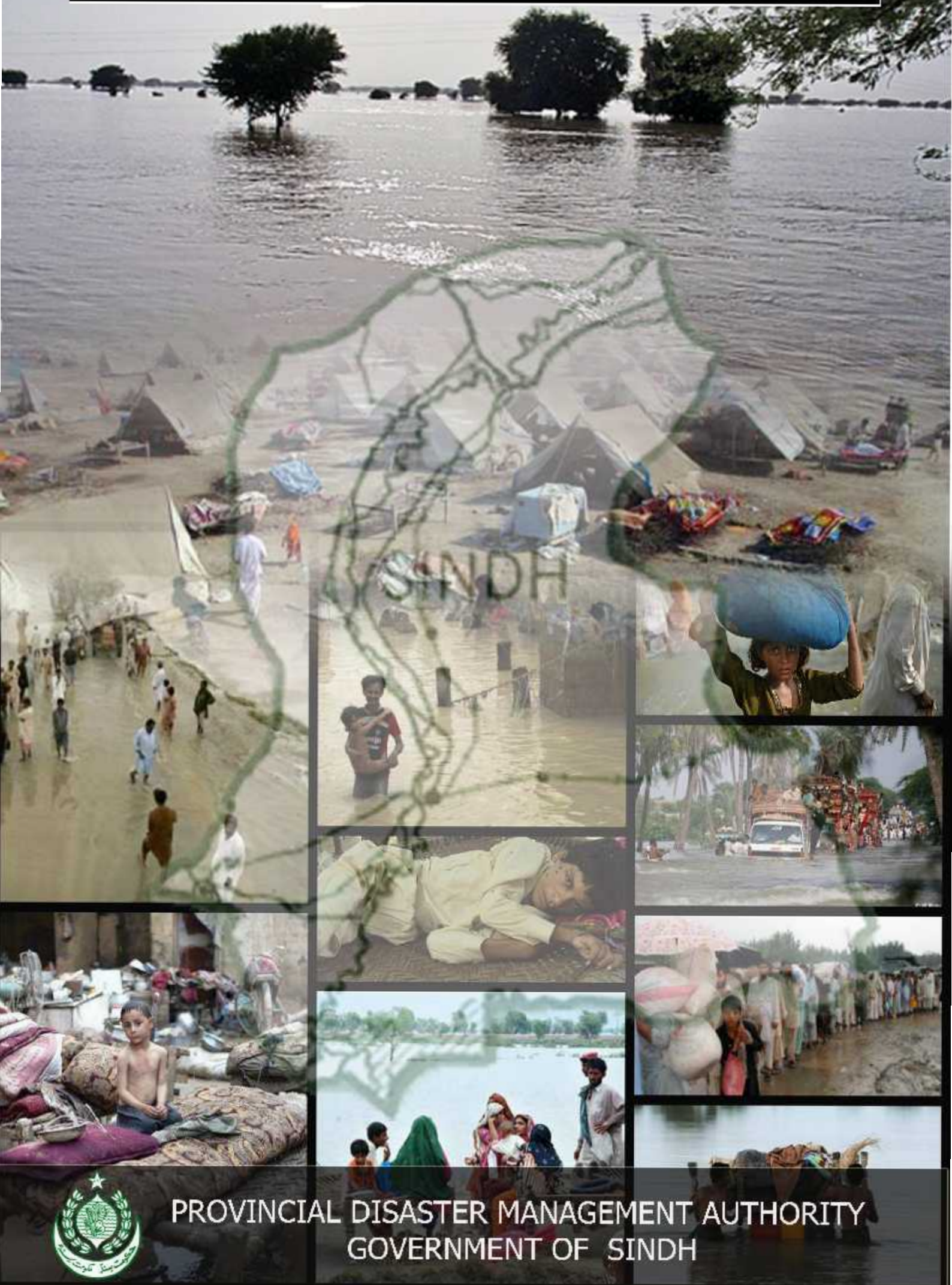


PROVINCIAL MONSOON CONTINGENCY PLAN 2015



PROVINCIAL DISASTER MANAGEMENT AUTHORITY
GOVERNMENT OF SINDH

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EXECUTIVE SUMMARY

The nature and intensity of natural disasters has changed considerably over the period of time. Disaster risk reduction (DRR) and management is an activity that addresses the risks associated with potential hazards, and as such it becomes an integral part of development. Consequently, it is oriented more towards the processes and actions than the events themselves. DRR is based on a continuous assessment of vulnerabilities, risks and it is greatly influenced by the kind and extent of the role of multiple actors and stakeholders. In terms of such unpredictable complexity, contingency planning essentially requires defining as to what preparedness mechanisms will be used, when and where. Before a response is required, contingency planning affords the agencies, governmental and humanitarian, the opportunity to define when, where and why their emergency response resources will be deployed, when emergency funds will be used and what kind of responses, materials and types of personnel they will need and to what extent.

The cascade of monsoon related events occurring from 2010 to 2013 tested the mettle of both the governmental agencies and humanitarian outlays. The lessons learnt from unprecedented floods of 2010 followed by heavy monsoon rainfalls of 2011 and flash flooding in 2012-13 call for preemption by preparedness, quick and effective control of the situation and above all, saving human lives. However, effective actions necessitate the prior existence of practical and well tested contingency plans. The Sindh Monsoon Contingency Plan embodies an integrated contingency planning based on the experience of government agencies, districts administrations, armed forces, humanitarian assistance organizations and other stakeholders. It calls for translating their recommendations and collective wisdom into action; thereby ensuring synergized and optimal utilization of resources by all in the field while complementing each other with linkages and better coordination in support of such actions.

PDMA continues to emphasize upon the Contingency Planning process not only as a preparedness measure for emergency response to natural hazards but also as a guide to the long-term strategy for meeting such eventuality. This plan focuses on planning for the upcoming Monsoon – 2015 to identify hazards and analyzing the related risks for their humanitarian impacts and the associated adverse affects on the socio-economic infrastructure, and simultaneously defining the roles and responsibilities of diverse stakeholders for preparedness and response.

PDMA, keeping its vigil eye, carried out a series of joint sessions for Sindh Monsoon Contingency Plan-2015 with district administrations, line departments, the armed forces and other stakeholders to keep abreast and anticipate the perceiving threat levels. While drawing conclusions from the inputs through the technical expertise and concerned stakeholders, it also identifies the gaps and challenges to effective emergency response. This Plan aims at identifying and implementing a series of actions to increase response capacity and reduce potential gaps. Unlike the traditional generic plans, this document has used 'scenarios' as a basis for developing preparedness plans. The key anticipated outcomes are:

- Awareness for Building Capacities for Response,
- Depicting the anticipated threat perception for earmarking required resources,
- Building the Integrated Planning Capacities, and
- Defining the required gaps for ensuing Preparatory Measures.

CHAPTER 1

OVERVIEW OF THE SINDH PROVINCE

1.1 GEOGRAPHY

The Province of Sindh is located in the South- Eastern part of the Country (between Lat 23-35° and Lat 28-30° N)...bounded to the West by Balochistan, to the North by Punjab, to the East by the Indian states of Gujerat and Rajhastan and to the South by the Arabian Sea. It can be divided into four distinct 'climatic' zones Coastal, Desert, Mountainous and the Plains. Its gross geographical area is 140,914 Sq. km which represents 18% of the total national area. The geographical area is 14 million hectares out of which almost 8.0 million hectare is cultivable, and the remaining area is not available for cultivation, mostly lying in the northern hills of Khirthar Range, Eastern desert of Thar and Achharo Thar and the Riverine area.

60% of the total land area of Sindh is arid. Annual average precipitation is 5 inches. The River Indus flows through the middle of the province. There are seasonal streams which become active in the monsoon season; they emanate from the Khirthar hill range from West of Province, and fallout in River Sindh (Indus) and the Arabian Sea. Administratively Sindh Province is divided in to six Divisions comprising 29 Districts.

The Province, third largest in Pakistan by size, has a predominantly agricultural as well as a diverse industrialized economy. Cotton, rice, wheat, sugarcane, dates, bananas and mangoes are the most important crops. Its industrial base has Textiles, Chemicals, Cement, Steel and others. Lately its vast natural resources are being exploited like Oil, Gas, Coal, Granite and Cut Stone etc. These are adding substantially to the overall national produce. Bulk of the industrial units is located in three Cities- Karachi, Kotri/ Hyderabad and Sukkur. There are two modern sea ports: Karachi Port and Bin Qasim Port, situated in Karachi on the Arabian Sea and serve the entire Country including Afghanistan.

1.2 **GEOLOGY**

The Geology of Sindh is divisible in four regions as follows:

- the mountain ranges of Kirthar, Pab containing a chain of minor hills in the West, and
- in East it is covered by the Thar Desert and part of Indian Platform bounded by the Karonjhar mountains, which is famous for Nagar Parkar Granite.
- In the North Sindh is enquired by rocks of Laki range extending to Suleiman range and
- its Southern most part is encircled by the Arabian Sea. The rocks exposed in this area belong to upper Cretaceous which are of recent geological age. The sub-surface rocks are about 20,000 feet thick and belong to Cretaceous and Pre-Cretaceous periods.

Basin-wise Sindh lies in the lower Indus Basin and its main tectonic features are the platform and fore deep areas. Thick sequences of Pab sandstone of Upper Cretaceous, Ranikot Group (Khadro, Bara, Lakhra) of Paleocene age, the Laki, Tiyon, and Khirthar of Eocene age, the Nari Formation of Oligocene, the Gaj Formation of Lower to Middle Miocene, the Manchar of Upper Miocene to Pliocene, and Dada Conglomerate of Pleistocene age are present in various areas of Sindh.

Limestone and sandstones are the predominant sedimentary rocks in the area. Structurally speaking, Sindh has many gently-folded anticlines trending in North-South direction. The major active faults in Province are as under:

SURJANI FAULT: N-S Trending: *Located West of Larkana. It cuts Quaternary deposits. The maximum magnitude of the Earthquake associated with the fault is of the order $M=6.1$ on Richter Scale.*

JHIMPIR FAULT: N-W Trending: *A number of epicenters are located on the fault. The fault has produced an earthquake of $M=5.6$ on Richter Scale.*

PAB FAULT: NN-W Trending: *Located in the Eastern part of Pab range. The maximum magnitude of the earthquake associated with fault is of the order M=7.0 on Richter Scale.*

RANN OF KUTCH: E-W Trending: *The fault has produced an earthquake of the order M=7.6 on Richter Scale. Recent studies have revealed that this fault traverses the Karachi Metropolitan Area.*

1.3 HISTORY OF CLIMATE OF SINDH

- The monsoon and the Western Disturbance are the two main factors which alter the weather over Sindh province; otherwise, continental air prevails for rest of the year. Following factors by and large influence the weather over Sindh.
- Dust storms occur during summer months with peak in May and June. The dust storms during the early summer indicate the arrival of the monsoons, while in the autumn these indicate the arrival of winter.
- Fog occurs during the winter season and remains for some weeks in upper reaches of Sindh.
- Southwest Monsoon occurs in summer from the month of June till September. Monsoon rains bring much awaited relief from the scorching summer heat. These monsoon rains are sometimes heavy by nature and can result in a flooding situation.

1.4 DEMOGRAPHY

The 1998 Census of Pakistan showed Sindh as having a population of 30.4 million ie; 23% of the national count. Based on the compound growth average of 2.80%, the current population of Sindh is estimated to be about 47.80 million (Sindh Bureau of Statistics). The provincial urban-rural divide of population, as per Population Welfare Department, Government of Sindh is about 52 to 48. The urbanites are mainly concentrated in the cities of Karachi, Hyderabad, Sukkur, Mirpurkhas, Shaheed Benazirabad and Larkana.

