

DISTRICT DISASTER MANAGEMENT PLAN (DDMP) 2021

District Kasur
Division Lahore



MOCK EXERCISE IN KASUR



MONTHLY DDMA MEETING IN KASUR



FLOOD 2018



FLOOD 2010

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XX

Flood

Estimated number of people at risk of Floods in 2021 of total population
Risk: High

XX

Drought

Estimated number of people at risk of Drought in 2021



Of total population Risk: Medium

XX

Earthquake

Estimated number of people at risk of earthquake in 2021 of total population

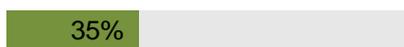


Risk: Low

XX

Epidemic

Estimated number of people at risk of epidemic in 2021 of total Population



Risk: Medium

EXECUTIVE SUMMARY

Kasur district is bounded by the Ravi River in the north-west and river Sutlej in the south-east. Whereas the old course of Beas River bifurcates the district into two equal parts locally known as Hither and Uthar or Mithan Majh. Both of the areas have a height differential of approximately 5.5 meters. The district administration of Kasur has adopted a multi hazard approach to plan and strategize disaster response system. Based on consultations with different government stakeholders, most common form of hazard in the area are floods, earthquakes, drought and environmental hazards including deforestation and groundwater contamination. Kasur is generally considered as flood-safe district, as water rights of both rivers flanking the district reside with India, under Indus Water Treaty

The local governments have a key role in identifying and understanding the hazards and risks that could impact on the safety and sustainability of their communities. At local level, DDMA, with technical assistance from PDMA, will prepare District DRR/DRM Plan keeping in view the detailed analysis of risks and vulnerabilities of the area, mapping of capacities available with public and private sector, and clearly defined roles and responsibilities of district line departments to be performed in pre- and post-disaster phases. The District Disaster Management Plans will also provide long-term DRM vision, key priorities and financial arrangements necessary for implementing programs and activities aimed at making the local communities resilient to hazards and threats from potential climatic changes. The DDMPs will not entirely focus on structural or engineering solutions but equal importance will be given to non- structural aspects of DRM. DDMA will endorse the DDMP for final approval.

AIM AND OBJECTIVES

The plan is aimed to manage emergencies by putting in place requisite mitigation measures and a well-coordinated and integrated response at district level.

The main objectives of the plan include:

- To develop a plan of action for the District Disaster Management Authority and other district stakeholders to set priorities and provide directions for disaster management;
- To define the roles of various stakeholders in disaster management in all the phases pre, during and after disaster;
- To raise awareness of stakeholders about disaster risks and the requirements for disaster management;
- To introduce coordination mechanism for immediate response and rehabilitation at district level;
- To enhance the effectiveness and timeliness of emergency response through the clarification of goals, strategies, roles and responsibilities;
- To strengthen response coordination between government departments and humanitarian organizations (UN agencies, NGOs).

DISTRICT PROFILE

District Kasur is situated near Lahore. The total area of the district is 3,995 square kilometers and Kasur city is the district capital. The district is administratively subdivided into 4 tehsils (Kasur, Chunian, Pattoki and Kot Radha Kishan) and 125 Union Councils. Earlier it was part of Lahore District but was declared as a separate district on 1 July 1976 with two tehsils; Kasur and Chunian. In 1992, the tehsil Chunian was bifurcated into two tehsils, Chunian and Pattoki. Later, Kot Radha Kishan was declared as a separate tehsil. The district is connected to Lahore and the adjacent districts by a network of roads and rail.

In ancient time, Kasur was known for its education and fish. The history of Kasur is more than 1,000 years. Kasur region was agricultural region with forests during the Indus Valley Civilization. The Kasur region was ruled by Maurya Empire, Indo-Greek kingdom, Kushan Empire, Gupta Empire, White Huns, Kushano-Hephthalites and Shahi kingdoms. The Mughal Empire ruled Kasur for 200 years. After and during the decline of the Mughal Empire, the Sikhs took over the Kasur District. Most of the Punjab region was annexed by the East India Company in 1849, and was one of the last areas of the South Asia to fall under British colonial rule. During the British Raj, the irrigation canals were built that irrigated large areas barren lands of the Kasur District. The principal tribes and clans residing in Kasur District are Rajput, Arain, Jat, and Dogars. Other smaller tribes and clans in Kasur include Bhatti, Malik, Sunyare Mayo, Dogar, Ansari, Sheikh and Pathan. The refugees from East Punjab that settled in the district largely belonged to these tribes and clans.

