy season, these algadas are often flooded. Floods usually are local, short-lived events that can happen suddenly, sometimes with little or no warning. They usually are caused by intense storms that produce more runoff than an area can store or a stream can carry within its normal channel. Rivers can also flood when dams fail, or landslides temporarily block a channel.

Small Algadas are subject to floods, which may last from a few minutes to a few hours. On larger streams, floods usually last from several hours to a few days.

Floods can occur at any time, but weather patterns have a strong influence on when and where floods happen. Thunderstorms are relatively small but intense storms can cause floods in smaller streams.

Chapter-5



Needs and Gap Analysis



5.1 District level - Need and Gap Analysis

The contingency planning consultations with district authorities 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.

Need and Gap Analysis Monsoon 2013 - 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Clearance of water waterways Removal of Encroachments 	Sand bags Procurement of local available boats Improvement in Early warning, Training of Civil Defence 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	<ul style="list-style-type: none"> Clearance of water waterways 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	<ul style="list-style-type: none"> Clearance of water waterways Removal of Encroachments 	Sand bags	Vehicles	Food, Drinking water, vaccination	Machinery for Removal of carcasses and debris from drainage system,	150	50
Swabi	<ul style="list-style-type: none"> Clearance of water waterways Removal of Encroachments 	Sand bags	Vehicles	Food, Drinking water, vaccination	Machinery for Removal of carcasses and debris from drainage system,	150	50
Total Funds Required						1400	400

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

Need and Gap Analysis Monsoon 2013 - 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	<ul style="list-style-type: none"> 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 rescues, 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Clearance of water ways Removal of encroachments 	Sandbags, Improvement in Early warning against flash flooding, Regular updating of weather and flood forecasting	Helicopters, 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	<ul style="list-style-type: none"> Clearance of water ways Removal of encroachments 	Sandbags, Improvement in Early warning against flash flooding, Regular updating of weather and flood forecasting	Helicopters, vehicles	Cooked food, Safe drinking water, POL, food for isolated population	Water supply, restoration of damaged sewerage system, Restoration of roads and bridges	200	50
Malakand	<ul style="list-style-type: none"> Clearance of water ways Removal of encroachments 	Sandbags, Improvement in Early 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Clearance of water ways Removal of encroachments 	Regular updating of weather and flood forecasting	vehicles	Cooked food, Safe drinking water, POL		30	10
Haripur	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. Millions)						1505	495

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

Need and Gap Analysis Monsoon 2013 – 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	<ul style="list-style-type: none"> • Clearance of water ways • Removal of encroachments 	Sand bags improvement in flood warning system 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)

Need and Gap Analysis Monsoon 2013 – 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
D.I. Khan	<ul style="list-style-type: none"> • 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 area, 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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 response	Tents, Cooked food, Safe drinking water, POL	Medicines, Water supply, restoration of damaged sewerage system	90	30
Hangu	<ul style="list-style-type: none"> • 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 response	Tents, Cooked food, Safe drinking	Medicines, Water supply, restoration	60	20

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

Summary of NFI Stock Positions Held by Districts

S. No	District	Tents	Mattress Sleeping bags	Plastic Sheets/ Tarpaulin	Quilts/ Blankets	Water cooler/ Jerry	Buckets	Kitchen Sets	Stoves	Hygiene Kits	Net	Mosquito Dewatering	Pumps	Generator
1	Nowshera	295						4				11		2
2	Charsadda	559	153											
3	Peshawar													
4	Swabi													
5	Mardan													
6	Mansehra													
7	Dir Lower	200		10	850	50			70					
8	Dir Upper	200		10	850	50			70					
9	Malakand													
10	Abbottabad													
11	Kohistan													
12	Shangla													
13	Buner													
14	Swat													
15	Chitral	200												
16	Haripur													
17	Torghar													
18	Karak	70			30									
19	Lakki Marwat	50				100								4
20	Hangu	500	1500	500	3000	3000	1500	500	2000	2500	1800	4		
21	Battagram													
22	Kohat													
23	Bannu	200												
24	D.I.Khan													
25	Tank													
	Total	2274	1653	520	4730	3200	1504	504	2140	2500	1800	15		6

Summary of NFI Stock Position Held by PDMA

S.No.	Name of Item	Total
1	Tent	11612
2	Sand Bags	4450
3	Bowls	87
4	Plates	540-Steel Plates, 1380-Plastic Plates
5	Glass	1236 Pieces Steel Glass 7 1848 Pieces Plastic Glass
6	Plastic buckets	15
7	Tea Cups	36
8	China Boats	24
9	Match Box (Packs)	9
10	Plastic Mats pieces	220
11	Blankets	16038
12	Disposable Plates	94590 pieces
13	Water Coolers	11
14	Quilts	550
15	Butterfly/Pamper Pad (Cartons)	22
16	Wooden Stoves	14
17	Oil Burners/Stoves	388+18-Bags
18	Pillow	1528
19	Towels (Cartons/Bundles)	4
20	(Cartons/Carton)	22
21	Water Purification plant	2
22	Generator	150
23	Jackets	337
24	Life Jackets (Pieces/Cartons)	720 (7-2Cartons)
25	Collapsible Scan Water Jerry cane (Cartons/Bundles)	112
26	Plastic Lotas	2500
27	Water Purification Unit	1
28	Foam/Cotton Mattress	150
29	Mosquito Net	46 bags and 59 cartons
30	Kichen Sets (Cartons)	59
31	Silver Cooking Pots (Degchi)	2 bags (90-pieces)

Summary of Item Stock Position Held by PDMA

S.No.	Name of Item	Total
1	Black Tea in (bags/ including 30-Cartons & 2-Lose bags)	7142-KG
2	Salt	7129-KG

Estimated Humanitarian response (relief items) Impact Scenario 2013

S #	Ant House Districts	Anticipated Affected House Hold(HH)	FOOD		Shelter and NFLs								WASH		Health				
			FOOD HH 3 Months	Tents	Plastic Sheet	Blanket	Kitchen Set	Hygiene Kits	Jerry Cane	Buckets	Tarpaulin	Stoves	Population cover Drinking water	Population cover Anti Cholera	IEHK- MEHK Population cover	Immunization	Measles Vaccination	Static Clinics	Mobile Health Teams
1	Peshawar	34,814	34,814	11,605	11,605	46,419	11,605	23,209	23,209	23,209	3,869	11,605	69,628	100% Population Coverage with Priority to the vulnerable					
2	Charsadda	73,130	73,130	24,377	24,377	97,507	24,377	48,753	48,753	48,753	8,126	24,377	146,260						
3	Nowshera	73,130	73,130	24,377	24,377	97,507	24,377	48,753	48,753	48,753	8,126	24,377	146,260						
4	Mardan	2,884	2,884	961	961	3,845	961	1,923	1,923	1,923	320	961	5,768						
5	Swabi	2,266	2,266	755	755	3,021	755	1,511	1,511	1,511	251	755	4,532						
6	Tank	21,836	21,836	7,279	7,279	29,115	7,279	14,557	14,557	14,557	2,427	7,279	43,672						
7	D.I.Khan	57,989	57,989	19,330	19,330	77,319	19,330	38,659	38,659	38,659	6,444	19,330	115,978						
8	Lakki Marwat	4,120	4,120	1,373	1,373	5,493	1,373	2,747	2,747	2,747	457	1,373	8,240						
9	Kohat	5,665	5,665	1,888	1,888	7,553	1,888	3,777	3,777	3,777	629	1,888	11,330						
10	Mansehra	3,296	3,296	1,099	1,099	4,395	1,099	2,197	2,197	2,197	367	1,099	6,592						
11	Dir Lower	26,574	26,574	8,858	8,858	35,432	8,858	17,716	17,716	17,716	2,953	8,858	53,148						
12	Malakand	6,592	6,592	2,197	2,197	8,789	2,197	4,395	4,395	4,395	732	2,197	13,184						
13	Shangla	11,845	11,845	3,948	3,948	15,793	3,948	7,897	7,897	7,897	1,316	3,948	23,690						
14	Dir upper	30,900	30,900	10,300	10,300	41,200	10,300	20,600	20,600	20,600	3,433	10,300	61,800						
15	Kohistan	67,980	67,980	22,660	22,660	90,640	22,660	45,320	45,320	45,320	7,553	22,660	135,960						
16	Swat	93,215	93,215	31,07	31,07	12,428	31,07	62,143	62,143	62,143	10,358	31,072	186,430						
17	Karak	7,416	7,416	2,472	2,472	9,888	2,472	4,944	4,944	4,944	824	2,472	14,832						
18	hangu	6,695	6,695	2,232	2,232	8,927	2,232	4,463	4,463	4,463	744	2,232	13,390						
19	Chtiral	10,094	10,094	3,365	3,365	13,459	3,365	6,729	6,729	6,729	1,122	3,365	20,188						
20	Battagram	1,533	1,533	511	511	2,044	511	1,022	1,022	1,022	170	511	3,065						
21	Bannu	7,931	7,931	2,644	2,644	10,575	2,644	5,287	5,287	5,287	882	2,644	15,862						
22	Buner	826	826	275	275	1,101	275	551	551	551	92	275	1,652						
23	haripur	8,240	8,240	2,747	2,747	10,987	2,747	5,493	5,493	5,493	916	2,747	16,480						
24	Abbottabad	2,575	2,575	858	858	3,433	858	1,717	1,717	1,717	286	858	5,150						
25	Tor Ghar	2,575	2,575	858	858	3,433	858	1,717	1,717	1,717	286	858	5,150						
Total Grand		564,121	564,121	188,041	188,041	640,303	188,041	376,080	376,080	376,080	62,682	188,041	1,128,241						