Approximately 2.6 million people live in the 'katcha area'. In terms of gender ratio (male per 100 female), the Male population overwhelms the female

i.e; there are 112.24 males. The overall average provincial literacy rate is 45.29%- (Male 54.50% and Female 34.78%). In the rural areas it is 25.73% - (Male 37.89% and female 12.23%) whereas in the urban areas it is 63.72% - (Male 69.75% & Female 56.66%). Health cover is available to over 35% of the population. Agriculture & Fisheries are the backbone of rural economy engaging about 65.56% of the rural people.

1.5 SOCIAL SCENE

Sindh is the most urbanized and industrialized province of Pakistan. The society is largely a mix of the cosmopolitan with the traditionally based indigenous landed classes. Beside Sindhi, the other languages spoken are Urdu, Punjabi, Pashto, Siraiki, Balochi, Brahui, Rajasthani, and Gujarati. Historically the Balochis came earlier while the Urdu-speaking are the recent immigrants alongside the Pashtuns who are the latest dwellers of the urban Sindh. Balochi, Sindhi and natives speak Sindhi language as their mother tongue. It is also the official language of Sindh since the 19th century, now shared by Urdu in mostly urban areas as well.

Sindh's population is predominantly Muslim ie; 91.3%. The remaining comprises the minorities. Sindh is the 2nd most populous province after Punjab and has a significantly higher population growth rate compared to Punjab. It has the largest Hindu population of the country (about 93%) ie; 6.51% of the total national population. There are other, smaller groups of other religious identities like the Christians, Parsis- Zoroastrians, Ahmadis, Scheduled castes and others.

The society in general is harmonious, cordial and hospitable. Nevertheless, some ethnic, sectarian and communal strife have occasionally marred the peace of some specific parts of the Province.

1.6 ECONOMY

Endowed with coastal access, Sindh is a major centre of economic activity in Pakistan and has a diversified economy ranging from heavy industry and finance to a substantial agricultural base along the Indus river. It has the 2nd largest economy in Pakistan, with the manufacturing sector in the lead. Agricultural engages about

45% of the agricultural labour force. Most of the agriculture (+13 Million acres) depends on artificial Irrigation through a network of canals (20,000-kms) and barrages (03) and protective bunds (+2253-kms) on the Indus River. Three irrigation barrages- Guddu Barrage at Kashmore; the Lloyd Barrage at Sukkur and the Kotri barrage at Kotri service the irrigation and human needs. The provincial road network connectivity is over 26,000 kms and 2,221 kms of railway tracks.

Staple crops are Wheat, Rice, Cotton, Oilseeds, Sugarcane, Millets Vegetables and Fruits. In livestock the Sheep, Cattle, Camels are raised along with Poultry. There is a competitive fishing industry as well. Manufacturing and other industries (+1800 units) are concentrated in Karachi, Hyderabad, Nooriabad, Kotri and Sukkur, providing jobs to a workforce of over 260,000. The main industrial activity revolves around Textile, Cement, Cardboard, Chemicals, Electric Power Supplies, Rail-Road Equipment, Machinery and Metal products, and is serviced by the two southern ports; Karachi Port Trust and Port Qasim on the Arabian Sea.

1.7 SHELTER

In 1998, there were 5.022 million households in Sindh, with average household size at 6.0 persons with occupancy average of 3.3 persons per room. The overall housing stock comprised 52 percent katcha (mud) houses mostly devoid of any proper water supply, 48 percent semi-pakka (brick mortar) houses mostly without planned sanitation or sewerage system. The majority of rural housing is katcha (mud), with minimal water supply and sanitation or drainage services. Half of the total urban population is living in slums and katchi abadis, with inadequate housing and civic amenities.

1.8 ADMINISTRATIVE SYSTEM

- Administratively, Sindh Province comprises of the provincial government at the apex and the Union Councils at the base of the administrative pyramid. In-between there are administrative Divisions, District administration, Taluka/Tehsil and the Union Councils. The provincial administrative / Line Departments are headed by an Administrative Secretary.
- **Division:** 06 divisions headed by divisional Commissioners. The 6 Divisions are Karachi, Hyderabad, Mirpurkhas, Sukkur, Larkana and Shaheed Benazirabad.
- **District:** 29 Districts headed by Deputy Commissioners.
- **Talukas / Tehsils / Sub Divisions:** 129
- **Number of villages (settlements)** 66,923 as per census of 1998 within 5871 dehs (Mauza).

CHAPTER – 2

MONSOON CONTINGENCY PLAN – GENERAL

OVERVIEW OF FLOODS

2.1 FLOODS

When rivers overflow their banks they cause damage to property and crops. Floods are the most common and the costliest of the Natural Disasters.

Floods are local, short-lived events that can happen suddenly, sometimes with little or no warning. They 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, when ice jams or landslides temporarily block a channel, or when snow melts rapidly. Dry lands can be flooded by high lake levels, by high tides, or by waves driven ashore by strong winds.

Small streams are subject to floods (very rapid increases in runoff), which may last from a few minutes to a few hours. On larger streams, floods usually last from several hours to a few days. A series of storms might keep a river above flood stage (the water level at which a river overflows its banks) for several weeks.

Weather patterns have a strong influence on when and where floods happen. Cyclones, or Storms that bring moisture inland from the Ocean can cause floods. Thunderstorms are relatively small, intense storms that can cause floods in smaller streams. Frontal storms form at the front of large, moist air masses moving across the Country and can cause floods. Hurricanes are intense tropical storms that can cause floods.

The size and magnitude of a flood is described by a term called 'Recurrence Interval'. By studying a long period of flow records for a stream, it is possible to estimate the size of a flood that would, for example, have a 5-year Recurrence Interval called a '5-year flood' ie; it would occur, on the average, once every 5 years. Although a 100-year flood is expected to happen only once

in a century, there is a 1% chance that a flood of that size could happen during any year.

Flood plains are lands bordering on rivers and streams that normally are dry but are covered with water during floods. Floods can damage buildings or other structures placed in flood plains. They also can change the pattern of water flow and increase flooding and flood damage on adjacent properties and structures.

Major reasons that may cause or lead to flooding in Sindh are the confluence of River Basins, the Canal Irrigation Networks and Interrupted Drainage Systems and control of Head-works on three major rivers....part of Indus River System with India.

2.1.1 CAUSES OF FLOODS

Floods can be divided in to five major categories:-

(I) Monsoon Floods: Flooding along rivers is natural and inevitable. Some floods occur seasonally when monsoon rains and melting snows fill river basins with too much water too quickly. Torrential rains from decaying Hurricanes or Tropical Systems can also cause river flooding.

Recent studies argue that El-Nino and La Nina factors have upset the system of rains in India, Pakistan, Iran and Afghanistan. Incidentally El-Nino events are a local manifestation of a global phenomenon, which begins with the relaxation of the wind stress that drives warm water towards the West. In the case of the monsoons, the atmospheric pressure at sea level at the South-West of the Indian Peninsula, the ocean temperature in the Bay of Bengal and the rainfall fluctuation across South Asia are inter-related critical factors.

(II) Flash Floods: An arroyo is a water-carved gully or a normally dry creek found in arid or desert regions. When storms appear in these areas, the rain water cuts into the dry dusty soil creating a small fast-moving river. Flash

flooding in an arroyo can occur in less than a minute, with enough power to wash away sections of pavement. Because of its rapid nature, flash floods are difficult to forecast and give people little time to escape or to take food and other essentials with them.

(III) Floods due to Breaches: Floods due to the breaches of river embankments and canal breaches are a frequent phenomenon in all the districts of Pakistan.

(IV) Urban Floods: As undeveloped land is paved for construction, it loses its ability to absorb rainfall. Rainwater cannot be absorbed into the ground and becomes runoff, filling parking lots, making roads into rivers, and flooding basements and businesses. An urban area can be flooded by an amount of rainfall that would have had no impact in a rural area. But in the crowded towns and cities, rainwater flows into storm sewers and drainage thus flooding them.

(V) Coastal Floods - Hurricanes and Tropical storms can produce heavy rains, or drive ocean water onto land. Beaches and coastal houses can be swept away by the water. Coastal flooding can also be caused by sea waves called Tsunamis, the giant tidal waves that are created by Volcanoes or Earthquakes in the ocean.

2.2 MONSOON HAZARDS IN SINDH

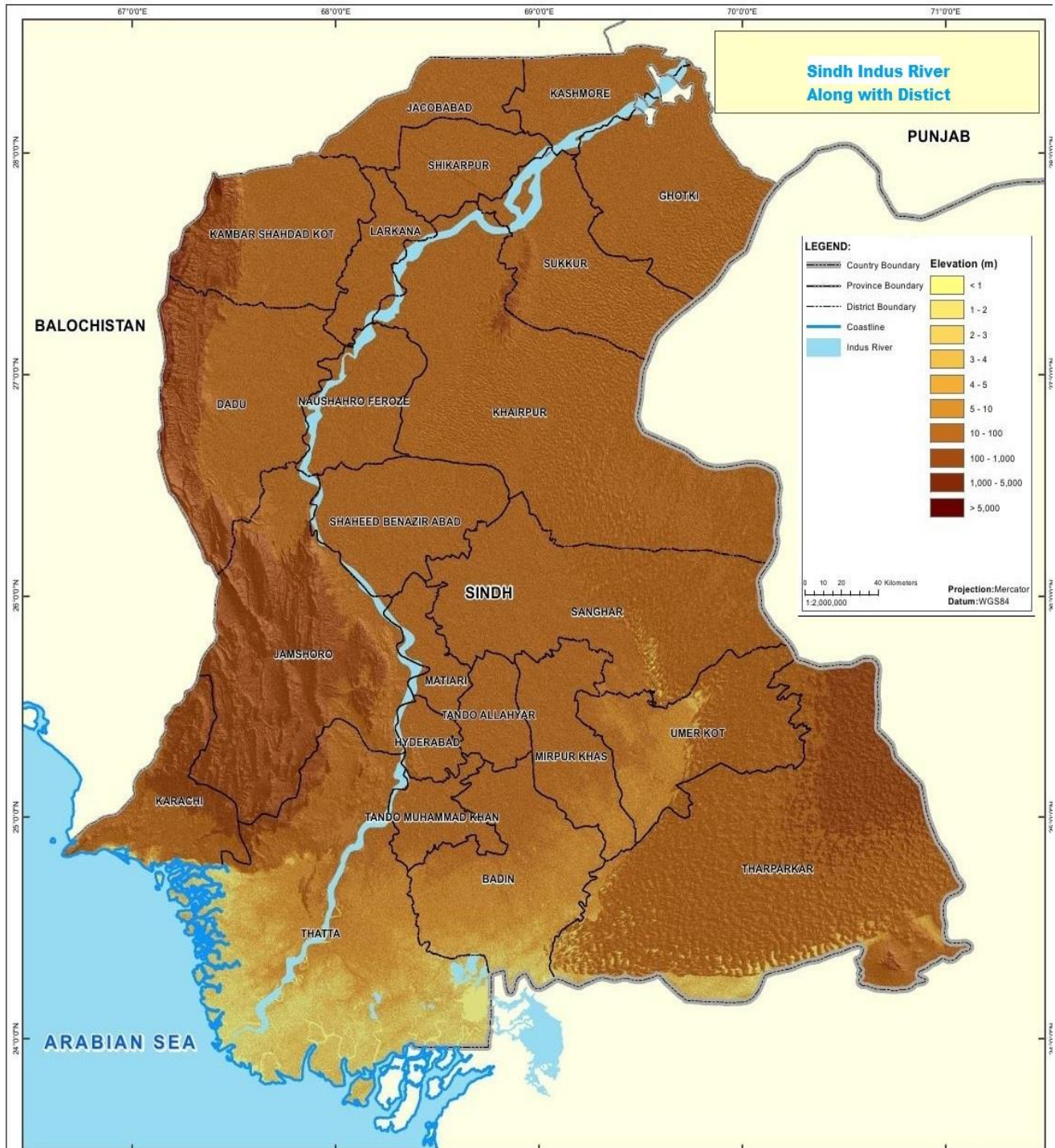
The River Indus, lying 750 kms across Sindh, upon receiving water from 5-rivers' system, causes floods in the Sindh Province. The upper regions of the Sindh Province constitute the Districts of Kashmore, Shikarpur, Kamber Shadadkot Jacobabad and Larkana on the Right Bank of River Indus and Ghotki, Sukkur, Khairpur, Naushahro-feroze and Shaheed Benazirabad on the Left Bank of River Indus. These Districts on the right and left of River Indus always remain under threat due to the passage of River Indus. The districts in the lower Sindh, prone to Riverine flooding includes Dadu, Jamshoro and Thatta on the Right Bank of River Indus and Tando Muhammad Khan, Matiari and Hyderabad on the Left Bank.