Geology and Climatology

Kasur district is bounded by the Ravi River in the north-west and river Sutlej in the south-east. Whereas the old course of Beas River bifurcates the district into two equal parts locally known as Hither and Uthar or Mithan Majh. Both of the areas have a height differential of approximately 5.5 meters. The natural surface elevation of the district is 198 meters above the sea level, having a general slope from north-east to south-west. Whereas the east and west ends of the district comprise the flood plains of the rivers Satluj and Ravi, characterized by breaching of looping river channels braided around meander bars. Kasur district is situated at a distance of about 55 km towards south of Lahore, on the Lahore-Ferozpur Road. The district has Indian Territory on the south and east, across the Sutlej River, Lahore district on the north, Okara district on the south-west and Nankana Sahib district on north-west.

Kasur's climate is a local steppe climate. There is little rainfall throughout the year. According to Köppen and Geiger, this climate is classified as BSh. The temperature here averages 23.9 °C. About 424 mm of precipitation falls annually. Precipitation is the lowest in November, with an average of 3 mm. The greatest amount of precipitation occurs in July, with an average of 125 mm. At an average temperature of 33.7 °C, June is the hottest month of the year. The lowest average temperatures in the year occur in January, when it is around 12.2 °C. Between the driest and wettest months, the difference in precipitation is 122 mm. The variation in temperatures throughout the year is 21.5 °C.¹

Table 2: Monthly Climate

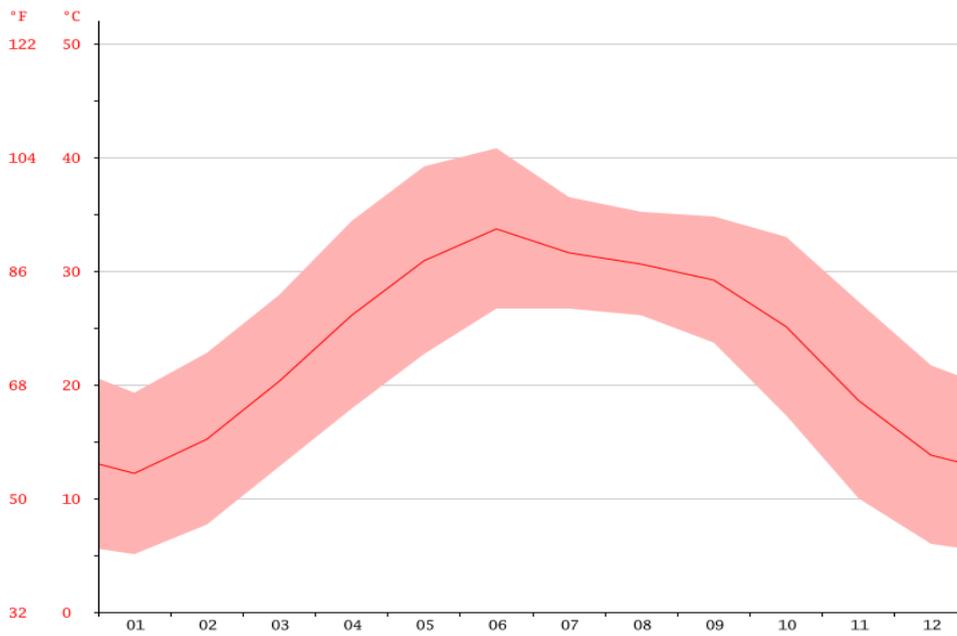
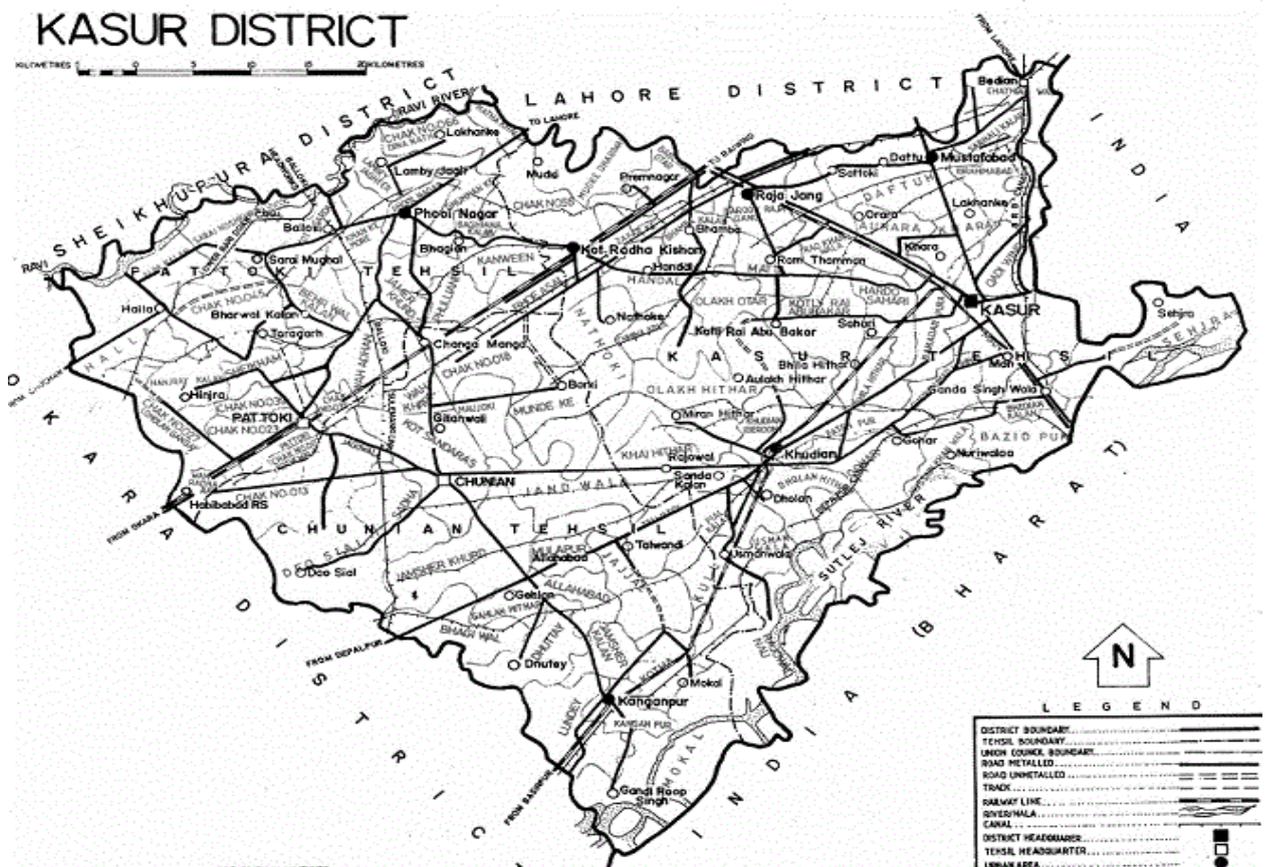