Estimated Humanitarian response (relief items) Medium Impact Scenario 2013

S #	Ant House Districts	Anticipated Affected House Hold(HH)	FOOD			Sheiliter and NFLs							WASH		Health				
			FOOD HH 3 Months	Tents	Plastic Sheet	Blanket	Kitchen Set	Hygiene Kits	Jerry Can	Buckets	Tarpaulin	Stoves	Drinking water Population	Population cover Anti Cholera	IEHK- MEHK	Immunization	Measles Vaccination	Static Clinics	Mobile Health Teams
1	Peshawar	11605	11605	3868	3868	15473	3868	7736	7736	7736	1290	3868	23209	100% Population Coverage with Priority to the vulnerable					
2	Charsadda	24377	24377	8126	8126	32502	8126	16251	16251	16251	2709	8126	48753						
3	Nowshera	961	24377	8126	8126	32502	8126	16251	16251	16251	2709	8126	48753						
4	Mardan	755	961	320	320	1282	320	641	641	641	107	320	1923						
5	Swabi	7279	755	252	252	1007	252	504	504	504	84	252	1511						
6	Tank	19330	7279	2426	2426	9705	2426	4852	4852	4852	809	2426	14557						
7	D.I.Khan	1373	19330	6443	6443	25773	6443	12886	12886	12886	2148	6443	38659						
8	Lakki Marwat	1888	1373	458	458	1831	458	916	916	916	152	458	2747						
9	Kohat	1099	1888	629	629	2518	629	1259	1259	1259	210	629	3777						
10	Mansehra	8858	1099	366	366	1465	366	732	732	732	122	366	2197						
11	Dir Lower	2197	8858	2953	2953	11811	2953	5905	5905	5905	984	2953	17716						
12	Malakand	3948	2197	732	732	2930	732	1465	1465	1465	244	732	4395						
13	Shangla	10300	3948	1316	1316	5264	1316	2632	2632	2632	439	1316	7897						
14	Dir upper	22660	10300	3433	3433	13733	3433	6867	6867	6867	1144	3433	20600						
15	Kohistan	31072	22660	7553	7553	30213	7553	15107	15107	15107	2518	7553	45320						
16	Swat	2472	31072	10357	10357	4143	10357	20714	20714	20714	3453	10357	62143						
17	Karak	2232	2472	824	824	3296	824	1648	1648	1648	275	824	4944						
18	Hangu	3365	2232	744	744	2976	744	1488	1488	1488	248	744	4463						
19	Chtiral	511	3365	1122	1122	4486	1122	2243	2243	2243	374	1122	6729						
20	Battagram	2644	511	170	170	681	170	341	341	341	57	170	1022						
21	Bannu	275	2644	881	881	3525	881	1762	1762	1762	294	881	5287						
22	Buner	2747	275	92	92	367	92	184	184	184	31	92	551						
23	haripur	858	2747	916	916	3662	916	1831	1831	1831	305	916	5493						
24	Abbottabad	858	858	286	286	1144	286	572	572	572	95	286	1717						
25	Tor Ghar	1880	858	286	286	1144	286	572	572	572	95	286	1717						
Total Grand		18804	18804	6267	6267	21343	6267	12536	12536	1253	2089	6267	37608						

Overview of NFI Need and Gap Analysis

S. No.	Items	Stock with Districts	Stock with PDM A	Stock with PRCS	Total Stock Held	Requirements		Deficiency/Gap	
						High Impact Scenario	Medium Impact Scenario	High Impact Scenario	Medium Impact Scenario
1	Tents	2274	16612	1847	20733	188041	62680	167308	41947
2	Plastic Sheets/Tarpaulin	520	75	6156	6751	250723	63574	243972	56823
3	Quilts/Blankets	4730	550	14107	19387	640303	213434	620916	194047
4	Buckets	1500	15	156	1671	376080	125360	374409	123689
5	Kitchen Sets	504	59	1528	2091	188041	62680	185950	60589
6	Stoves	2140	420	1870	4430	188041	62680	183611	58250
7	Hygiene Kits	2500	0	1895	4395	376080	125360	371685	120965
8	Mosquito Net	1800	105	2100	4005	0	0	0	0
9	Generators	0	150	0	150	0	0	0	0

5.2 Funds Required For Immediate Relief: (Rs. Millions)

Funds Position

a.	Total Funds Required for Relief (million Rs)	
	High Impact Scenario	3,985.00
	Medium Impact Scenario	1,255.00
	Low Impact Scenario	627.50
b.	Fund Available with Districts	96.544
c.	Fund available with PDMA for Relief Operations	101.155
	Total Funds Available : d+c	197.699
	Funds required / Shortfall : HI Scenario	3787.301
	Funds Required / Shortfall : MI Scenario	1057.301
	Funds Required / Shortfall ; LI Scenario	429.801

5.3 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)

5.3.1 High Impact Scenario:

- Number of persons per day = 930 Metric tons per day for 3,382,872 population
- 3 Months Food Rations approximately = **83,708 Metric Tons**

5.3.2 Medium Impact Scenario:

- Number of persons per day = 325 Metric tons per day for 1,183,811 population
- 3 Months Food Rations approximately = **29,277 Metric Tons**

Chapter-6



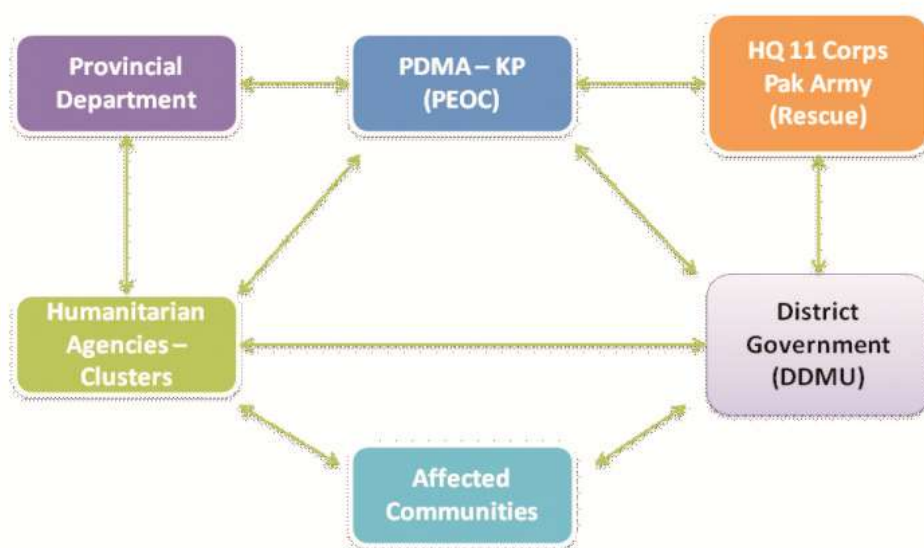
Monsoon Preparedness and Planning-Coordination Mechanism



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 Coordination Meeting (GCM) to UN agencies, INGOs and donors consistent with provincial and national policies. Similar processes are followed at the district tier by DCs assisted by the newly formed DDMUs.