Districts of Jacobabad, Kambar-Shahdadkot, Dadu and Jamshoro are vulnerable to hill torrents which cause flash flooding. As such, the possibility of issuing an early warning is very minimal.

Sindh faces the Monsoon hazards as a result of heavy precipitation and subsequent high floods at 'Panjnad' (confluence of 5-rivers located in Punjab) on the Indus river and through flash flooding in numerous hill torrents along the Southern part of the Province. Sindh is also vulnerable to precipitation generated flash flooding and urban flooding because of the cloud bursts, primarily in the cities of Karachi and Hyderabad. Historical evidence suggests that natural and manmade disasters can cause a significant loss of human lives in Karachi alone. Given the complexity, the simultaneous occurrence of riverine and flash floods, the heavy precipitation and cloud bursts can worsen the impacts of monsoon generated disasters in the province.

2.3 MAP WITH FLOW OF RIVER INDUS ALONG DISTRICTS OF SINDH

Fig.1 Flow of River Indus



2.4 CHANGES IN THE RIVER MORPHOLOGY

The unprecedented nature of Floods-2010 caused occurrence of unregulated river flow patterns resulting in widening spans and erosions at various places. During Monsoons these trends are likely to render at risk the populations residing close-by; undermining the effectiveness of the protective arrangements; and risk the severance of bridges and communication infrastructure. Therefore, river training or regulating the river flows to defined channels is considered to be an essential task for flood impact mitigation.

2.5 PERFORMANCE OF WATER REGULATORY INFRASTRUCTURE

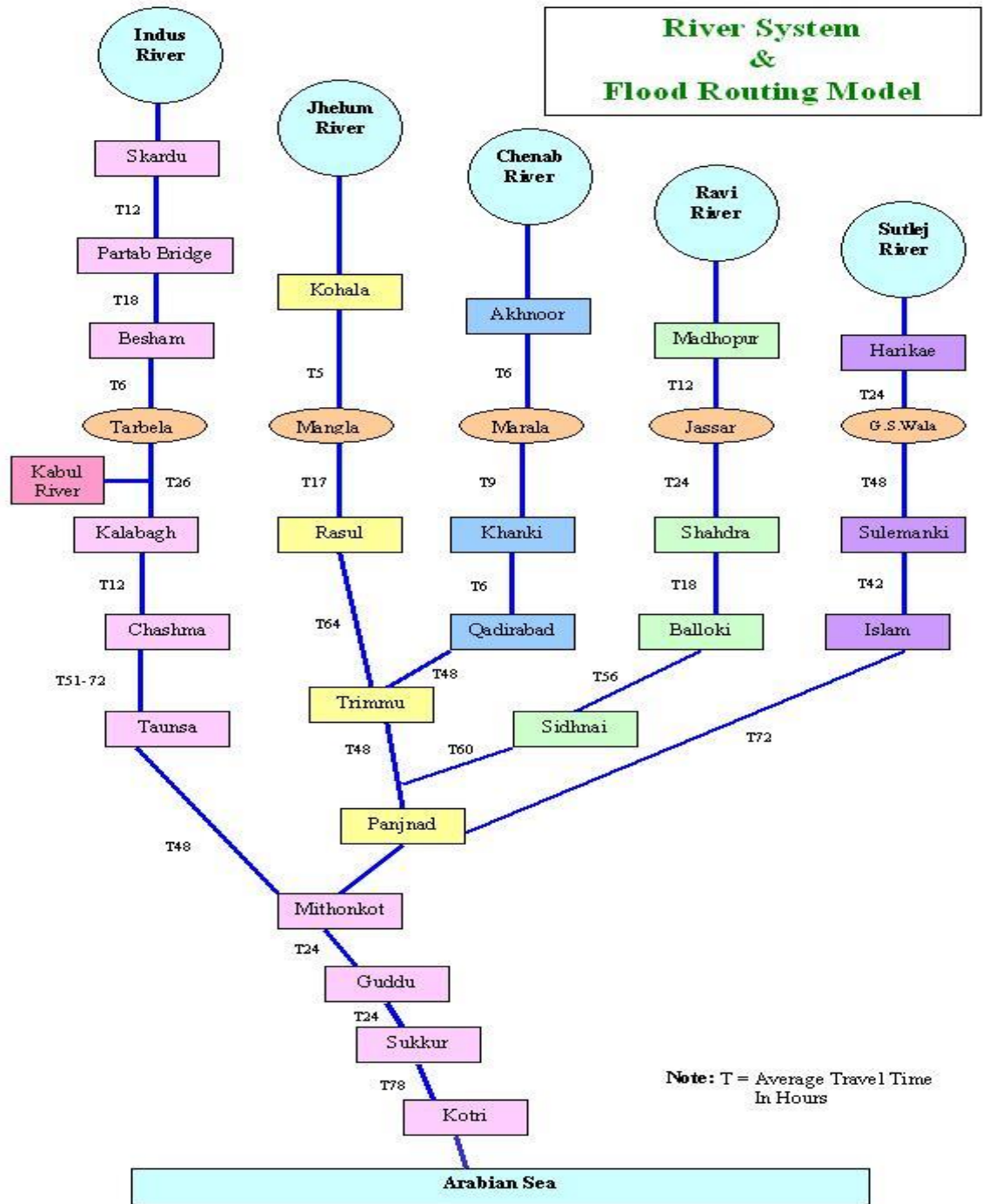
The floods-2010, in addition to their colossal humanitarian impacts, exposed the water regulatory infrastructure to tremendous pressures. The water which flowed surpassed the earlier historical records by manifolds; a detailed comparison is given in the table below. Moreover, the Schematic Model of flood routing of River system shown below depicts that average travel time between the three hydraulic structures (Guddu, Sukkur and Kotri) is 24 hours; thus necessitating the imperative of putting in place an effective and prompt decision making.

2.5.1 WATER FLOW COMPARISON

Barrage	Design Capacity (in cusecs)	Maximum Recorded (in cusecs)	Year	2010 Floods (in cusecs)	Comparison with Earlier Record (Ratio)	Comparison with Design Capacity (Ratio)
Guddu	1,200,000	1,199,000	1976	1,148,000	0.96	0.95
Sukkur	900,000	1,166,000	1976	1,130,000	1.295	1.25
Kotri	875,000	980,000	1956	964,000	0.98	1.10

Table 1: Water Flow Comparison

2.5.2 FLOOD ROUTING MODEL



Source: Flood Forecasting Division, Pakistan Meteorological Department

Fig. 2 Flood Routing Model

2.6 LATENT VULNERABILITIES

Some of the underlying vulnerabilities which increase the threat of Monsoon hazards in Sindh are stated as under:

- 2011 monsoon rain induced floods in Southern Sindh, which do not directly fall in the monsoon zone, had exposed a large segment of population to the devastation of life and property. This population was traditionally considered to be safe from adverse effects of monsoon.
- Non traditional, new geographical areas of Eastern Baluchistan and Northern Sindh were impacted by floods in 2010, 2011, and 2012, consecutively, thereby showing the compounding of vulnerabilities.
- Population pressures have resulted in encroachments on river flood plains, thereby enhancing the corresponding risks and vulnerabilities.
- Detailed flood-plans mapping covering entire Indus River System, its Tributaries and Nallahs is yet to be done. It has been identified as a priority area in the Provincial Disaster Management Plan on the basis of which land use planning and demarcation of waterways would be done to reduce risks from flood hazard.
- Widespread Environmental Degradation had reduced the flood water absorption capacities of catchment regions and accentuated downstream vulnerabilities.
- Limited capacity in weather and flood forecasting, particularly for flash floods, necessitate enhanced preparedness strategies to meet unpredictable challenges.
- Insufficient surface storages/ reservoirs to manage heavy river flows necessitate more extensive flood protection measures downstream.

2.7 DATA OF HISTORICAL FLOOD EVENTS

The data of losses from floods in Sindh for the past 25 years have been covered in the table attached at **Annex-A**

2.8 SEASONAL FORECAST FOR MONSOON (JULY – SEPTEMBER) 2015.

PMD has issued a seasonal Forecast for Monsoon 2015 on 25.06.2015 for Pakistan for July-September. Its salient features are given below:

The land, atmosphere and oceanic conditions are examined to assess their contribution to the Asian Summer Monsoon and particularly Pakistan's Monsoon. Most of the Global Climate Models suggest that moderate El Nino conditions will persist during July to September that normally suppresses the monsoon rainfall in South Asia. There is also a probability of basin wide warming in the Indian Ocean resulting Positive Indian Ocean Dipole (in August / September) that provides roots to some active monsoon system in South Asia, normally below 30⁰N.

Most of the Global and Regional Climate Models indicate – ***“A Weak Monsoon with some uncertainties, producing slightly less than normal rainfall during July to September in Pakistan. However, due to interaction of easterly & westerly systems, a few extreme rainfall events (exceeding 100 mm/day), may occur over AJK, North-East Punjab and KP resulting into flooding”.***

Outlook of July 2015: Monsoon will gradually pick up rhythm during 2nd and 3rd week of July (2015), producing rainfall in most of the areas of AJK, Punjab and KP, with one or two extreme rainfall events during 3rd or last week of the month, in second fortnight, monsoon currents will also penetrate in south-eastern parts of the country, producing scattered rainfall in Sindh and eastern parts of Baluchistan.

South Asian Climatic Outlook Forum (SASCOF-6)

The Outlook Suggests that below normal rainfall is most likely during the

2015 southwest monsoon season (June – September) over South Asia as a whole. Below normal rainfall is likely over broad areas of western, central and southwestern parts of South Asia and some areas in the northeastern most parts of the region. It is noteworthy that except southern part of islands of the region no other part of South Asia has above normal rainfall as the most likely category.

2.9 MONSOON 2015 FAILURE

SASCOF-6 findings and PMD's preliminary observations did not directly indicate a dry spell for 2015 that may further trigger drought conditions in the province. However, if Sindh Province on the whole, or its districts already facing drought/ semi drought, continue showing similar trends then PDMA Sindh will roll out its Drought Contingency Plan which would be a separate document covering roles and responsibilities of Government Agencies, Line Departments and Humanitarian Agencies for effective drought emergency, response and rehabilitation for the affected district (s).

2.10 MONSOON 2015 PREPAREDNESS CONSULTATIONS

A number of consultation sessions and coordination meetings were organized at all levels. These included PDMA meetings with Divisional Commissioners, Line departments, Armed Forces, PMD, Civic Utility agencies etc to review the levels of preparedness, consultation with relevant agencies on contingency plans and resolving the outstanding issues. These meetings were also conducted in Divisional Headquarters, chaired by Special Assistant to Chief Minister Sindh for Rehabilitation along with Secretary Rehabilitation and Director General, PDMA.

In order to further consolidate and coordinate Provincial preparedness for upcoming Monsoon Season, a high level meeting was held on 19th May, 2015 under the chairmanship of Chief Secretary Sindh at Karachi. Chairman NDMA, relevant Federal and Provincial agencies and Humanitarian Assistance Organisations were invited and exchanged views and plans for evolving an effective and efficient strategy towards mitigation, preparedness and response modalities.