Figure 1: District Kasur Map



Socio-Economic Indicators (Average)

| Sr. No. | Particulars | Numbers |
|---------|----------------------------------------------------------------|------------|
| 1. | Population | 237,587,5 |
| 2. | No. of Tehsils | 3 |
| 3. | No. of UCs | 113 |
| 4. | No. of Revenue Estates | 637 |
| 5. | Population Density (people per km ²) | 594.9 |
| 6. | Family Size | 7.0 |
| 7. | Pop Growth Rate | 2.03 |
| 8. | PCI | ----- |
| 9. | District GDP/Annual Income | ----- |
| 10. | Poverty Rate | ----- |
| 11. | Patient/Doctor Ratio | 1/1300 |
| 12. | Average Mortality Rate (AMR) | 6.8/1000 |
| 13. | Infant Mortality Rate(IMR) | 48.7/1000 |
| 14. | Mother Mortality Rate (MMR) | 140/100000 |
| 15. | Literacy Rate | 36.2% |
| 16. | Punjab Malnutrition Rate (PMR) | 38% |
| 17. | Malnutrition Rate in District Kasur | 38% |
| 18. | Percentage of population having access to clean drinking water | 30% |
| 19. | Annual Crime | ----- |

Population

| Total | Male (above 18) | Female (above 18) | Minor (M) (less than 18) | Minor (F) (less than 18) | Vulnerable People (PLWs, disabled, aged) |
|-----------|-----------------|-------------------|--------------------------|--------------------------|------------------------------------------|
| 237,587,5 | 50.8% | 49.2% | 44.0% | 45.2% | 2.6% |

Source/Note: Population Department

| Number of Dwelling Units | Kaccha (Mud/clay) | Pakka (Bricks & Morter) |
|--------------------------|-------------------|-------------------------|
| 337,649 | 111,750 | 225,899 |