Coordination Mechanism for Monsoon 2013



6.2 Roles & Responsibilities

6.2.1 District Administration:

- i. Formulation of District level contingency plans
- ii. Establishment of control rooms and dissemination of contact details
- iii. Arrangements for Quick dissemination of flood warning and establishment of Observation Posts (OPs) on the likely flood areas.
- iv. Activation of Civil defence staff and volunteers for rescue and relief operations
- v. Identification of flood disaster prone areas and threatening water channels
- vi. Earmarking evacuation arrangements routes, building and guidance etc
- vii. District level food stock (wheat) and NFIs quantities and locations
- viii. Coordination with humanitarian agencies i.e. INGOs, NGOs and UN agencies
- ix. Need and gap analysis of funds and stores.
- x. Formulation of comprehensive health response plans in coordination with EDO health.

- xi. Carry out necessary liaison with Pak Army, Frontier Constabulary and Scouts for initiation of rescue operations.
- xii. Tasking of police authorities in evacuation and keep law and order
- xiii. Identification and removal of encroached areas along with BOR staff and municipalities.
- xiv. Excavation work of threatening water channels
- xv. Maintenance of flood protection works in respective district with sand bags and locally available material.
- xvi. The training of human resource, especially for operating rescue boats
- xvii. Coordination and tasking of all relevant departments for putting in place requisite preparedness measures before the monsoons

6.2.2 Irrigation Department

- i. Establishment of Provincial and district level Flood Emergency Cells
- ii. Formulate and execute flood emergency response plan
- iii. Establishment of Flood/water Monitoring Network
- iv. 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
- v. Removal of encroached areas with the assistance of DCs, TMA and C&W
- vi. Necessary liaison with Pak Army, Frontier Constabulary and Scouts for initiation of flood fighting operations (DI Khan Only)

6.2.3 Communication and Works Department

- i. Establishment of Provincial Flood Emergency Cell
- ii. Formulate and execute flood emergency response plan
- iii. Identification of vulnerable infrastructure (buildings, roads and bridges)
- iv. Preposition available machinery/ plants at vulnerable areas
- v. Restore severed land communication
- vi. Liaison with local Army Authorities

6.2.4 Health Department

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

6.2.5 Food Department

- i. Keeping stock of wheat available as per the requirement at various places in the province
- ii. Ensuring availability of other food items in the disaster prone as well as disaster affected areas.
- iii. Arrangement of warehouse facility where required.

6.2.6 Information Department

- i. Establishment of a flood emergency control room/unit
- ii. Broadcast advance warnings to sensitize the public
- iii. Guide the public about the nearby safer places, routes and other precautionary measures
- iv. Publication of the flood-related reports on daily-basis in the local, regional and national newspapers
- v. Advocating for responsible reporting
- vi. Arrange press briefings/press conferences for any officer/official

6.2.7 Disaster Management Authority -PDMA

- i. Carry out flood preparedness coordination meetings with districts and provincial departments
- ii. Formulate provincial monsoon contingency plan
- iii. Carrying out response & relief operation.
- iv. Coordinating with early warning centres of Irrigation department, Meteorological department, Army, WAPDA etc.
- v. Heading Composite Team (comprising representatives of Lead Agency/Department and focal persons of support organizations) to coordinate response & relief operations
- vi. Establishment of Provincial Emergency Operation Centre
- vii. Arrangement of requisite funds and resources to make up the gaps in preparedness measures
- viii. 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
- ix. Coordination with Pak Army for initiating emergency response if required

6.2.8 Local Government & Rural Development Department

- i. Establishment of a provincial flood emergency control room/unit
- ii. Arrange potable drinking water and sanitation facilities for flood affected areas
- iii. Preparation of municipality-wise list/stock position of flood emergency response equipments and machineries
- iv. Removal of carcasses and debris after floods
- v. Contingency plans for immediate restoration of water supply, sanitation, cause ways, culverts, links roads, street lights and public latrines
- vi. Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls
- vii. Arrange for requisite Water and Sanitation in all the earmarked evacuation centres in coordination with education department

6.2.9 Municipalities:

- i. Chief Municipal Officers (CMO) to be declared focal person.
- ii. Removal of encroachments through close coordination with Revenue, Irrigation and other relevant departments
- iii. Keep close liaison and coordination with respective DC's and DDMU's round the clock during the emergency
- iv. C/MOs and their staff should be trained/sensitized by the respective DC's/ DDMU for monsoon emergency response and role and responsibilities
- v. Cleanliness of sewerage and nullah by the respective municipalities.

6.2.10 Public Health Engineering Department

- i. Establishment of a provincial flood emergency control room/unit
- ii. Arrange potable drinking water and sanitation facilities for affected areas
- iii. Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls
- iv. Arrange for requisite Water and Sanitation in all the earmarked evacuation centres in coordination with education department

6.2.11 Education (E&SE) Department

- i. Establishment of a provincial flood emergency control room/unit
- ii. Provide support to the District Admin for establishing evacuation centres in schools /colleges
- iii. Identification of all schools/ colleges earmarked for evacuation centres
- iv. Arrange continuation of education in flood affected areas
- v. Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls
- vi. Ensuring continuity of education in affected areas.

6.2.12 Agriculture Department

- i. Establishment of a provincial flood emergency control room/unit
- ii. Arrange for live stock fodder and vaccination cover of live stock
- iii. Arrange for provision of seeds and agriculture inputs after floods
- iv. Arrange for de-silting of channels and levelling of Agri- land
- v. Coordinate with humanitarian agencies i.e. INGOs, NGOs and UN agencies to make up the short falls

6.2.13 Home and Tribal Affairs Department

- i. Facilitate DCs 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 DCs before during and after floods/monsoon.
- ii. Facilitate the irrigation department flood monitoring / gauging persons in communication and transmitting of water flow and discharge information through Police Wireless Network, wherever wireless equipped police station or post exists in vicinity of irrigation department gauge.
- iii. Security arrangements for camps and evacuation centres.

6.2.14 Civil Defence:

- i. Establishment of Flood Emergency Control Cell in respective districts
- ii. Keeping the volunteers on alert
- iii. Performance of rescue operations
- iv. Assist in the performance of relief activities.

6.2.15 Emergency Service Rescue 1122

- i. Establishment of Flood Emergency Control Cell in respective districts (Peshawar & Mardan)
- ii. Performance of rescue operations

6.2.16 Provincial Police

- i. Maintain law and order situation in the districts and assist district administration for an orderly evacuation if such situation arise
- ii. Facilitate DCs through Police Wireless network in case of communication failure of other networks.
- iii. 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 (Regional Office Peshawar):

- i. Establishment of Flood Emergency Control Cell
- ii. Provide reliable and in time weather forecasts for Khyber Pakhtunkhwa and its catchment areas
- iii. Coordinate, liaison and exchange (credible and comprehensible) information with Irrigation Dept and PDMA for early warning as agreed

6.2.18 Environment Forest Department:

- i. Undertake assessment of vulnerabilities of the natural resources
- ii. Minimize the cutting of trees before and during monsoons
- iii. Arrange for removal the logs from Nullah and stock them at safe places.