CHAPTER – 3

DIVISIONAL MONSOON CONTINGENCY PLANS

3.1 SCENARIOS

The Scenarios have been considered for the purpose of calculating caseloads for the Provincial Contingency Plan as under:

3.1.1 LIKELY SCENARIO

While the possibility of Riverine Floods cannot be ruled out keeping in view the continuous heavy snowfall in the upper parts of Country and the **Advisory issued by Federal Flood Commission which states that 'Monsoon season appears to be more critical as the levels of reservoirs at present are increasing'**. The inflow is likely to increase due to snow melting and rainfall in upper parts of Country, Moreover a monsoon weather system over the upper catchment area of major rivers may create alarming situation. Keeping in view, the unusually high temperature being experienced in pre-monsoon time, the possibility of riverine floods is being anticipated by Sindh.

Therefore, the caseload is primarily based on anticipated migration from Katcha area / flood plan.

3.1.2 WORST CASE SCENARIO

The consecutive Monsoon Disasters in the last five years in Sindh set a trend for future contingency planning. The historical evidence shows that Monsoons have affected the whole Province, thus calling for the worst case scenario to be based on a combination of very heavy rains in upper and lower catchment areas, High releases of water from Dams coupled with cloud burst over hills and cities. Such a scenario can never be ruled out and the population affected could be 15 – 20% of the total population of the province, spanning almost all the districts of Sindh.

3.2 OVERVIEW OF DIVISIONAL PLAN

3.2.1 LARKANA DIVISION

Larkana Division is prone to both the Riverine and the Flash floods, 2 out of its 5 Districts .i.e Jacobabad and Kambar Shahdadkot are highly prone to Flash floods due to water gushing from hill torrents of Baluchistan, whereas Larkana, Kashmore and Shikarpur are prone to Riverine floods.



Fig. 3 Map of Larkana

Division

The plan anticipates the likely caseload based on the population to be possibly affected due to riverine flood. Population of approximately 31,743 families (approximately **4,535** household) is anticipated under threat in such case scenario of Larkana Division.

District	Likely
Larkana	11,072
Kashmore	10,314
Shikarpur	10,357
Total	31,743

Early warning system has been specified and safe evacuation sites have been identified along with evacuation plans for vulnerable districts in accordance with their vulnerability. Moreover, an elaborated coordination mechanism has been worked out in which the roles and responsibilities of government departments/ offices have been sharply identified at length. A number of committees have also been constituted at each district level.

Preparations are based on the worst case scenario in the light of the trend, experiences and lessons learnt from unprecedented floods and rains witnessed in the recent past, and which cannot be anticipated a' prior.

3.2.2 SUKKUR DIVISION

The entire Sukkur Division is prone to Riverine Floods. All three Districts of the Division are highly prone to Riverine floods.

The plan anticipates the likely caseload based on the population to be possibly affected due to riverine flood. Population of approximately 42,770 families (approximately **7128** household) is anticipated in the likely case scenario of Sukkur Division



Fig. 4 Map of Sukkur

Division

Early warning system has been specified and safe evacuation sites have been identified along with evacuation plans for vulnerable Districts in accordance with their vulnerability scale. An elaborate coordination mechanism has been put in place and the roles and responsibilities of Government Departments/ Offices have been identified in detail. Various committees have also been constituted at the District level.

District	Likely
Sukkur	15,263
Khairpur	14,236
Ghotki	13,271
Total	42,770

Preparations are based on the basis of the worst case scenario in the light of experiences and lessons learnt from the Floods and Rains witnessed in the past, and which cannot be anticipated a' prior.

3.2.3 HYDERABAD DIVISION

The Hyderabad Division is prone to multiple monsoon hazards i.e riverine, flash, urban and the LBOD floods.

The plan anticipates the likely caseload based on the population to be possibly affected due to riverine flood. A total of approximately 84,497 families (approximately **14083** household) is anticipated to be affected in the likely case scenario of Hyderabad Division

Early warning system has been specified and safe evacuation sites have been identified; evacuation plans for vulnerable districts have been drawn in accordance with their vulnerability levels. Moreover, an elaborate coordination mechanism has been laid out in which roles and responsibilities of the Government Departments/ Offices have been identified in detail. A number of pertinent committees have also been constituted at each district level.



District	Likely
Hyderabad	7,571
Dadu	8,409
Jamshoro	16,325
Matiari	15,362
Thatta	17,806
T.M Khan	5,249
Sujawal	13,776
Total	84,497

Preparations are based on the worst case scenario in the light of experiences and lessons learnt from the Floods and heavy monsoon rainfalls witnessed in the recent past and which cannot be anticipated prior.

3.2.4 SHAHEED BENAZIRABAD DIVISION

The Shaheed Benazirabad is a newly established administrative division. It comprises of three districts i.e Shaheed Benazirabad, Sanghar and Naushehro Feroze district.



Shaheed Benazirabad and Naushehro Feroze districts are prone to riverine flooding, while the Sanghar district is prone to LBOD Flooding.

The plan anticipates the likely caseload based on the population to be possibly affected due to riverine flood. Population of approximately 26,309 families (approximately **4,385** household) is anticipated in the likely case scenario of Shaheed Benazirabad Division.

District	Likely
Shaheed Benazirabad	10,209
N. Feroze	16,100
Total	26,309

Early warning system has been specified and safe evacuation sites have been identified along with evacuation plans for vulnerable districts in accordance with the scale and extent of their vulnerability. Moreover, an elaborate coordination mechanism has been worked out in which roles and responsibilities of concerned Government Departments/ Offices have been identified in detail. Various committees have also been constituted at each District level.

Preparations are based on the worst case scenario and in the light of experiences and lessons learnt from floods and Heavy Monsoon Rainfalls during the last few years.

3.2.5 EXPECTED CASELOAD IN LIKELY SCENARIO

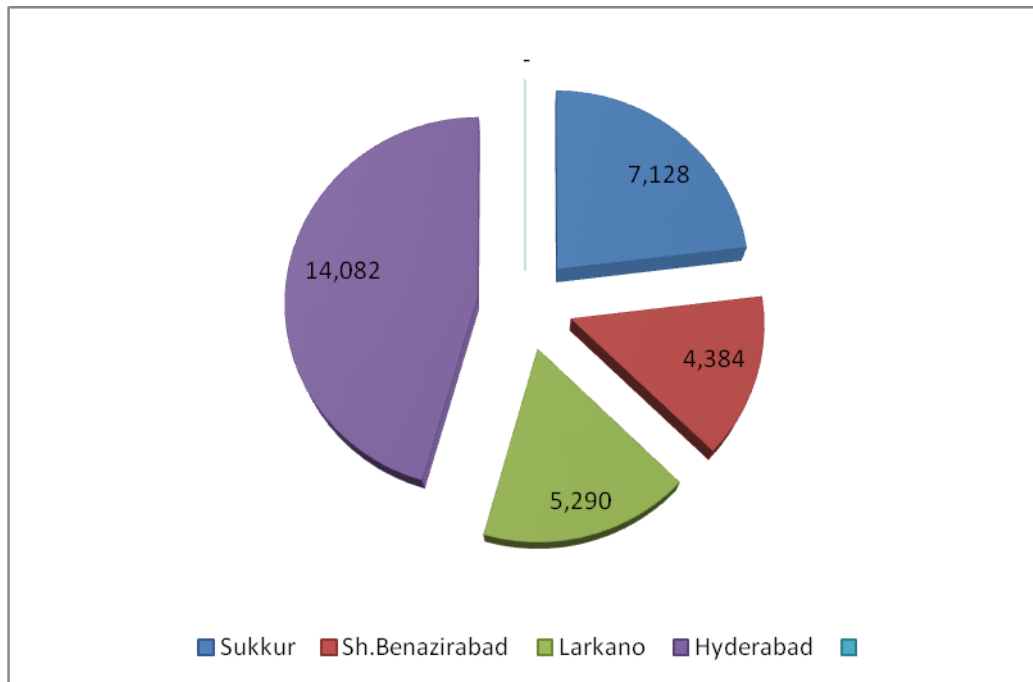


Fig. 9 Caseload in Likely Scenario

3.3 PLANNING PARAMETERS

Preparedness measures have been made/ carried out in the light of following observations:-

- Possibility of rain induced emergencies, especially due to hill torrents from Koh-e-Suleman and Khithar range cannot be ruled out.
- Level of preparedness of flood protection structure, as indicated by Irrigation Department has improved manifolds.
- Level of preparedness of Disaster Management Authorities, especially of Districts that are vulnerable to floods, have been enhanced through capacity building programs.
- Division / Districts are expected to meet the needs of their respective caseloads for the likely scenario from within their own resources. PDMA and other agencies will augment generating additional resources in case the magnitude of disasters exceeds the local capacities / capabilities.

- The contingency planning will cater for the humanitarian needs of the affected population for four weeks i.e; the time required for mobilizing additional resources, if needed.
- The preparatory measures on DRR undertaken so far are likely to considerably reduce / mitigate the likelihood of floods and their adverse consequences.

3.4 STOCKING LEVELS NEED & GAP ANALYSIS FOR RELIEF

The gap for Relief has been calculated on the basis of Relief Stores available with PDMA on the onset of Monsoon 2015. Following relief stores will be available with PDMA.

3.4.1 LIKELY SCENARIO

Caseload: 30,886 (Households, 7 % of Total caseload)

S. NO.	Items	Available	Need	Gap
1	Shelters/ Tents	25,340 (with Relief Department 3750) Total: 29090	30886	1796
2	Plastic Sheets	8,000		
3	Mosquito Nets	119,800	123,464	3664
4	Blankets	65,830 (with Relief Department 20000) Total: 85830	123,464	37634
5	Mosquito Repellents	30,000	30866	866
6	Solar LEDs	20,102	30866	10,764
For one family (one tent, one kitchen, one water purifier , one mosquito replant , four blankets, four mosquito nets, (for winter))				

Table 9 Need & Gap in Likely Caseload Scenario

Inventory of stocks available with PDMA and the other relief items / heavy machinery, earth moving equipment held by Districts Administrations are at **Annex- B and C** respectively. PDMA Sindh has already prepositioned the flood relief equipments at the disposal of District Administration, the details of which are attached at **Annex-D**

3.5 BROAD CONTOURS OF THE PLAN

Respective DDMA's, backed by PDMA would be the first responders in case of a flood situation.

- Early warning of approaching weather system will be provided by PMD/FFD and communicated to all concerned by DDMA's. DDMA's are expected to translate weather forecasts and flood warnings into usable early warning for vulnerable communities and ensure its timely dissemination to all concerned.
- In case there is continuous rise in river water level, the people residing in Katcha Areas will be evacuated to the safer places, which is estimated to be 2.6 million. The details are at **Annex – E**.
- Population under threat will be evacuated by DDMA's as per prepared plan.
- DDMA's would be responsible for provision of search and rescue, medical and emergency responses.
- Camps will be established at pre-selected sites by DDMA's.
- All Divisions / Districts will, and must, be ready to handle the initial caseloads within their own mechanism and resources.
- DDMA's will be responsible for effective and transparent relief distribution including relief provided by PDMA, NDMA and other Humanitarian Agencies.
- All stakeholders will take necessary actions to facilitate early recovery and rehabilitation of affected population.
- In case the districts fall short of meeting the humanitarian needs, PDMA will assist by making available the required stocks. In case the disaster stretches beyond the capacities of the provincial government, NDMA will

be requested to make available the additional stocks from the national reserves prepositioned across the Country.

- If and when required, the Armed Forces may be requested for assistance by PDMA Sindh, particularly for rescue, evacuation and emergency relief phases. To start this roll-out, the concerned DDMA's will have to submit the request to PDMA for assistance of the armed forces in aid of civil administration.
- Special requirements of the Aviation / Naval support by any agency will be coordinated by PDMA.
- Resources of Government Departments and Agencies such as, Pakistan Red Crescent Society and domestic philanthropic outlays will be requisitioned, if the intensity of the situation so entails for prompt and effective response.
- Facilitation for the Armed Forces by pre-identifying the living quarters for the troops and provision of their transportation within district.