Source/Note: ADLG Office

Area (in acres)

| Total Area of District in Km ² | Area under cultivation | Cultivation in Settled Area | Cultivation in Baid Area |
|----------------------------------------------|---------------------------|--------------------------------|-----------------------------|
| 3,995 | 808,110 | 30,000 | 7,000 |

Literacy Rate

Source/Note: Education Department Kasur

| Overall | Rural | | Urban | | Total | |
|---------|-------|--------|-------|--------|--------|--------|
| | Male | Female | Male | Female | Male | Female |
| 36.2% | 44.7% | 18.1% | 57.2% | 40.6% | 47.6 % | 23.1 % |

Government Schools

| | | Schools | Enrollment |
|-------------------|---------|---------|------------|
| Total/ Overall | | | |
| Boys | Primary | 450 | 70055 |
| | Middle | 108 | 41362 |
| | High | 102 | 87043 |
| Girls | Primary | 464 | 70697 |
| | Middle | 142 | 52313 |
| | High | 92 | 83199 |
| Co-Education | Primary | 0 | 0 |
| | Middle | 0 | 0 |
| | High | 0 | 0 |
| Special Education | | 6 | 904 |

Private Schools

| | | Schools | Enrollment |
|-------------------|---------|---------|------------|
| Total/ Overall | | | |
| Boys | Primary | 39 | 7765 |
| | Middle | 189 | 30360 |
| | High | 127 | 19383 |
| Girls | Primary | 42 | 9188 |
| | Middle | 251 | 42162 |
| | High | 121 | 19404 |
| Co-Education | Primary | 83 | 17695 |
| | Middle | 85 | 12945 |
| | High | 28 | |
| Special Education | | 1 | 140 |

Higher/Technical/Professional Education (Public & Private)

| Particulars | College | Universities | Professional | Technical | Commerce | Total |
|-------------------|---------|--------------|--------------|-----------|----------|-------|
| No of Institution | 16 | 0 | 0 | 0 | 3 | 19 |
| No of Students | 22084 | 01 | 01 | 01 | 1353 | 23437 |

Health Facilities

| Particulars | Primary | Secondary | Tertiary | Private Hospital | Total |
|----------------------|---------------------|---------------------|----------|------------------|---------|
| No. of Facilities | 125 | 5 | - | 42 | 172 |
| Annual OPDs | 901255 | 855845 | - | 40967 | 1798067 |
| No of beds | 404 | 490 | - | 1645 | 2539 |
| Doctors Available | 146 | 278 | - | 118 | 542 |
| Paramedical staff | 661 | 319 | - | 336 | 1316 |
| Ambulances available | Handed over to 1122 | Handed over to 1122 | - | -- | -- |
| Mobile Medical Units | -- | -- | - | -- | -- |

Livestock: Small Animals (goats, sheep etc.): **323,406** Big Animals (cows, buffalos, camel etc.) **1,017,885**

Main source of livelihood of the community? (in percentage)

| Agriculture | Livestock | Poultry | Fish Farming | Services (Public & Pvt) | Business | Expatriates | Industrial Labor | Skilled Labor | Unskilled Daily Labor | General Labor |
|-------------|-----------|---------|--------------|-------------------------|----------|-------------|------------------|---------------|-----------------------|---------------|
| % | 61% | 35% | % | % | % | % | % | % | % | % |

Disaster History - Floods (since 1970)

| S# | Year | No. of people affected | No. of deaths | No. of Revenue Estates affected | Houses Damaged (Partially) | Houses Damaged (Fully) | Compensation Paid (Rs.) | Financial Impact (including infrastructure damaged) |
|----|------|------------------------|---------------|---------------------------------|----------------------------|------------------------|-------------------------|-----------------------------------------------------|
| 1 | 2011 | 12941 | -- | -- | -- | -- | -- | -- |
| 2 | 2013 | 16530 | -- | -- | -- | -- | -- | -- |
| 3 | 2015 | 24440 | -- | -- | -- | -- | -- | -- |
| 4 | 2018 | 6387 | -- | -- | -- | -- | -- | -- |

Disaster History – Other disasters (since 1970)

| S# | Year | Disaster Type | No. of people affected | No. of deaths | Remarks |
|----|------|---------------|------------------------|---------------|---------|
| 1 | 2020 | Covid-19 | 687 | 11 | ----- |
| 2 | 2020 | Rains | 20 | 10 | ----- |
| 3 | | | | | |
| 4 | | | | | |
| 5 | | | | | |
| 6 | | | | | |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | | | | | |

General Information

| Particulars | Detail |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Neighboring districts and their vulnerabilities | Lahore is at Medium Risk to Flood Okara is at low risk to River flood Sheikhupura is at medium Risk to River Flood Nankana Sahib is at medium Risk to River Flood |
| Topographical Features | Topographically Speaking, District Kasur lies between the river Sutlej which flows along its boundary with India and river Ravi which flows along its boundary Sheikhupura. The district may divided into two parts a low lying or riverine area also bordering rivers and upland away from the rivers. The riverine area is generally during monsoon season. The water level in this area is higher than the upland area. The upland is flat plain sloping from north-east to south-west. The generally the area is from 150 to 200 meters above the sea level. |
| Weather/Climate pattern | Kasur's climate is a local steppe climate. There is little rainfall throughout the year. According to Köppen and Geiger, this climate is classified as BSh. The temperature here averages 23.9 °C. About 424 mm of precipitation falls annually. Precipitation is the lowest in November, with an average of 3 mm. The greatest amount of precipitation occurs in July, with an average of 125 mm. At an average temperature of 33.7 °C, June is the hottest month of the year. The lowest average temperatures in the year occur in January, |

| | |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | when it is around 12.2 °C. Between the driest and wettest months, the difference in precipitation is 122 mm. The variation in temperatures throughout the year is 21.5 °C. ² |
| Major Rivers | River Sutlej along its boundary covering two tehsil (Kasur and Chunian) of district Kasur. Ravi River along its boundary covering two tehsil (Kot Radha Kishan and Pattoki) of district Kasur. |
| Major Nullahs / Streams | Name of river, passing through areas along with length in the district Flood levels |
| Motorway/Highway | Vulnerable points of motorway/highway 0 |
| Railways | Vulnerable points of Railway 0 |
| Geological features | E.g. fault line, mountainous areas etc. 0 |

Dams (including small dams)

| Name of Dam | Location | GPS Coordinates | Capacity | High Flood Level | Critical Points, if any | Remarks |
|-------------|----------|-----------------|----------|------------------|-------------------------|---------|
| 0 | 0 | X: 0 Y: 0 | 0 | 0 | 0 | 0 |
| 0 | 0 | X: 0 Y: 0 | 0 | 0 | 0 | 0 |

Major Embankments/Bunds

| Name of Embankment | Length (Miles) | Starting Point (Revenue Estate /Tehsil Name) | Ending Point (Revenue Estate /Tehsil Name) | Name of Critical/vulnerable Points | GPS Location of Critical/Vulnerable Points | Remarks |
|--------------------|----------------|----------------------------------------------|--------------------------------------------|-----------------------------------------|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Haya Bund | 2.22 | ----- | ----- | 0 | 0 | This bund joins Right Marginal bund at RD. 35+600. This bund is also used for the Defense purpose. The bund was constructed to protect area from the spill of Rohi Nullah Diversion |
| Left Marginal Bund | 8.64KM | Tehsil Pattoki | Tehsil Pattoki | RD 12000 to 13000 of left marginal bund | 31.2405 46N 73.8967 49E | This bund is recently rehabilitated by PIU and in excellent condition |

| | | | | | | |
|--------------------------|------|-------|-------|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Right Marginal Bund | 2.62 | ----- | ----- | 0 | 0 | This portion of Right Marginal Bund of Ferozpur head works falls in the territory of Pakistan. This bund will protect the nearest villages i.e. Ladeke, Sheikh Pura, Kamalpura, Mahiwala etc. The main gauge of Talwar post exists on its RD. 30+000. This bund is also used for the Defense purpose. |
| Link Bund | 2.56 | ----- | ----- | 0 | 0 | This bund along right Marginal bund and Railway guide bund are very important for the protection of large area of nearest villages like as Burg Rajuke, Chanda Singh Wala, Sultan Shah Wala, Bhedian Kalan and Ganda Singh Wala etc. |
| The Bund (A) | 0.27 | ----- | ----- | 0 | 0 | This is very small bund constructed near to save the Link Bund. |
| The Bund (B) | 0.15 | ----- | ----- | 0 | 0 | This is very small bund constructed near to save the Link Bund. |
| Railway Guide Bund | 1.5 | ----- | ----- | 0 | 0 | Before partition of Indo-Pak a railway track was provided from Ganda Singh Wala to Ferozpur Head works for carriage of stone. After partition, the track was removed and the formation was converted into a regular flood bund. This bund is also used for the Defense purpose. |
| Right Retired Embankment | 1.5 | ----- | ----- | 0 | 0 | Right retired embankment was constructed in set back position of the portion of right Marginal bund which exists in the territory of India to save the Right marginal bund and also to protect the nearest village of Nizam Sanda and Sanda Kalan. |
| Loop Bund | 0.35 | ----- | ----- | 0 | 0 | Due to Indian action of demolishing the portion of Right marginal bund and other allied spurs on right side of Sutlej River falling in Indian Territory, a loop bund was constructed to join the Sufaida Bund with Right retired embankment and to protect the same areas of |