6.2.19 Social Welfare Department:

- i. Formulate Flood Contingency and Response Plans, catering for the needs of women, children and other socially vulnerable groups:
- ii. Keep the flood response stocks available and carry out need and gap analysis
- iii. 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

- i. 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.
- ii. The HRT consolidates the cluster Flood Contingency and Response Plans with PDMA.
- iii. Through the forum of the GCM the consolidated Flood Contingency and Response Plans is shared with PDMA KP.
- iv. 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 enumerators will be assured.
- v. At the GCM PDMA KP coordinates 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.
- vi. The humanitarian community will report progress on a regular basis using the 4Ws monitoring tool.

6.2.21 Pakistan Army (HQ 11 CORPS)

- i. Establish flood Coordination Centres as per Army's Plan
- ii. Assist provincial government in search & rescue and response operations when called in aid of civil administration
- iii. Coordinate 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 DCs assisted by the District Disaster Management Officers will spearhead response. The district governments have to ensure performance of the following functions:

- District level contingency plans have been made and notified.
- District level control rooms will be operational (24 hours) from 15th June 2013 till 15 September 2013. 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 appended)
- 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.
- DCs 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
- DCs along with district health have formulated comprehensive health response plans.
- DCs 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 DCs 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 Army Response Measures

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 Khawaspur, Nowshera and D.I. Khan. The assets provided by PDMA and available at regional Hubs are

Army Water Rescue Assets Available- Provided by PDMA

[illegible]

Machinery available with Army

Equipments	Peshawar	Kohat	Swat	D.I.Khan	Akora	Risalpur	Total
Dozers	3	2	6	1	2	8	22
Fe loaders	1	1	1	-	-	-	3
Motor Graders	4	1	3	3	-	3	14
Excavators	-	-	1	-	-	1	2
Cranes	3	1	1	-	2	-	7

Army has arranged trainings for Civil Defense and Rescue 1122 staff in operating rescue boats. Two boat operator courses were arranged in Akora Khattak :

- May 2013 (10 x Army & 9 x Rescue 1122)
- May-June 2013 (45x Army , 7 Rescue 1122 & 7 x Civil Defence)

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 2013. 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.

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 DCs, MA 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 Restoration Directorate	Member
- Member IRSA	Member
- Chief Engineer, Irrigation department	Member
- Technical Representative of Commissioner DI Khan	Member
- Technical Representative of 174 Engr Battalion, Army	Member
- Superintending Engineer Irrigation DI Khan	Member

Challenges:

- 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. 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.

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 2013. The contact details are appended as annexure.
- 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.
- **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 DCs 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 2013 monsoon.
- **Challenges:**
 - The reduced presence of NGOs and INGOs in districts is adversely affecting the outreach of health facilities and in case of 2013 flood emergency the department will not be able to perform as in 2010 floods.
 - The potential of 2013 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 2013 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-affecteds 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 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 Secretary, 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 2013 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: PDMAHQ
 - 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

- 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 DC 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 DC 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 comprehensible and impending threat related
- In addition, the DCs 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 DCs. The DCs are directed to utilize the funds to make up any deficiency in preparedness measures for 2013 monsoons.
- 101 boats 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 2013 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.

6.4 Red Crescent Presence in Khyber Pakhtunkhwa

Pakistan Red Crescent Society in working in following 11 districts of Khyber Pakhtunkhwa.

Mansehra	Battagram	Kohistan	Shangla	Chitral	Hangu	Bannu	D.I. Khan	Dir	Swat	Haripur
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Stock Position-Pakistan Red Crescent Society

S #	Items	PHQ	Joint PRCS/GR C DRR Besham Warehou	Mansehra	Battagram	Shangla	Chitral	D.I. Khan	Swat	Total
1.	Tents	399	500	200	200	48	300	0	200	1847
2.	Balankets	3877	2500	1400	1400	320	2430	380	1400	13701
3.	Tarps	3286	1000	400	400	70	600	0	400	6156
4.	Jerry Cans	509	1000	400	400	144	334	90	400	3277
5.	Stoves	470	5000	200	200	0	300	0	200	1870
6.	Hurricane Lamp	1500	0	200	200	0	0	0	200	2100
7.	Kitchen set	80	500	200	200	48	300	0	200	1528
8.	Hygiene Kit	447	500	0	200	48	300	0	200	1895
9.	Kit Buckets	116	0	0	0	40	0	0	0	156
10.	Tub Basin	198	0	0	0	0	0	89	0	287
11.	Collapsible	2135	0	0	0	0	0	360	0	2495
12.	Mosquito Nets	1000	0	0	200	100	600	0	200	2100
13.	Shelter Toolkit	0	0	200	200	0	0	0	200	400
14.	Sleeping Bags	0	0	200	0	0	0	0	0	400
15.	Quilts	0	0	400	0	0	0	0	0	400
	Total	14017	6500	400	3600	818	5164	919	3600	38618

Annexures



Annexure 1

Pakistan Meteorology Department Seasonal forecast



PMD

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

No. Col(Isb)-2(4)SO.2013/
Government of Pakistan
Ministry of Defence (Defence Division)
Pakistan Meteorological Department
Headquarters Office
Sector H-8/2
Islamabad - 44000
Website: www.pmd.gov.pk
Email: PakMet_Islamabad@yahoo.com

Dated: 14th June, 2013

Normal Monsoon Rains Predicated during July-September 2013

In consideration of the meteorological condition prevailing over Pakistan and various parts of the globe, the seasonal outlook for Pakistan Monsoon Rainfall for the period July to September 2013 is given below”

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

Main features of seasonal outlook are as under:

- Onset of monsoon is likely to be the week of June, 2013 and the rainfall during July will be below normal.
- Rainfall will increase gradually during August over central parts of the country. However, during last phase of the monsoonal rainfall (September), more than normal rainfall will occur over plain monsoonal areas of Punjab and Sindh.
- Rainfall activity would mainly concentrate over central and south parts of country. Therefore, effective water Management practices may be adopted to fill the main reservoirs at optimum level.
- Flash floodind over foot hills of Suleiman Ranges can not beignored during the month of September, 2013
- Maximum day temperature will be slightly on higher side during summer season through out the country

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

(ARIF MAHMOOD)
Director General, PMD

Annexure 2

Major Losses of Flood 2010

District	HHs Affected	Died	Relief Case load	Pop Isolated	Villages Affected	House 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
Charsadda	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 approx	
D.I.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	5.50	150
Total	546,003	1068	9,12,999	6,60,000	544	1,91,215	5,07,423

Annexure 3 Important Contacts

Provincial Emergency Operator Center–PDMA

Telephone Numbers PE OC PDMA	Fax Number PEOC PDMA
<ul style="list-style-type: none"> ➤ 091- 9213845 ➤ 091-5274625 ➤ 091-5274339 ➤ 091-9213959 	<ul style="list-style-type: none"> ➤ 091- 9212059

Important Contact Details- PDMA

S#	Name	Designation	Contact#	E-mail Address
1	Mr. Muhammad Khalid	Director HR/ Admn	9213890 / 0345-9373333	director.hr@pdma.gov.pk
2	Mrs. Ammara Amir Khatak	Director (Relief, Operation & Coordination)	9211805/ 0343-3992010	Director.operations@pdma.gov.pk
3	Mr. Muhammad Masood	Deputy Director (Trng & Awareness)	5273343/ 03239296726	masood@pdma.gov.pk
4	Mr. Parvaiz	Deputy Director Relief	0333-9118803	ddr@pdma.gov.pk
5	Engr. Shah Nasir Khan	Provincial Housing & DRR Advisor	9213250 / 0345-5000772	shah.nasir@pdma.gov.pk
6	Mr. Tashfeen Zaman Afridi	Assistant Director (Warehouse)	0333 -9264866	Tashfeenafri11@gmail.com
7	Mr. Nadeem Khan	Assistant Director (IT)	0301 -2428454	nadeem@pdma.gov.pk
8	Mr. Abdullah Shah	Assistant Director (Relief)	9213867/ 3339338074	abdullahpmc@gmail.com
9	Mr. Zia ur Rehman	Assistant Director (Operation & Coordinations)	03459800895	ad-operation@pdma.gov.pk
10	Mr. Abdul Basit	Assistant Director (DRM)	03005732224	ad.drm@pdma.gov.pk
11	Mr. Shakeel Iqbal	Project Manager	9211828/0322-9053054	shakeeliqbal@pdma.gov.pk
12	Mr. Kamran Khan	Administrator PaRRSA	9213488 / 0333-9665156	kamran@pdma.gov.pk
13	Mr. Syed Asmat Shah	Assistant Director (admin)	9212060/ 03459201581	n.banoorri2011@yahoo.com
14	Mr. Ishfaq Ahmad	Database Specialist	9214095/ 03219010438	ashfaq@pdma.gov.pk