CHAPTER-4

COORDINATION MECHANISM

PDMA will coordinate with key National Stakeholders including PMD, FFC, Armed Forces, Federal Agencies, DDMA's and Line Departments for management of the entire spectrum of Provincial Disaster Response. System of coordination of PDMA is depicted below:-

4.1 MITIGATION

4.1.1 MINISTRY OF WATER AND POWER

The ministry is responsible for the overall flood management and impact mitigation efforts through its attached departments (FFC, WAPDA, PCIW and IRSA). The Ministry deals with monitoring of preventive and preparedness measures as well as resource allocation for the protection works.

Federal Flood Commission implements all the Flood Risk Mitigation Projects which include flood protection works and flood forecasting/ warning system improvements. As part of preparedness measures for Monsoon Season 2015, FFC has undertaken the following:-

- Countrywide monitoring of flood works.
- Comprehensive Flood Management Plan for 10 years initiated.
- In case of Exceptionally High Floods, parts of the discharges are managed by breaching the bunds on the pre-determined sites for safety of the main Hydraulic Structures (Bridges & Barrages) and main cities.

4.1.2 WATER & POWER DEVELOPMENT AUTHORITY

WAPDA reinforces floods impact mitigation through operational management of major water reservoirs i.e; Tarbela Dam, Mangla Dam and

Chashma Barrage. It strengthens national flood early warning system through deployment of flood telemetry system.

4.1.3 INDUS RIVER SYSTEM AUTHORITY (IRSA)

IRSA defines the dam/water storage and release policy as part of its mandate during the Rabi and Kharif season.

4.1.4 IRRIGATION DEPARTMENT

It undertakes implementation of flood protection works, monitors the flow in flood prone rivers and water channels, reinforces floods early warning and executes technical responses, O&M of existing flood protection infrastructure besides restoration and repair of damaged flood protection works.

4.2 EARLY WARNING

4.2.1 PAKISTAN METEOROLOGICAL DEPARTMENT (PMD)

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

- Inform public on the weather forecast and issue warning in case of potential threat.
- Collect rain data on a regular basis, consolidate and share it with all concerned.
- Disseminate flood information to the NDMA/ PDMA on a daily basis during flood season.
- Share weather forecasts and early warning information with NDMA, F/G/S PDMA, and the Media on a regular basis in the monsoon period.

- Coordinate with FFC, FWC, WPADA, PCIW, FFD, and SUPARCO in the Monsoon period to generate flood warning where wanted.

4.2.2 FLOOD FORECASTING DIVISION (FFD)

FFD is an affiliated organization of PMD. It disseminates flood early warning and river flow updates to relevant National, Provincial and District Governments and National Response Agencies, especially in the context of Monsoon Season.

4.2.3 PAKISTAN SPACE & UPPER ATMOSPHERE RESEARCH COMMISSION (SUPARCO)

SUPARCO deploys its satellite imagery capacities for disaster impact mitigation and also for early warning of disaster occurrence and trends monitoring. SUPARCO will play the following role during monsoon season:-

- Provide remote sensing and satellite maps before and during disasters in order to show their impact.
- Provide remote sensing and satellite maps for hazard risk zones to enable relevant agencies to take measures for minimizing damage to population and property.
- Assist post-disaster damage assessment.

4.3 RESPONSE AGENCIES (FEDERAL GOVERNMENT)

4.3.1 NATIONAL DISASTER MANAGEMENT AUTHORITY (NDMA)

- National Emergency Operation Center (NEOC) is activated in NDMA, Islamabad for monitoring of the situation and coordination of possible response during monsoon season 2015 on 24/7 basis. The NEOC will be manned round-the-clock by a Duty Officer who functions under the overall supervision of Director (Response), NDMA.
- Coordinates emergency response of the Federal Government in the event of a National level Disaster through the NEOC.

- Require any Government Department or Agency to make available such staff or resource that are available for the purpose of emergency response, rescue and relief.
- Organize initial and subsequent assessment of disaster affected areas and determine the extent of loss/damage and volume of relief required.
- Coordinate and inform all concerned Department to get prepared for emergency response.
- Coordinate with Armed Forces, INGOs, UN Bodies and Philanthropist Organizations for resource mobilization.
- Mobilize and deploy resources e.g. search and rescue medical teams in the affected areas.
- Supply of food, water, medical supplies and NFIs to the affected population.
- Prepare a transition plan from relief to recovery program.

4.3.2 ARMED FORCES

The Armed Forces mobilize and deploy resources when called upon by District / Provincial / National DMAs and provide assistance in Search and Rescue, Evacuation, Camps Establishment and Management, provision and distribution of relief to the affected populations and provision of emergency medical services. The flood control centers have been established at Pakistan from 15th June, 2015. Army, Pakistan Navy and Pakistan Air Force, which will also share information on resource deployment and flood management with respective PDMAs/ NDMA on daily basis. The summary of flood relief equipment of Government of Sindh available with HQ Corps 5, Pakistan Navy and COMCOAST is at **Annex- H and H1** respectively.

4.3.3 PAKISTAN COAST GUARDS

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

4.3.4 EMERGENCY RELIEF CELL (CABINET DIVISION)

ERC maintains stocks of emergency relief stores and is mandated to compliment National efforts in the area of relief besides coordinating disbursement of compensation for losses on such occasions at federal level. ERC has the 6th Aviation Squadron for rescue and relief operations.

4.3.5 NATIONAL HIGHWAYS AUTHORITY (NHA)

NHA is responsible for building and maintaining highways and motorways in Pakistan. It ensures road access during monsoon season.

4.3.6 PAKISTAN RAILWAYS

Pakistan Railways is an important organ which ensures access during monsoon season. To deal with a possible flood Situation, Flood Emergency Centers will be established as usual in seven (7) operating Divisions of Pakistan Railways (Peshawar, Rawalpindi, Lahore, Multan, Sukkur, Quetta and Karachi).

4.3.7 PAKISTAN TALE COMMUNICATION AUTHORITY

PTA will ensure coordination between PDMA and Mobile Service providers for dissemination of early warring SMS for vulnerable community.

4.4 RESPONSE AGENCIES (PROVINCIAL GOVERNMENT)

4.4.1 PROVINCIAL DISASTER MANAGEMENT AUTHORITY SINDH

Pre-Disaster

- DG PDMA in consultation with Chief Secretary Sindh will be responsible for response & relief operations. Director General PDMA on his behalf will head a Composite Team (comprising representatives of Lead Agencies/

Departments and focal persons of support organizations) to coordinate response & relief operations.

- Provincial Emergency Operation Centre has been made operational during the 2nd week of July 2015,(from 15th July 2015), so as, to make all arrangements for receiving forecast data from PMD and its dissemination.
- The PEOC will be functional till the termination of monsoon season / emergency.
- The PEOC shall receive and transmit flood/ water level information thrice in flood season and on hourly basis during emergency.
- Identification of available resources i.e. machinery, tents etc., and Gaps.
- Contingency planning as to identify role of each stakeholder during emergency.
- Ensuring coordination between line departments & other stakeholders for any emergency, through workshops, trainings tec.
- Assisting DDMA's in provisions of adequate required resources for monsoon season.
- An inventory of NGOs working in these areas will be prepared prior to the crisis, in order to mobilize them quickly in case of emergency.

During-Disaster

- The coordination and collection of information and resources to support disaster/emergency incident management activities.
- 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.
- Boats , Tents, kitchen sets and rescue equipments is being procured.
- The PDMA will arrange the transportation of food and other relief items to the Flood Displaced Persons (FDP) for further distribution. District Administration will be requested to distribute the relief goods.

- 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.
- PDMA has coordination with all UN agencies and humanitarian partners to maintain a stock (food and NFI including shelter).
- Prepare daily situation reports and circulate to all concerned as per **Annex- G and G1** respectively.

Post-Disaster

- The PDMA in collaboration with partners will have to closely monitor the situation on regular basis. Logistic arrangement should be done in advance keeping in view the positions available in the case of crises. An initial rapid assessment will be carried out to identify the areas and targeted beneficiaries.
- Continue with relief and early recovery operation till affected people are settled back to their original abode and economic activity is resumed.

4.4.2 DISTRICT DISASTER MANAGEMENT AUTHORITY

- DDMA shall activate District Emergency Operation Centers (DEOCs)
- In the event of a disaster, organize emergency response through the District Emergency Operation Center (DEOC)
- Setup early warning mechanisms and dissemination of proper information to public, prepare district level response, plans and guidelines, establish stockpiles of relief and rescue material; provide information to PDMA on different aspects of Disaster Management.
- Inform / update PDMA regarding the overall situation.
- Organize evacuation on priority basis.
- Conduct initial and subsequent assessment of disaster affected areas and determine the extent of loss and damage.
- Collect information on damage status and promptly plan for the resources requirement for relief operation and share it with the PDMA.

- Provide food, drinking water, medical supplies and NFIs to the affected population
- Preferably set up tent cities/ relief camps on open land and provide relief to the affectees in camps (**Annex-F**).
- Coordinate with PDMAs to deploy resources for emergency response.
- Mobilize community volunteer groups and civil defence for emergency operations.
- Forward timely situation reports (SITREP) on daily basis to PDMA for its timely dissemination to concerned quarters.
- Ensure registration of all relocated population in the camps and overall affected population on gender segregated basis.
- Prioritize vulnerable segments of society in their relief operations.
- Facilitate early return of relocated population and help in restoring their livelihoods.

4.4.3 PROVINCIAL IRRIGATION DEPARTMENT'S FLOOD PREPAREDNESS MEASURES.

Pre-Disaster

- Establishment of Flood Control Centers.
- Liaison with armed forces and civil administration.
- Clearance of bunds and normal maintenance etc.
- Soaking arrangement along bunds is made by pumping water from river into wetting channels.
- Stock piling of Abkalani Materials along bunds.
- Stock piling of stone boulders at erosion sites.
- Construction of Katcha Landhis along bunds for patrolling staff.
- Engagement of patrolling staff.
- Round the clock patrolling by staff to check occurrence of leak etc.

- Deployment of heavy machinery viz. dozers, excavators etc. at vulnerable sites.
- Making wireless communication arrangements (Departmental).
- Lighting arrangements at vulnerable sites.
- Arrangement of transportation for department's officers and supervisory staff.
- Irrigation department may furnish the certificate that all zamindari bunds have been removed.
- Pre-Identification of the breaching points.

During-Disaster

- Collaboration with relevant organizations/partner NGOs.
- Immediate activation of machinery and equipment.
- Mobilize the human resource and material for intervention.

Post Disaster

- Rehabilitation of bunds.
- Assessment of damages of affected infrastructure of Bunds , culverts etc.

4.4.4 HEALTH DEPARTMENT

Pre-Disaster

- Provide specific information required regarding precautions for epidemics
- Establish a health mobile team in district & town headquarter hospital
- Setup an Information Center to collect and share information amongst relevant stakeholders.
- Collaboration with relevant organizations/partner NGOs.
- Stocking of life saving drugs and vaccines.

During-Disaster

- Providing emergency treatment to the affected
- Provision of First-aid & water testing kits, chloramines and anti-snake venom serum & other emergency support
- Deployment of mobile medical teams & health staff
- Collaboration with all relevant stake holders

Post Disaster

- Establishment of medical camps, vaccination, ensuring safe food & water in camps
- Conduct impact assessment on health, intervene to stop outbreak of diseases
- Rehabilitation of health infrastructure

4.4.5 LOCAL GOVERNMENT DEPARTMENT

Pre-Disaster

- Prepare vulnerability and risk analysis of rural population at Union Council level prepare contingency plan for protection of rural population.
- Local Government Department to ensure the cleaning of the chocked water drainage system and de-silting of nallas.