15	Mr. Tahir kamran	Chief Infrastructure	9213867 /0333-9152288	Tahirkamran70@yahoo.com
16	Mr. Waseem Kundi	Planning Officer	5274340/0321-9026448	waseemkundi@gmail.com
17	Mr. Abdur Rashid	Communication Information & Officer	0300-9595049	rasheed@pdma.gov.pk

COMMISSIONERS

S#	Division	Name of Commissioner	Office Number	Fax Number
1	Malakand	Dr.Fakhar e Alam	0946 -9240225 0946 -9240185	0946 -9240229 0946 -9240223
2	Hazara	Khalid Khan Umarzai	0992 -9310111	0992 -9310467
3	Mardan	Mr. Kifayatullah	0937-9230572	0937 -9230578
4	Peshawar	Sahib zada Muhammad Anis	091 -9211337	091 -9214085
5	Kohat	Syed Jamaluddin Shah	0922 -9260002	0922 -9260105
6	Bannu	Syed Amirudin Shah	0928 -9270044	0928 -9270041
7	DIKhan	M. Mushtaq jaddun	0966 -9280351	0966 -9280352

DEPUTY COMMISSIONERS

S#	District	Name of DC	Office Number	Fax Number	Cell Number
1	Abbottabad	Flt. Lt. © Kamran Rehman Khan	0992 -9310201-24	0992-9310202	0336-3363300
2	Bannu	Mr. Muhammad Ayaz	0928 -9270032	0928-9270079	
3	Battagram	Capt. © Mian Adil Iqbal	0997 - 310030/310136	0997 -310051	0342-5999100
4	Buner	Mr. Mushtaq Ahmad	0939 -510450	0939-510427	03469473344
5	Charsadda	Capt.© Tahir Zafar Abbasi	091 -9220021	091-9220026	0334-8514188
6	Chitral	Mr. M. Shoaib Khan Jadoon	0943 -412055	0943-412421	0322-4020002
7	D.I.Khan	Mr. Waqas Ali	0966 -9280116	0966-9280110	
8	Dir Lower	Mr. Muhammad Zubair	0945 -9250003	0945-9250001	03369479799/ 03449293794
9	Dir Upper	Mr. Muhammad Abid	0944 -880394	0944-881130	0300-9597523
10	Hangu	Mr. Said Ahmad	0925 -621175	0925-620050	0345-9772222
11	Haripur	Mr. Nisar Ahmad	0995 -613389	0995-615412	0345-4744721
12	Karak	Mr. Aqal Badshah	0927 -210825	0927-210925	0312-9624287
13	Kohat	Mr. Sadat Hassan	0922 -9260268	0922-9260031	0333-5585201
14	Kohistan	Syed Muhammad Shah	0998 -407002	0998-407001	0300-5720798
15	Lakki Marwat	Syed Mujeeb-ur-Rehman	0969 -538330-1	0969-538333	0300-9029242
16	Malakand	Mr. Amjid Ali Khan	0932 - 411482/411880	0932 -413199	0345-9112112
17	Manshera	Mr. Zulfiqar Ali Shah	0997 -304148	0997-305513	0345-6661111
18	Mardan	Mr. Amir Latif	0937 -9230047-48	0937-9230303	0301-8085985
19	Nowshera	Syed Mubashir Hussain Shah	0923 -9220098	0923-9220159	0300-5976909

20	Peshawar	Syed Zaheer-ul-Islam Shah	091-9212302	091-9212303	0300-9393989
21	Shangla	Mr. Zafar-ul-Islam	0996-850005	0996-850002	0343-9993999
22	Swabi	Capt. @ Kamran Ahmad Afridi	0938-221300	0938-221917	0333-9189606
23	Swat	Syed Imtiaz Hussain Shah	0946-9240340	0946-9240329	0321-9111123
24	Tank	Mr. Muhammad Ali Shah	0963-511326	0963-510300	0345-9820345
25	Tor ghar	Mr. Fazal -ur-Rehman	0997-239879	0997-322029	0300-5908162

DISTRICT DISASTER MANAGEMENT OFFICERS

Name	Designation	District	Mobile Phone	PTCL	Office Fax
Mr. Jan Alam	DDMO	Dir Upper	0333-9484004	0944-880278	0944-881130
Mr. Taimoor Khan Afridi	DDMO	Charsadda	0333-9100707	091-6513953	091-9220026
Nawab Khan	DDMO	NOWSHERA	0321-9084763	0923-9220234	0923-9220159
Mr. Haya-Ud-Din	DDMO	SHANGLA	0345-6500122	0996-850210/0996-851163/0996-850793	0996-8500066
Pirzada Noor Muhammad Shah	DDMO	Swat	0346-7002072	0996-850212	0946-9240329
Sadaqat	DDMO	TANK	0345-9889092	0963-510835	0963-510300
Mr. Abdul Mateen	DDMO	D I Khan	0334-9166508	0966-9280179/0966-9280541	0966-9280110
Mr. Ali Raza	DDMO	Kohistan	0313-5803416		0998-407001
Mr. Muhammad Rasool Shah	DDMO	Dir Lower	0346-4910734	0945-9250032/0945-9250002	0945-9250001
Mr. Sheryar Arif Khan	DDMO	Peshawar	0333-3374756	5243345/9211559	091-9212303, 091-9214025
Mr. Yasir Qayyum	DDMO	Lakki Marwat	0334-9009055	0969-350955	
Mr. Shakeel Ahmad	DDMO	Bannu	0345-9855407	0928-9270157	0928-9270079
Mr. Javed Iqbal		Battagram	0334-5343856	0997-312189	
Mr. Muhammad Arshid	DDMO	Mansehra	0315-3727272	0997-304314	
Mr. Amjad Meraj	DDMO	Kohat	0334-8261988	0922-9260011	
Mr. Ehsan-Ur-Rehman	DDMO	Buner	0302-4188823		
Mr. Kashif Qayum Khan	DDMO	Chitral		0943-413686, 0943-412519	0334-9009056
Mr. Muhammad Ishaq	DDMO	Karak	0332-9757607	0927-211661	0927-210825
Mr. Tariq Mehmood	DDMO	Haripur	0313-5906652	0995-613398	0995-615412
Mr. Jamal U Din	DDMO	Malakand	0345-9687099		
Syed Mubarak Shah	DDMO	Abbotabad		0992-9310372	
Mr. Asghar Ali	DDMO	Sawabi	0334-9100454	0938-224345	
Mr. Azizullah Jan	DDMO	Tor Ghar	0302-8108228	0997-214762/0997-322529	
Mr. Rashid Khan	DDMO	Mardan	0315-5598656	0937-9230469	0937-9230303
Hafiz Attaul Munim	DDMO	Hangu	0346-9502684	0925-622624	0925-623782

COMMUNICATION & WORK DEPARTMENT

Provincial Flood Emergency Cell (Focal Person)

S#	Name	Designation	Office Number	Cell Number	E-Mail
1	Engr. Zard Ali Khan	Chief Engineer (CDO)	091-9213423	0333-5060663	
2	Engr. Shakir Habib	Dir. P&M - C&W Deptt:	091-9010373	0333-9139292	Shabib98@gmail.com
3	Engr. Muhammad Shoaib	SOR	091 -9210850		Engrshoaib85@gmail.com

RE SCUE 1122

S#	District	Name	Office Number	Fax Number	Cell Number
1	Peshawar	Javed Ahmad (Director)	091-2264224	091-2264223	0333-9251328
2	Peshawar	S. Aruj Abbas (PRO)	091-2264223		0333-9978988

ARMY

S#	Name	Designation	Office Number	Fax Number	Cell Number
1	Col. Shoaib Raza Mallick	Deputy comd			0334-2372533
2	Lt. Col. Qasim Anwar Khan	GSO -I			0323-4002323
3	Major. Ajmal Khan	GSO -II			0334-8398949

Nominated persons for all 25 districts is under:

S#	District	Name	Designation	Office Number	Cell Number
1	Abbottabad	Engr. Rafiuddin	XEN C&W Division Abbottabad	0992-9310242	0333-5039210
2	Bannu	Engr. Bahadar Said	XEN High way Division	0928-9270360	0345-9175599
3	Battagram	Engr. Rafaqat Shah	XEN C&W Division Battagram	0997-310004	0346-9589203
4	Buner	Engr. Imran Hussain	XEN C &W Division Buner	0939-510328	0300-5731517
5	Charsadda	Engr. Muhammad Riaz Bacha	XEN C&W Division Charsadda	091-9220092	0312-9893489 0301-8928735
6	Chitral	Engr. Najmul Islam	C&W Division Chitral	0943-413400	0334-9609995
7	DI Khan	Engr. M. Tariq	XEN C&W Division DI Khan	0966-9280558	0300-9090579 0341-9868305
8	Dir Lower	Engr. Kifayat-Ullah	XEN C&W Division Dir Lower	0945-9250019	0333-9123442
9	Dir Upper	Engr. Naveed Iqbal	XEN C&W Division Dir Upper	0944-880836	0332-9471021

10	Hangu	Engr. M. Riaz	XEN C&W Division Hangu	0925-621509	0332-2882828
11	Haripur	Engr. Yousaf Shah	XEN C&W Division Haripur	0995-611836	0300-8112728
12	Karak	Engr. Riaz Arshad	XEN C&W Division Karak	0927-210783	0333-9163352
13	Kohat	Engr. Jamshed	XEN C&W Division kohat	0922-9260227	03009725000
14	Kohistan	Engr. Tassaduq	XEN C&W Division Kohistan	0998-407107	0343-9226187
15	Lakki	Engr. Mushtaq Masood	XEN C&W Division lakki	0969-538255	03339554422
16	Malakand	Engr. Jamil khan	XEN C&W Division Malakand	0932-412486	0345-9314447
17	Mansehra	Engr. M. Tariq	XEN C&W Division Mansehra	0979-920190	0300-9027095
18	Mardan	Engr. Shahab Khattak	XEN High way Division Mar dan	0937-9230038	0300-9597067
19	Nowshera	Engr. Sajid	XEN C&W Division Nowshera	0923-9220154	0342-9638774
20	Peshawar	Engr. Riaz-Ullah	XEN high way Division Peshawar	091-9211371	0345-9064466
21	Shangla	Engr. Fazl-e-Wahab	XEN C&W Division Shangla	0996-850736	0345-9527733
22	Swabi	Engr. Aziz Ahmad Khattak	XEN C&W Division Swabi	0938-221337	0300-5689900
23	Swat	Engr. M. Asif Imran	XEN high way Division Swat	0946-9240454	0345-9002666
24	Tank	Engr. Hamidullah	XEN C&W Division Tank	0963-510190	0345-9207077
25	Torghar	Engr. Hamidullah Khalil	XEN C&W Division Torghar	0997-440211	0300-5631009

IRRIGATION DEPARTMENT, PE SHAWAR

Provincial focal person:

S#	Name	Designa tion	Office	Fax Number	Mobile Number
1	Mr. Kamal Jehanger	Chief Engineer (South) Incharge Area from Peshawar to D I Khan.	091-9212116		0333 - 5985375
2	Mr. Raiz Ahmad	Chie f Engineer (North) Incharge from Mardan to Chitral.	091-9212123		0333- 9118826
3	Engr. Sher Aman	XEN: Flood Irrigation Department, Peshawar.			0344- 9108166
4	Engr. Inayat-Ullah Wazir	XEN: hydrology Irrigation Division Peshawar	091-9212114/ 0345-9220897		0345- 9220897

District focal persons:

S#	District	Name	Designation	Contact Number(s)	Address
1	Peshawar	Engr.sardar Zafar	XEN: Mechanical Irrigation Division Peshawar	091-9212120	Warsak Road Kababyan Peshawar
2	Mardan	Engr. Sabir Khan	SDO Mardan Irrigation Division	0333-9276745	Mardan Irrigation Division
3	D.I.Khan	Engr. Muhammad Akhtar Jan	SDO Mechanical Irrigation Sub Division DIKhan	0334 -7217750	SDO Mechanical Irrigation Sub Division DIKhan

PAKHTUNKHWA HIGHWAYS AUTHORITY, PESHAWAR

S#	Provincial	Name	Designation	Contact Number (s)	Address
1	Provincial	Engr. Barkat-Ullah	Deputy Director (Head Quarter)	091-9213522	(H/Q) Pakhtunkhwa Highway Authority Peshawar
2		Engr. Uzair Khan	Dir. Constn, PKHA	091 -9210963	0300-5923233
3	Peshawar	Control Room		091-9213522/091-9210434	

NATIONAL HIGHWAYS AUTHORITY, KHYBER PAKHTUNKHWA REGION

S#	Provincial	Name of Focal Persons	Designation	Route	Telephone Numbers
1	KPK region	Ashfaq Ahmad Khan	Director (Maint) KPK	Regional office	091-9218015(off) 0333-9961398
2	(Maint) Peshawar	Wajahat Hussain	Dy.Director (Maint) Peshawar	N-5, N-55, N-80	091-9217211 0300-5525567
3	(Maint) Karak	Umer Hayat	Peshawar	N-55, (IHP & OBR)	0927 -210200(O) 091-5816951(R) 03339015200 03139129977
4	(Maint) D.I. Khan	Najeeb Ullah	Dy.Director (Maint) D.I. Khan	N-55	0966-747314(O) 0966-712015(R) 03219015466
5	(Maint) Batkhela	Gohar Ali	Dy.Director (Maint) Batkhela	N-45	0923-414878(O) 091-9214145 03339353535 03005926037
6	(Maint) Swat	Muhammad Ashfaq	Dy.Director (Maint) Swat	N-90, N-95	0946-818046(O) 034559231157(R) 03459 211001 03065792969

PAKISTAN METEOROLOGICAL DEPARTMENT

S#	Name	Designation & Address	Contact Number(s)	Fax	E-Mail Address
1	Syed Mustaiq Ali Shah	Director	0333-5041282 091 - 9210190,091- 9212080	9210223	
2	Mr. Muhammad Riaz	Chief Meteorological, Flood Forecasting Division (FFD), Pakistan Meteorological Department, 46 Jail Road Lahore.	042 - 99200208/ 0300-8026286	042 - 99200209	Riaz1962@hotmail.com
3	Dr. Muhammad Hanif	Director National Weather Forecasting Center (NWFC), Pakistan Meteorological Department Sector H/8-2, Islamabad.	051-9250595/ 0334-5635796	051 - 9250370	hanifwxc@hotmail.com

FEDERAL FLOOD COMMISSION

S#	Name	Designation	Contact Number	Fax	E-Mail Address
1	Mr. Alamgir Khan	Chief Engineer (Floods)	051 - 9244613(Office) / 0300-5123977	051-9244621	Alamgir1962@hotmail.com

ELEMENTARY & SECONDARY EDUCATION DEPARTMENT

S#	Name	Designation	Contact Number	Fax	E-Mail Address
1	Mr. Jamal-Uddin	Chief Planning Officer	091-9210037	-	-
2	Mr. Tufail Muhammad	Deputy Secretary (Legal)	091-9212949	-	-