During-Disaster

- Mobilize Man power to protect life and property of affected population and support to PDMA and other agencies involved in search, rescue and rehabilitation efforts.
- Mobilize the human resource and machinery for intervention.

Post Disaster

- Support PDMA and other agencies involved in relief measures.

4.4.6 EDUCATION DEPARTMENT

Pre-Disaster

- Providing the necessary information, training to teachers & students regarding disasters with tips to save their families & themselves during disaster.
- In collaboration with Civil Defence and Boy Scouts / Girl Guides Associations, to gear up the volunteers force.
- Educate students about Health care Precautions

During-Disaster

- Mobilize the human resources for intervention during disaster
- Arrangement for evacuees to setup relief & temporary shelter camps
- Deployment of volunteers for camp management & emergency support

Post-Disaster

- Assessment of damages & needs of affected educational institutes
- Rehabilitation of affected educational institutes
- Continuing Education of children at camps and helping them to recover from shock by providing toys etc.

4.4.7 AGRICULTURE DEPARTMENT

Pre-Disaster

- Assessment of high risk prone areas and estimation of possible damage
- Create community Seed Bank at UC level
- Regular surveillance of Irrigation water supplies
- Close coordination with Meteorological Department & other stakeholders for weather information.

- Testing, functioning and pre-positioning the available machinery.

During-Disaster

- Immediate mass awareness and update of situation
- Arrangements for relief & temporary shelter camps in canal rest houses
- Vigilance for protection of Agriculture crops.
- Immediate activation of machinery and equipment.

Post-Disaster

- Assessment of damages & needs of affected crop area and submit to DDMA
- Assistance in repair & rehabilitation of Irrigation Systems.
- Timely compensation to affected farmers
- Mass awareness campaigns regarding epidemics & diseases to crops
- Inform the affected population regarding the land use and crop management on damaged / devastated areas.

4.4.8 LIVESTOCK AND FISHERIES DEPARTMENT

Pre-Disaster

- Estimation of possible damage
- Mass Awareness regarding precautions
- Close coordination with Agriculture, Irrigation, Meteorological Department & other stakeholders.
- Vaccination of livestock.
- Stocking of fodder and vaccines.

During-Disaster

- Update local communities of ongoing situation.
- Provide livestock vaccination
- Arrangements for relief & transportation of livestock.
- Provision of fodder for livestock in affected area.

Post-Disaster

- Assessment & submission of damages & need of affected livestock to DDMA
- Timely compensation to affected livestock owners
- Mass awareness campaign regarding epidemics & diseases to livestock

4.4.9 PLANNING & DEVELOPMENT DEPARTMENT

Pre-Disaster

- Gathering statistical data regarding possible damages & recovery needs from all relevant departments
- Plan & identify potential resources
- Facilitation to other department in planning

During-Disaster

- Prepare materials and equipments for emergency response
- Deployment teams to distribute fuels to the affected areas

Post-Disaster

- Gathering statistical data regarding actual damaged & recovery needs from all relevant departments

- Plan & Identify potential resources
- Facilitation other departments in planning and execution of rehabilitation in cost effective manner
- Coordinate with all line departments

4.4.10 REVENUE DEPARTMENT

Pre-Disaster

- Assessment of high risk prone areas and estimation of possible damage and needs for recovery.
- Arrangement of financial resources.
- Identification of high grounds for establishment of tent cities.

During-Disaster

- Establish relief distribution centers and accept relief donation/ relief support
- Request assistance from DEOC and coordinating in timely release of funds and submitting financial reports of DEOC

Post-Disaster

- Assessment of damages of Industrial/ Business, Crops and Livestock and Settlement of applicable taxes accordingly
- Support PDMA in conduct of authentic damage assessment and compensation need.

4.4.11 POLICE DEPARTMENT

Pre-Disaster

- Information dissemination through "15 helpline Service" to local residents

- Prepare Contingency Plan, Teams & their training for emergency intervention.
- Deploying and giving security cover to government agencies which are working / preparing for the monsoon season in areas where Law and Order situations may emerge.

During-Disaster

- Rescuing affected, shifting, to hospitals and corpse disposal
- Providing easy access & security to rescue & relief teams.
- Maintain law & order and divert traffic on alternative safe routes as and when necessary.
- Maintaining Law and Order and provide security to relief stock piles and camps.

Post-Disaster

- Ensure security to workers of NGOs/INGOs
- Provide security in Un-safe areas
- Facilitation to institutions/NGOs/INGOs which focus on rehabilitation activities.

4.4.12 CIVIL DEFENCE

Pre-Disaster

- Information sharing regarding technical and personnel expertise with PDMA and DDMA.
- Conduct training for volunteers in first aid & other activities
- Effectively train & mobilize volunteers and initiate mass awareness regarding necessary first aid-rescue activities

During-Disaster

- Deployment of volunteers at the disposal of DDMA for Rescue, Evacuation and initiated basic first aid.

- Communicate to DEO any additional resources required for performing Rescue and Evacuation Activities
- Taking precautionary measures to stop Fire-incidents in camps and perform Fire fighting in emergency.
- Management of relief camps where required.

Post-Disaster

- Identify gaps, make future plan to overcome weaknesses
- Assisting District Administration and other Line Departments in Rehabilitation works

4.4.13 FINANCE DEPARTMENT

Pre-Disaster

- Review past experiences and arrange for fund availability to be placed at the disposal of PDMA, DDMA's and other concerned agencies.

During-Disaster

- Review the need of provision of fund and make timely releases.

Post-Disaster

- Review the situation and arrange fund for early recovery, rehabilitation and reconstruction

4.5 STANDARD OPERATING PROCEDURES (SOPs)

- All the departments shall immediately prepare a comprehensive and up-to-date Contingency Plan for combating expected heavy rains and carrying out the Rescue and Relief work including the details of available staff, vehicles, machinery equipments and other resource in close coordination with PDMA, These all must be kept ready to mobilize / use to combat any emergency during the Monsoon season 2015.
- The Deputy Commissioners shall keep close liaison with all departments like Local Government, Health, Agriculture, Civil Defence, Irrigation, Works & Services, Education & Literacy, Police & other Law enforcement Agencies.
- The Deputy Commissioners shall hold Meetings on regular basis with concerned departments and minutes shall be shared with other Divisional Commissioners and the PDMA.
- If there is likelihood of heavy rains and flood emergency would be declared in the District and all Government functionaries and NGOs would be kept on high alert.
- Control Rooms would be established at District and Taluka level in the offices of the Deputy Commissioners. Assistant Commissioner, Mukhtiarkars (Revenue) and line departments during the Rain/Flood emergency. These Control rooms shall function round the Clock.
- The Deputy Commissioners shall ensure activation of Central District Control Rooms and already established control rooms at each Mukhtiarkar (Revenue) Offices, under the supervision of Assistant Commissioner concerned.
- The Executive Engineers Irrigation will establish round the clock control rooms in their offices for liaison with all concerned and activate the contingency Plan of the department.

- The Executive Engineers Irrigation to identify the vulnerable points of the LBOD Sim-Nalahs / and other irrigation canals and intimate PDMA before 30th June. They will be in touch with PDMA and the Meteorological Department and inform the concerned agencies about any developing emergency scenario.
- The Executive Engineers Irrigation to make special arrangements for watch-&-ward and patrolling of vulnerable points and ensure that embankments remain in stable condition.
- Immediate arrangements for all requisite machinery, sand bags and other material to be used for strengthening of embankments of canals and plugging breach shall be ensured and availability of communication network must be made at all vulnerable points.
- The Executive Engineers Irrigation / LBOD shall ensure regular, timely and proper de-silting of all canals, distributaries, drains, sub-drains and submit a certificate to the effect to his higher authorities with an information copy to PDMA.
- The Deputy Commissioners shall ensure preparedness at proposed relief camps and also ensure immediate evacuation of people residing in low-lying areas to safer place/ relief camps, if and when so required. They shall also make immediate arrangements for the availability of sufficient quantity of relief Material like food, blankets, tents- plastic sheets etc.
- The Deputy Commissioners shall constitute Supervisory Committees for relief works at district level.
- The Deputy Commissioner must ensure that special attention is given to the disabled / vulnerable people and women and children and extra ordinary measures are taken for such purpose.

- The Deputy Commissioner shall nominate the Assistant Commissioner as focal persons to coordinate with the Taluka and Town level local councils for drainage of accumulated rain water during monsoon season-2015.
- In case of the highest degree of emergency, Pakistan Army may be requested for helping the district Administration in rescue and relief Operations.
- The Deputy Commissioners shall ensure mobilization of the NGOs and business community in the rescue and relief activities in case of emergency and shall depute volunteers on different emergency tasks.
- The Assistant Commissioners of the sub-division/ Taluka shall be focal persons in Talukas for the entire operations of rescue and relief.
- The Assistant Commissioners must ensure the respective arrangements for tractor trolleys and manpower in coordination with Civil Defence, Boy Scouts Association and Police Department if needed and mobilize the village staff in the pre-and-post emergency work.
- The Assistant Commissioners shall ensure proper distribution of relief material among the actual needy persons.
- The Executive Engineer Drainage Division (LBOD), Irrigation Department shall ensure availability of bulldozers, excavators and earthmoving machines in sufficient number .and in proper working and ready to use condition in case of emergency.
- The Director Agriculture shall make arrangement for protection of standing crops from damages and diseases that may be caused from the stagnant rainwater in the fields.

- The Director Agriculture shall manage required machinery from mechanical wing and must have the inventory of such machinery and equipment.
- The District Officer, Animal Husbandry Livestock and his staff shall ensure safety of livestock from flood diseases and losses and Veterinary Officers shall ensure regular and timely vaccination of cattle in the districts.
- The District Officer shall make all necessary arrangements for fodder for the livestock to be shifted from marooned areas.
- The Deputy Controller, Civil Defence shall ensure the enrolment of volunteers as early as possible in order to avoid any chaotic situation during emergency.
- The Deputy Controller, Civil Defence remain continuously updated on weather forecast reports with Meteorological departments and will make arrangements for warnings in emergency situation through sirens, loudspeakers and the media at Taluka and village level.
- The Deputy Controller, Civil Defence shall ensure presence of the Razakars / volunteers and scouts for rain relief and rescue activities in case of any emergency.
- The Deputy Director Food shall ensure availability of sufficient stock of wheat and other grains and shall coordinate with Deputy Commissioners for supply of ration/ food grains from local Food Grains dealers in case of need.
- The Deputy Director Food will also ensure that no stocks of government wheat, placed at depots, are damaged due to water accumulation, fire or rioting.
- The Executive Engineer K-Electric / HESCO / SEPCO, shall ensure that no

case of electrocution occurs due to negligence of their respective departments and no loose wires are suspended from the electric poles.

- In case of any breaking of live electric wires immediate steps shall be taken for repair and regular inspection of transformers shall be ensured.
- The Divisional Engineer Telephone shall ensure full function-ability of telephones all over the district and provide assistance to all departments on demand at the, time of need.
- The Zonal Manager Sui-Southern Gas Company shall ensure continuous supply of gas and proper safety of gas lines throughout its network in the districts of his division. He shall ensure immediate repair work in case of any damage to the gas lines.
- The Regional Director, Information shall keep close liaison with all control rooms of the division to provide correct and exact information to media regarding emergency.
- The Regional Director, shall also arrange briefings about the latest situation in case of emergency.
- The Red Crescent Society and other welfare associations and NGOs of the district shall provide food packets and other required material to the affected persons in relief camps in case of emergency.
- The Executive Engineer, Provincial. Highways department shall make proper arrangement for lifting of trees fallen due to heavy rain and gusty winds from the main Highways / Roads.
- The in-charge Utility Stores Corporation shall ensure the availability of sufficient stock of edible items in case of need as and wherein required.
- The Revenue Department shall also conduct the survey of any loss of life houses, cattle, standing crops and other infrastructure after the

rains / floods-2015.