CIVIL DEFENCE DIRECTORATE

S #	District	Official Name	Designa tion	Contact Number	Mobile No.
1	Civil Defence Directorate	Mr. Javed Ahmad	Director	091-2263158, 091-2584815	0333-9251328
2	Civil Defence Directorate	Mr. Maraj Muhammad	PS to Director	091-2263158	0334-9045010
3	Civil Defence Directorate	Mr. Shamsheer Ali	Deputy Director	091-2263158, 091-2584815	0333-9012395
4	Peshawar	Mr.Hidayatullah	Civil Defence Officer	091-9212176	
5	Mardan	Mr.Waheed-ul-Haq	-do-	0937-9230263	
6	Kohat	Mr.Muhammad Ajmal	-do-	0922-9260044	
7	D.I.Khan	Mr.Imdad Hassan	-do-	0966-9280282	
8	Swat	Mr.Gul Badshah	-do-	0946-9240328	
9	Abbotabad	Mr.Ghulam Sarwar	-do-	0992-9310214	
10	Malakand	Mr.Saeed Ullah	-do-	0932-411031	
11	Upper Dir	Mr.Shamsheer Wali	-do-	0944-881200	
12	Batagram	Mr.Noor Alam	-do-	0997-310090	
13	Charsadda	Mr.Muhammad Ali Shah	-do-	0307-7119100	
14	Nowshera	Mr.Zahir Shah	Instructor Incharge	0923-923055	
15	Bannu	Mr.Akram Khan	-do-	0928-9270190	
16	Hangu	Mr.Amanullah Shah	-do-	0925-511337, 0925-622621	
17	Mansehra	Mr.Aftab Ahmad	-do-	0343-9521970	
18	Lower Dir	Mr.Shah Qadam	-do-	0945-9250140	
19	Chitral	Mr.Muhammad Wazir	-do-	0943-412088	

LOCAL GOVERNMENT & RURAL DEVELOPMENT

S#	District	Commit tee	Name of CMO	Contact Number	Mobile No.
1	Peshawar	Mpl: Corporation	Muhammad Saleem	091-9210327	0321-9000253
		M.C.U Town	Mian Anees Ur Rehman	091-9216225	0321-9011736
2	Abbottabad	Abbottabad	Asmatullah	0992-9310373	0321-9670111
		Havelian	Sajid Khan	0992-810825	0300-5633900
3	Buner	Sowari	Vacant	0939-555664	
		Totalai	Tahir		
4	Charsadda	Charsadda	Bakhtiar Khalil	091-9220044	0300-5865512
		Tangi	Sarir khan	091-6555206	0300-5712296 0336-5712296
		Shabqadar	Tariq Khattak	091-6281002	0300-5992107
5	D.I.Khan	D.I.Khan	Munir Akhtar	0966-9280174	0333-9963515
		Kulachi	Ismail	0966-760312	0332-6566759
		Paharpur	Ayub Khan	0966-775312	0300-5765735
		Parova	Ihsanullah	0966-754282	0302-8093613/ 0346-9875752
6	Dir Lower	Timergara	Arshad Ali Zubair	0945-9250115	0300-5659090
		Adenzai	Iqbal Hassan		0344-9782866
		Samarbagh	Samiullah	0945-850003	0302-8054855
7	Dir Upper	Dir	Vacant	0944-880119	0300-9023778
		Wari	Muhammad Naeem	0944-41254	0315-9465363
8	Haripur	Haripur	Sarfaraz	0995-612166	0333-9333335
		Ghazi	Mansoor Haider	0995-661200	0300-5790903
9	Kohat	Kohat	Muhammad Shoaib	0922-9260038	0333-9618735/ 0345-9237050
		Lachi	Muhammad Ami	0922-550027	0333-9640775

10	Malakand	Batkela	Fakhrul Islam	0932-413673	0321-9188651
		Dargai	Hamid Islam	0932 - 331670/331160	0333-9848182
11	Mansehra	Mansehra	Yasir Jamshid	0997 -920071	0300-8553376
		Baffa	Vacant		0345-9610039/ 0321-9069109
		Balakot	Arif Baloach	0997 -360631	0300-5677393
		Oghi	Vacant		
12	Nowshera	Nowshera	Aqil Khan	0923-9220200	0300-5717112
		A/Khattak	S.Farman Ali Shah	0923 --630017	0301-8852005
		Jehangira	Jehangir		
		Pabbi	Waheedur Rehman		0300-9330855
13	Swabi	Swabi	Sajjad Haider	0938-222285	0300-5958563
		Topi	Asar Khan		0300-9309025
		Razzar	Yasir Muhammad		0321-5137313
		Zaida	Amir Badhsha		0314-9879107
		Tor Dher	Asadullah		0314-9731116
14	Swat	Mingora	Nisar Khan	0946-9240150/51	0333-9471650
		Matta	Muhammad Afzal	0946-792202	0345-9417779
		Barikot	Fazl-e- Rabi	0946 -752010	0300-5743530
		Kabal	Irfan Khan		0333-9491422
		KhwazaKhela	Barkatullah Durani		0334-5032002
		Bahrain	Vacant		
15	Bannu	Bannu	Raufullah	0928-9270188- 135-134	0301-8088015
16	Mardan	Mardan	Muhammad Sardar	0937-9230104- 260	0300-9113919
		Takhtbhai	Vacant	0937-553839	0343-9149990

17	Battagram	Battagram	Ghulam Yousaf	0997-310176	0301-7555235
18	Kohistan	Dassu	Vacant		0307-5550061
19	Karak	Karak	Gul Naip Khan		0345-9641330
		B.D.Shah	Zahid Ullah	0927-333174	0331-9111010
		T.Nusrati	Abdul Waheed	0927-250593/596	0301-8756322/ 0313-8756322
20	Hangu	Hangu	Akhtar Munir	0925-621530	0345-3060713
		Thall	Muhammad Ishtiaq		
		Doaba	Naveed Asghar		
21	Chitral	Chitral	Muhammad Zahir	0943-413500	0302-5253125
		Mastuj	Vacant		
22	Lakki Marwat	Lakki Marwat	Almar Khan	0969-511580	0333-9988924/ 0346-9245670
		Serai Naurang	Salim Khan	0969-352090	0300-5902706
23	Tank	Tank	Hamidullah		0312-9849364
24	Shangla	Alpuri	Bakhtiar Zada	0996-850672	
25	Tor Ghar	Judbah	Shah Muhammad (Dual Charge)		

Directorate General (Extension, Live stock and Dairy Development Department)

S#	Name	Designa tion	Cell No.	Fax Number
1	Dr. Malaik Ayaz Wazir (Incharge)	Director Animal health and Production	0300-5932440	
2	Dr. Shafqat Ali (Member)	Director Headquarters	0336--9696989	
3	Dr. Fawad Ahmad (Member)	Veterinary Officer (Health)	0313-9795931	
4	Dr. Muhammad Zafar	Veterinary Officer (Health)	0333-9393647	
5	Miss Hira Iqbal	Computer Operator		
6	Head Office	Director General	921-9210276 /9210249	
7	Flood Relief Cell		091-9213679	091-9240285

Details of Flood Fighting Machinery with Mechanical Irrigation Department

S#	Name of Machine	Quan tity	Location		
			Peshawar	D.I.Khan	Mardan
1	F/E Loader Large Size	4	2	1	1
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 H-225 Long Boom	2	2		
6	Loader Backhoe	5	2	1	2
7	Excavator Medium Size	1	1		
8	Heavy Duty Trailer (35-45 Tons)	1	1		
9	Dump Truck	3		3	
10	Heavy Duty Trailer (35-45 Tons)	1	1		
11	Light Duty Trailer	2	2		
12	Flood Light Unit		1		

COMMUNICATION & WORKS DEPARTMENT

Machinery Details:-

Dis tricts	Machinery	Remarks
Mardan	No Machinery	Mobilized on rental basis from contractor in case of emergency
Swabi	Rollers	Requirement: excavators, tractors with trolly, concrete cutter machine, dewatering pumps.
Buner	China Aided Machinery	Standing idle due to non availability of drivers, operators, cleaners and technical staff
Swat	1 Bulldozer, 3 Dumpers, 3 Shahzore Rollers, 1 Dynapac Roller	Dumpers are out of order and needs immediate repairs
Malakand	Motor Grader, Paydozer, Bulldozer, Hydraulic Dumper, Excavator, Powerful Tractor	
Shangla	2 Paydozer, 2 Chain Dozers, 1 Excavators (China Aided)	Dozers and excavators are in custody of pak army
Dir Lower	2 Bulldozers, 2 Excavators, 1 Crane/Truck	Bulldozers and 1 excavators are with pak army
Dir Upper	2 Chain Dozers, 1 Excavator (China Aided)	With pak army requirement: 3 dozers
Chitral	2 Chain Dozers, 1 Excavator (China Aided)	

CONTROL ROOMS

PESHAWAR FLOOD EMERGENCY CENTER-IRRIGATION DEPARTMENT HYDROLOGY DIVISION

Name	Designa tion	District	Cell #	Phone #	Fax #
Engr. Inayat Ullah	Executive Engineer Hydrology Division	Peshawar	0345 9220897	091-9212114, (fax 9211907)	
Sohail Khan	SDO, Hydrology (Liaison)		0332 9999191	091-9211907	
Munir Ud Din	Draftsman/SUPERVISOR		0321 9018977		
Engr. Syed Mujahid Saeed	Superintendent Engineer H/Q South	Peshawar	0333 9101017	091-9212174	
Sheraman	XEN		0344 9108166		
Ilyas	Gauge Reader Attock	Nowshera	03018861480		
M. Saeed	Gauge Reader Sub Engineer Kabul River	Nowshera	03015974859		
Kamal Jehangir	Chief Engineer South (Peshawar to D I Khan)		0300 5985375	921211 6	

PESHAWAR EMERGENCY CONTROL ROOM-C&W Department

Name	Designa tion	District	Cell #	Phon e #	Fax #
Engr. Shaukat Shah	Chief Engineer, CDO			091 -9211225/ 9210852	0919223437
Mr. Asif Iqbal	Chief Engineer, Focal Person		0333 9505906	091-9211225/ 9210852	

Peshawar Emergency Control Room KP High Ways Authority

Name	Designa tion	District	Cell #	Pho ne #	Fax #
Engr. Muhammad Ijaz	MD-PKHA	Peshawar	0300-5853788	091-9210557	091-9213154
Engr. Javed Ihsan	DIR CONS TN -KPHA	Peshawar	0304-9035674	091-9213272	
Engr. Farman Ali	DIR MAINT -KPHA	Peshawar	0300-5744996	091-9210963	
Engr. Bakht Rawan	DD North	Peshawar	0342-9222007	0946 -9240118	
Engr. Muhammad Uzair	DD-Center	Peshawar	0300-5923233	091-9210444	

Peshawar Flood Control Room in Office of Commissioner Peshawar Division

Name	Designa tion	District	Cell #	Phone #	Fax #
Atta-ur-Rehman	ACP	Peshawar	0333-9611133	091-9211334, 091-9213889, 091-9211337	
Shama Niamat	ACR	Peshawar	-	919214045	

Peshawar Flood Information & Monitoring Cell in office of Managing Director of KPK High ways Authority

Name	Designa tion	District	Cell #	Phone #	Fax #
Engr.Farman Ali	Director Maintenance	Peshawar	3005744996	091-9210963	
Naveed Iqbal	Deputy Director HQs	Peshawar	3329471021	091-9213522	
Abdul Hammad Marwat	Administrative Office	Peshawar	3439058082	091-9210964	

Mr. Raiz Ahmad	Chief Engineer North (Mardan to Chitral)		0333 9118826	091 -9212123	
Khitab Gul	Gauge Reader Attock (Kabul River)	Nowshera	03009045880		
Engr.sardar Zafar	XEN: Mechanical Irrigation Division Peshawar			091 -9212120	
Engr. Sabir Khan	SDO Mardan	Mardan	0333 9276745		
Engr. Muhammad Akhtar Jan	SDO Mechanical	D I Khan	0333 7217750		
Engr.Inayat Ullah	Executive Engineer Hydrology Division	Peshawar			
Sohail Khan	SDO , Hydrology(Liaison)				
Munir Ud Din	Draftsman/SUPER VISOR				
Engr. Syed Mujahid Saeed	Superintendent Engineer H/Q South	Peshawar			
Sheraman	XEN				
Ilyas	Gauge Reader Attock	Nowshera			
M.Saeed	Gauge Reader Sub Engineer Kabul River	Nowshera			
Kamal Jehangir	Chief Engineer South (Peshawar to D I Khan)				
Mr. Raiz Ahmad	Chief Engineer North (Mardan to Chitral)				
Khitab Gul	Gauge Reader Attock (Kabul River)	Nowshera			
Engr.sardar Zafar	XEN: Mechanical Irrigation Division Peshawar				

DC PESHAWAR CONTROL ROOM

Phone #	091 -9211338
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PESHAWAR FLOOD CONTROL ROOM, PAKISTAN METEOROLOGICAL DEPARTMENT

Name	Designation	District	Cell #	Phone #	Fax #
Syed Mushtaq Ali Shah	Director	Peshawar	03335041282	091 - 9210190,091-9212080	091 9210223
Mr.Alam Zeb	Deputy Director	Peshawar	03005683101	091 -9214068, 091 -9211338	
Mr.Imtiaz Ahmad	Meteorologist	Peshawar	03349201851	091 -9212410	
Mr.Irfan	Asst. Meteorologist	Peshawar	03339400248	091 -9212410	

RESCUE 1122

Name	Designation	District	Cell #	Phone #	Fax #
Rescue 1122 Peshawar Headoffice				091 - 2264223/2264224/2264225	
Control Room Haji Camp adda				091 -2584922(Phone+Fax)	

DISTRICT NOWSHERA

Name	Designation	District	Cell #	Phone #	Fax #
Flood Control Room Nowshera				0923-9220099	
Army Control Room Nowshera				0923-610225	

Mardan Control Room in Office District Coordination Officer

Name	Designation	District	Cell #	Phone #	Fax #
Incharge Mr. Naeem Anwar	Asst. Coordination Officer	Mardan		0937 -9230469, 0937 -9230048	
Mr. Murad Ali Shah (DCO Office)	PS to DCO	Mardan		0937 -9230047-8	0937-9230303
Mr. Habib-ur- Rehman (DCO Office)	Steno	Mardan		Same As Above	
Mr. Fazal Nawaz (DCO Office)	Steno	Mardan		Same As Above	
Mr. Ihsan Ali (DCO Camp Office)	Computer Operator	Mardan		0937 -9230303	0937-9230303
Mr. Fida Hussain	Computer Operator	Mardan		0937 -9230303	0937-9230303
Incharge Mr. Naeem Anwar	Asst. Coordination Officer	Mardan		0937 -9230469, 0937 -9230048	

Swat Control Room in Office of Commissioner, Malakand Division

Name	Designation	District	Cell #	Phone #	Fax #
Staff		Swat		0946-9240225, 0946 -9240185	

Karak Control Room in Office of the Tehsil Municipal officer/ administrator Banda Daud Shah (Karak)

Name	Designa tion	District	Cell #	Phone #	Fax #
Officers		Karak	0346 -5567974, 0314-9183480, 0331-9111010, 0345-8104616, 0312-8104616		

Chitral Control Room in office of District Coordination Officer

Name	Designa tion	District	Cell #	Phone #	Fax #
officers		Chitral		0943- 412519,0943- 413858	

DIR LOWER POLICE CONTROL ROOM

Name	Designa tion	District	Cell #	Phone #	Fax #
Dir Lower Police Control Room				0945-9250049	