4.6 IMPORTANT CONTACT NUMBERS

The list of important contact numbers is **annexed at I.**

LIST OF ACRONYMS

DDMA	District Disaster Management Authority
DRR	Disaster Risk Reduction
DEOC	District Emergency Operation Center
DMA	Disaster Management Authority
ERC	Emergency Relief Cell
FDP	Flood Displaced Person
FFC	Federal Flood Commission
FFD	Flood Forecasting Division
FFT	Flood Forecasting Telemetry System.
GHQ	Army General Headquarters
HH	Households
INGO	International Non-Governmental Organization
LBOD	Left Bank Outfall Drain
MIRA	Multi Cluster Initial Rapid Assessment
NDMA	National Disaster Management Authority
NGO	Non-Governmental Organization
NHA	National Highways Authority
NHEPRN	National Health Emergency Preparedness and Response Network
OCHA	UN Office for the Coordination of Humanitarian Affairs
O&M	Operations and Maintenance
PDMA	Provincial Disaster Management Authority
PEOC	Provincial Emergency Operations Center
PMD	Pakistan Meteorological Department
PRCS	Pakistan Red Crescent Society
RBOD	Right Bank Outfall Drain
SASCOF	South Asian Climate Outlook Forum
SITREP	Situation Report
SUPARCO	Space and Upper Atmosphere Research Commission
SOPs	Standard Operating Procedures
UN	United Nations
UNICEF	UN Children's Fund
USAR	Urban Search and Rescue Team
Wash	Water, Sanitation and Hygiene
WHO	World Health Organization
WMO	World Meteorological Organization

Annex – A

HISTORY OF PAST FLOOD EVENTS

Year	Deaths	Injured	Houses Destroyed	Houses Damaged	People Affected	Cattle Lost	Villages Affected
2013	47	43	14095	21400	534834	88	3068
2012	280	3687	116849	247851	3088970	849	12915
2011	462	756	608579	694519	8634995	104277	36008
2010	475	837	372089	245872	8065846	398769	13649
2008	40	29	3583	13026	0	219	0
2006	162	0	0	113475	1570881	5	95
2003	407	235	0	246464	831157	3618	3243
1995	114	0	21189	0	504455	1397	823
1994	264	0	129387	355554	690035	6090	7894
1992	232	0	239238	269085	0	66512	0
1988	8	0	0	16445	175000	25	1

Annex-B

	Tents	Mosquito Nets	Plastic Sheets	Blanket	Jerry Can	Water Tank	De-watering Pumps	Solar LED	Rescue Boats	Life Jacket	LSEs	Generators Set
Held	25,340	119,800	8,000	65,830	9,000	46	73	20,102	95	90	--	--
Projected Procurement	--	--	--	--	--	200	25	5,000	75	--	2000	10

	Water Filter Unit	Water Purifying filters	Kitchen Sets	Sleeping Bag	Spray Pumps	Exercise Books	Bed Sheets	Mosquito Repellent	Portable Latrines	Hygiene Kits
Held	01	25000	178	24 Ctn	08	27 Ctn	55 ctn	30000	--	--
Projected Procurement	--	--	25,000	--	--	--	--	--	200	25,000

Annex-C

HEAVY MACHINERY

Division	MACHINERY								
	Bulldozers/ Dozer	Dumpers	Excavator	De-Watering Pumps	Fire Engine/ Tender	Tractors Trolleys	Boats	Ambulances	Vehicles/ Buses/ Trucks /Vans
Sukkur	24	6	9	99	11	9	19 (+40 Private)	38	73
Larkana	29	Nil	5		30	52	(52Private)	109	33
Sh. Benazirabad	07	1	0	285	28	59	23	37	13
Mirpurkhas	02	0	0	107	28	35	6	33	103
Hyderabad	26	20	24	418	33	69	23 (+25 Private)	126	222
Karachi									
Cantt. Clifton, Khi	0	9	0	204	03	03	0	02	33
Cantt. Faisal, Khi	0	0	0	04	0	01	0	01	02
Irrigation	19	20	82	-	-	-	-	-	-
W&S	-	02	-	-	-	-	-	-	-
Agriculture	92	-	-	-	-	-	-	-	-
Total	199	58	120	1117	133	228	188	346	479

PREPOSITIONING OF RELIEF ITEMS AT THE DISPOSAL OF DISTRICT ADMINISTRATION

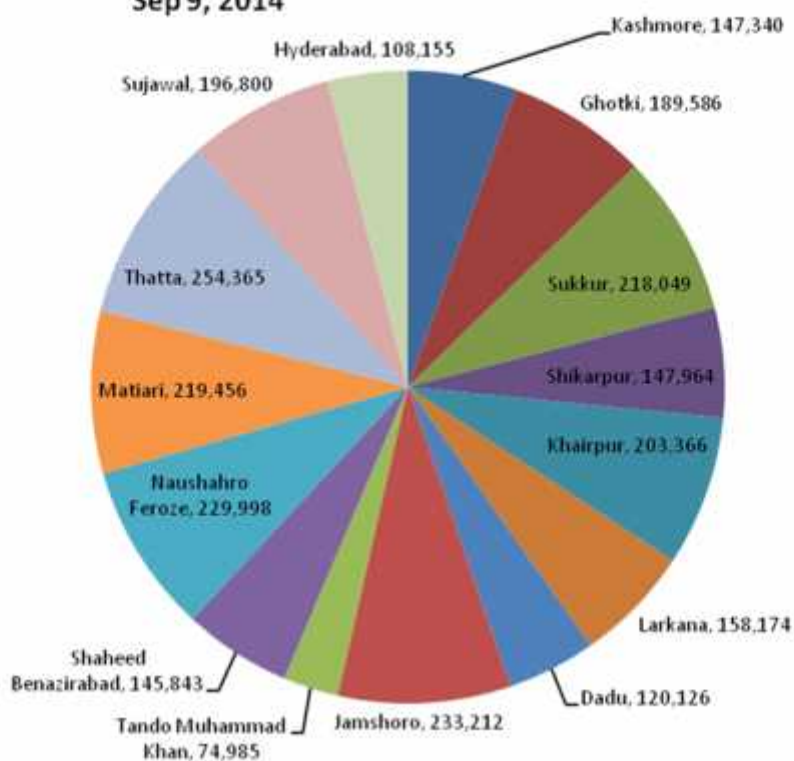
Sr.	District	Tents (Nos.)	Mosquito Nets (Nos.)	Mosquito Repellent(Ctn)	Boats
01.	Kashmore	1,000	4,000	25 Ctn (1x40)	02
02.	Ghotki	1,000	4,000	25 Ctn (1x40)	02
03.	Shikarpur	1,000	4,000	25 Ctn (1x40)	02
04.	Sukkur	1,000	4,000	25 Ctn (1x40)	02
05.	Khairpur	1,000	4,000	25 Ctn (1x40)	02
06.	Larkana	1,000	4,000	25 Ctn (1x40)	02
07.	NaushehroFeroze	1,000	4,000	25 Ctn (1x40)	02
08.	Dadu	1,000	4,000	25 Ctn (1x40)	02
09.	Shaheed Benazirabad	1,000	4,000	25 Ctn (1x40)	02
10.	Matiari	1,000	4,000	25 Ctn (1x40)	02
11.	Hyderabad	1,000	4,000	25 Ctn (1x40)	02
12.	T.M. Khan	1,000	4,000	25 Ctn (1x40)	02
13.	Thatta	1,000	4,000	25 Ctn (1x40)	02
14.	Jamshoro	1,000	4,000	25 Ctn (1x40)	02
15	Sujawal	1,000	4,000	25 Ctn (1x40)	02
16	Jacobabad	500	4,000	15 Ctn (1x40)	02
17	Kamber@ Shahdadkot	500	4,000	15 Ctn (1x40)	02
18	Jamshoro	500	2,000	15 Ctn (1x40)	--
Total:		16500	68,000	420 Ctn	34

* District Thatta, Sujawal and Hyderabad, tents shall be provided by relief department.

Estimated Population at Risk in Katcha Areas of Sindh; Sep 9, 2014

District	At Risk Pop
Kashmore	147,340
Ghotki	189,586
Sukkur	218,049
Shikarpur	147,964
Khairpur	203,366
Larkana	158,174
Dadu	120,126
Jamshoro	233,212
Tando Muhammad Khan	74,985
ShaheedBenazirabad	145,843
NaushahroFeroze	229,998
Matiari	219,456
Thatta	254,365
Sujawal	196,800
Hyderabad	108,155
Total	2,647,419

**Estimated At-Risk Population in Katcha Areas of Sindh
Sep 9, 2014**



S.No	District	Taluka	Vulnerable Union Councils	At-Risk Population in Katcha Areas
1.	Kashmore 147,340	Kandhkot	Dari (Ghouspur)	17404
			Haibat	18963
		Kashmore	Gublo	16440
			Badani	18494
			Gihalpur	20167
			Sodhi	20383
			Kashmore Colony-1	20239
			Khewali	15250
2.	Ghotki 189,586	Ghotki	HussainBeli	18775
			Kadirpur	26993
			Bagodeho	21246
			Ruk	17346
		Ubauro	Ranwat	30791
			Langho	23534
			WastiJiwan Shah	25364
			Khambra	25537
3.	Sukkur 218,049	New Sukkur	Bagerji	15551
			Arain	15431
			Tamachani	12,240

	PanoAqil	Sadhuja	18014	
		Nauraja	19215	
		Sangi	21364	
		Hingoro	15875	
		Rohri	Ali Wahan	16115
			Arore	18620
			Panhwar	24009
			LoungBhatti	22567
			Patni	19048
4. Shikarpur 147,964	Khanpur	GarhiThegho	19930	
		MehmoodaBagh	19742	
	Lakhi	Sehwani	18759	
		Chak	17746	
		Lakhi	16117	
		Jehan Khan	11056	
	GarhiYasin	Mirzapur	15850	
		Amrote	16447	
		JindoDero	12317	

S.No	District	Taluka	Vulnerable Union Councils	At-Risk Population in Katcha Areas
5.	Khairpur 203,366	Sobodhero	Sagyoon	21580
			Pir Hayat Shah	19438
		Gambat	Agra	21479
			Ripri	15289
			Beharlo	19045
			Khemat	14138
		Kingri	Hadal Shah	21649
			Priyalo	24358
			Kot Mir Muha	21956
		Khairpur	Baberilo	24434
6.	Larkana 158,174	Ratodero	Bahman	23196
			Banguldero	24106
		Larkana	Akil	22178
			Phul	23098
		Bakrani	Purano Abad	20956
		Dokri	Bagi	24093
			Karani	20547
7.	Dadu 120,126	Dadu	Pat	22354
			Allahabad	19278
			Phulji Station	19153
			Monder	19877
			Sial	20749
		Mehar	Nao Goth	18715
		8.	Jamshoro 233,212	Sehwan
Channa	19607			
Sehwan	19638			
Sehwan 1	18702			
Manjhand	Amri			18329
	Sann			18098
	Lakh			17547
	Manjhand			24951
Kotri	Allah BachayoShoro			20954
	Jamshoro			20042
	Unerpur (Petaro Proposed)			13618
	Kotri			19042

S.No	District	Taluka	Vulnerable Union Councils	At-Risk Population in Katcha Areas
9.	Tando Muhammad Khan 74,985	Bulri Shah Karim	Saeedpur	22004
			MullanKatira	27292
			JahanSoomro	25689
10.	ShaheedBenazirabad 145,843	Kazi Ahmed	ShahpurJahania	19312
			Dulatpur	20956
			Said Kando	18043
			That	19965
		Sakrand	Gohram Mari	12134
			Bhura	8129
			Mahrabpur	24740
		Mariv	22564	
11.	NaushahroFeroze 229,998	Kandiario	MohabatDero	22076
			Kamaldero	21412
			Abad	21460
			Dabhro	24844
			Bhorti	19604
		NaushahroFeroze	Mithiani	22453
		Moro	Depareja	20942
			Lalia	27351
			FatooBalal	22814
			Gachero	27042
12.	Matiari 219,456	Saeed Abad	Saeed Abad	28991
		Hala	Bhanoth	25572
			Karam Khan Nizamani	26676
			Hala Old	26472
			Hala-2	23537
		Matiari	Sekhat	30531
			Matiari	26797
			Shah Alam Shah	30880

S.No	District	Taluka	Vulnerable Union Councils	At-Risk Population in Katcha Areas
13.	Thatta 254,365	Thatta	Jhurruck	17755
			Jimpir	20614
			Sonda	17897
			Chuto Chand	21264
			KalanKot	1867
			Thatta 1	20002
			Domani	19657
		KetiBander	KetiBander	25700
		Kharochan	Kharo Chan	25666
		Ghorabari	Khan	22008
			Kotri Allah Rakhio Shah	19309
			Mahar	21490
			Udassi	21136
14	Sujawal 196,800	MirpurBathoro	BachalGugo	17996
			Bano	19032
			Liakpur	18592
		Shah Bander	JongoJalbani	20207
			DoulatPur	19267
			Goongani	20362
		Jati	MureedKhoso	20101
		Sujawal	Bijora	20504
			Belo	22272
			Ali Bahar	18467
15.	Hyderabad 108,155	Hyderabad	MasuBhurgari	24362
			Hatri	29719
		Qasimabad	Qasimabad 4	25159
		Latifabad	Latifabad 5	28915

Total 2,647,419

DETAILS OF RELIEF CAMPS

S. No.	Division	District	Number of Relief Camps
1	Hyderabad	Hyderabad	64
2		Shaheed Benazirabad	36
3		Dadu	89
4		T.M Khan	30
5		Tando Allahyar	94
6		Matiari	23
7		Jamshoro	43
8	Mirpurkhas	Mirpurkhas	263
9		Umerkot	45
10		Sanghar	154
11		Tharparkar	93
12	Sukkur	Sukkur	16
13		Khairpur	10
14		Ghotki	20
15		Naushehro Feroze	17
16	Larkana	Larkana	17
17		Shikarpur	12
18		Kamber	07
19		Kashmore	11
20		Jacobabad	19
21	Bhambhore	Sajawal	40
22		Thatta	29
23		Badin	13
24	Karachi	South	17
25		Malir	09
26		West	42
27		Korangi	39
28		East	15
29		Central	15

FLOOD STORES WITH HQ ENGINEER 5 CORPS

S.#	ITEMS	QUANTITY	THIS YEAR PROVIDED	Total
1.	Fiber Glass Boats	130	40 *	170
2.	OBM 15 HP	50	-	50
3.	OBM 25 HP	161	-	161
4.	OBM 30 HP	12	15	27
	OBM 48HP	-	25	25
5.	Life Jackets (All Types)	2021	-	2021
6.	Search Light	45	-	45
8.	De-watering Pumping Set (All Types)	131	15	146
9.	Anchors	122	-	122
10.	Rubber Boat	10	-	10
11.	Life Ring	748	-	748

* 23 feet = 25 and 14 feet = 15

FLOOD RELIEF EQUIPMENTS PROVIDED TO PAKISTAN NAVY AND COMCOAST

S.No.	Equipment	Navy	COMCOAST	Total
1	Combo (Fish Finders / GPS Gram 421S)	02	--	02
2	Camera – COOLPIX AW110)	01	--	01
3	Goggles / Black Color	07	--	07
4	Fins (Pairs)	07	--	07
5	Under Water Flash Lights	04	--	04
6	Air Cylinder (Diving Cylinder 15 litres)	04	--	04
7	Regular (Diving Regular P-Synchro)	04	--	04
8	Pressure Gauge (Pressure Gauge Console 2)	04	--	04
9	Wet Suit (Body Fit)	04	--	04
10	Budy Lines	02	--	02
11	Jacket Master	04	--	04
12	Weight Belt with pockets	04	--	04
13	Diver Weight (soft weights)	04	--	04
14	Diver Hood (Standard)	04	--	04
15	Diver Gloves	04	--	04
16	Diver Boots	04	--	04
17	Diving Rope (Nyclone)	120 Ft.	--	120 ft.
18	Fiber Glass Boats (14 feet)	--	10	10
19	OBM 30 HP	--	10	10
20	De-Watering Machines	--	05	05
21	Generator	--	02	02



Provincial Disaster Management Authority , Sindh
Telephone Directory for Flood-2015

ANNEX-I

Division	District	Name	Designation	Mob No#	Numbers	Fax	EOC No#
Karachi	KARACHI	Mr Shoab Ahmed Siddiqui	Commissioner	0313-3668455	021-99205607-10	021-99205652	021-99205634
	Karachi (East)	Mr. Agha Perveez Naz	Deputy Commissioner	333-3068919	021-99231214 021-99231215	021-99230994 021-99230918	021-99230918
	Karachi (West)	Mr. Sayed Muhammad Ali Shah	Deputy Commissioner	0333-8243333	021-32596600 021-32572222	021-32596601	021-3256691-2
	Karachi (Central)	S.M Afzal Zahdi	Deputy Commissioner	0321-9779776	021-99260037 021-99260038	021-99260035	021-99260049
	Karachi (Malir)	Mr. Qazi Jan Muhammad	Deputy Commissioner	0300-8288652	021-35011101 021-35001306	021-35001301	021-35001306
	Karachi (South)	Mr. Saleem Rajpot	Deputy Commissioner	0300-2349200	021-99205625 021-99202296-7	021-99202296 021-99205632	021-99211429
	Karachi (Korangi)	Mr. Asif Jan Siddiqui	Deputy Commissioner	0307-3607602	021-99264402	021-99264420	021-99264402
Mirpur khas	Mirpur khas	Mr. Shafiq Ahmad Mehsar	Commissioner	0300-2551877	0233-9290052-3	0233-9290059 0233-9290055	0233-9290052
	Mirpur khas	Mr. Rashid Ahmad Zardari	Deputy Commissioner	300-9372704	0233-9290069-79	0233-9290069 0233-9290254	0233-9290269
	Umer kot	Makhdum Aqeel ul Zaman	Deputy Commissioner	0321-2917144	0238-570700	0238-571474	0238-571442
	Tharparkar	Mr. Asif Jamil	Deputy Commissioner	0333-3103020	0232-261667 0232-261899	0232-261818	0232-261667
Larkano	Larkano	Dr. Ghulam Akber Lahghari	Commissioner	0300-8378956	0749-410354	074-9410293	074-9410244-254
	Larkano	Mr. Javaid Jagirani	Deputy Commissioner	0342-9100111	0749-410337 0749-410241	074-941060 074-9410334	074-9410337
	Kamber Shadadkot	Capt. . Anwar	Deputy Commissioner	0333-2087044	0744-211594 0744-210074	0744-112127 0744-211574	074-9410294
	Shikarpur	Mr. hyder Bux Zardari	Deputy Commissioner	0300-3086652	0726-920200	0726-920202	0726-920212
	Jacobabad	Mr. Raja Shahzaman Khan	Deputy Commissioner	0333-3647400	0722-652020 0722-653999	0722-653711 0722-653666	0722-652020
	Kashmore	Dr Hafeez Ahmad Siyal	Deputy Commissioner	0300-8379253	0722-570901 0722-570903	0722-570902	0722-570903
Sukkur	Sukkur	Mr. Abbas Baloch	Commissioner	0300-2282356	071-9310617	071-9310837 071-9310602	071-9310835
	Sukkur	Mr Shahzad Fazal Abbasi	Deputy Commissioner	0321-2017728	071-9310601	071-9310629-9310602	071-9310601
	Khairpur	Mr. Munawar Ali Mithani	Deputy Commissioner	0300-3415399	0243-9280200-1	0243-9280202	0243-9280200-1
	Ghotki	Mr. Tahir Watto	Deputy Commissioner	0321-4663070	0723-652016 0723-652175	0723-651628	0723-652016,652175
Hyderabad	Hyderabad	Mr.Asif Hyder Shah	Commissioner	0333-2144880	022-9200112-6	022-9200114 022-9201316	022-9200112
	Thatta	Mr. Nadeem ur Rehman Memon	Deputy Commissioner	0300-8377697	0298-920061 0298-770359	0298-920009 0298-920058 0298-920114	0298-920061
	Sujawal	Mr. Zubair Chana	Deputy Commissioner	0345-4444660	029-8510359	0298-510358	0298-510359 0298-510179
	Badin	Mr. Muhammad Rafiq Qurishi	Deputy Commissioner	0333-3000700	0297- 861001 0297-862365	0297-861996	0297- 86100-862365
	Hyderabad	Mr. Fayyaz Ahmad Jatoi	Deputy Commissioner	0332-4500777	022-9200570 022-9200571 022-9200976 022-9200244	022-9200245 022-9200976 022-9200570	022-9200571
	Tando M Khan	Mr. Agha Abdul Rahim	Deputy Commissioner	0300-3244010	022-3341009	022-3340292 022-3340637 022-3340205	022-3341009
	Tando Allahyar	Syed Mehdi Ali Shah	Deputy Commissioner	0333-2363353	022-3892910 022-3892908	022-3892910 022-3890501 022-3892910	022-3892910
	Matiori	Mr. Faiyaz Hussain Abbasi	Deputy Commissioner	0300-3602941	022-2760033 022-2760929	022-2760011 022-760017 022-2760011	022-2760033
	Jamshoro	Mr. Sohail bachani	Deputy Commissioner	0300-8372922	0223-870135	0223-871199	0223-870135
	Dadu	Mr. Nasir Abbas Soomro	Deputy Commissioner	0333-2118255	0259-200250-1 0	025-9200252-55	0259-200250-1
Division	District	Name	Designation	Mob No#	Numbers	Fax	EOC No#

<i>Shaeed Banazirabad</i>	<i>S. Banazirabad</i>	<i>Mr. Ghulam Mustafa Phul</i>	<i>Commissioner</i>	<i>0333-2111791</i>	<i>0244-9370333</i>	<i>0244-9370392</i>	<i>0244-937393</i>
	<i>S. Banazirabad</i>	<i>Mr. Tahir Hussain sangi</i>	<i>Deputy Commissioner</i>	<i>0300-8237086</i>	<i>0244-9370334 0244-9370337</i>	<i>0244-9370338</i>	<i>0244-9370332</i>
	<i>Sangar</i>	<i>Mr. Sikandar Ali Khushk</i>	<i>Deputy Commissioner</i>	<i>0300-8262877</i>	<i>0235-541844 0235-541781</i>	<i>0235-541601</i>	<i>0235-8879224</i>
	<i>Naushero Feroze</i>	<i>Mr. Agha Nasir</i>	<i>Deputy Commissioner</i>	<i>0300-2186243</i>	<i>0242-448348</i>	<i>0242-448881</i>	<i>0242-448348</i>

Departments Phone Numbers

NDMA.....	051-9214295	
Federal Flood Commission).....	051-9206589	
SMBoR Revenue.....	022-9200553	
PMD, Karachi.....	021-99261404-7	
Rain Emergency Cell CM Secretariat, Karachi.....	021-99202007, 021-99202029	
Civil Defence Sindh.....	021-99215667	PDMA PEOC 021-99239524 Office No# 021-99251458-59. Fax No# 021-99251463
Irrigation Department.....	021-99211445-1	
Agriculture Department.....	021-99211805	
Health Department.....	021-99222837	
Food Department.....	021-99222986	
Administrator Karachi.....	021-99232401-6	
Civil Defence Sindh.....	021-99215667	