| | | | | | | |
|-----------------------------------------------------|-------|-------|-------|---|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | Nizam Sanda etc. This bund is also used for the Defence purpose. |
| Sufaida Bund | 0.47 | ----- | ----- | 0 | 0 | This bund was constructed to protect the large area of the villages of Fatuhi Wala, Singh Sahib wala and saa Jughian etc, it meets with the Ferozpur road from its starting point. This bund is also used for the Defense purpose. |
| Flood/Defense Bund near village ullake | 1.9 | ----- | ----- | 0 | 0 | In order to check the river area a defense bund in a length of 9500 ft was constructed during 2001-2002. This bund will protect the areas of village Ullake and Walle Wala. |
| Flood / Defence Bund near village Bedian Usman Wala | 1.7 | ----- | ----- | 0 | 0 | The flood/defence bund from village Bedian Usman Wala to village kot Chak Bodal had been constructed to check the River erosive action during flood. This flood embankment has been constructed by the Pak Army during year 2001-2002. |
| Lower Ganja Minor Flood Embankment | 8.57 | ----- | ----- | 0 | 0 | Left Bank of Lower Ganja Minor Head to tail has been converted into flood embankment to Project large area falling on Right side of Minor from spills of River Sutlej. |
| Flood embankment along lower Ganja Sub Minor | 2.04 | ----- | ----- | 0 | 0 | The flood embankment along left bank of lower Ganja Minor from RD.0-10200 was constructed during 1989 to check the spill of River Sutlej and to save Sub Minor from damage. |
| Flood embankment along left bank of Depalpur Canal | 4.17 | ----- | ----- | 0 | 0 | Depalpur Canal runs parallel to Sutlej River at a short distance. To save the Channel and area on the right from spill water during floods, the left bank of Depalpur Canal from RD-136000 to 156860 was converted into flood embankment. |
| Flood embankment along Fateh Muhammad Disty | 17.52 | ----- | ----- | 0 | 0 | River Sutlej has been meandering towards Pakistan since 1952 consequently some portions of Fateh Muhammad Disty were washed away during different times and diversions had to |

| | | | | | | |
|---------------------------------------------------------|------|-------|-------|---|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | | be made in setback position. Subsequently, left bank of the channel was converted into flood embankment. |
| Flood embankment along Laluguddar Disty and Kanda Minor | 2.86 | ----- | ----- | 0 | 0 | Laluguddar Disty also remained under the river action. The channel was damaged at various places. A flood embankment along the channel was constructed to save the same from its further damaging. |

Breaching Section

| Name of Bund/ Embankment | Name of Breaching Section | Location with GPS Coordinates | Likely Affected Population | | | Likely Affected Revenue Estate | Remarks |
|-----------------------------|---------------------------|-------------------------------|----------------------------|--------|----------|--------------------------------|---------|
| | | | Male | Female | Children | | |
| | | X: Y: | | | | | |
| | | X: Y: | | | | | |
| | | X: Y: | | | | | |

Power Houses/Grid Station/Oil Depot/other sensitive installations

| Name of Power Houses | Capacity | GPS Coordinates |
|-----------------------------------------------------|----------|----------------------|
| OREINT POWER HOUSE BALLOKI | ----- | X: ----- Y: ----- |
| NISHAT POWER HOUSE MULTAN ROAD BS LINK | ----- | X: ----- Y: ----- |
| NISHAT CHUNIAN POWER HOUSE GAGGA ROAD SARAY CHEENBA | ----- | X: ----- Y: ----- |

Power Houses/Grid Station/Oil Depot/other sensitive installations

| Name of Grid Station | Capacity | GPS Coordinates | Name of Grid Station | Capacity | GPS Coordinates |
|----------------------|----------|----------------------|-----------------------------------------------|---------------|----------------------|
| 132 KV Old Kasur | 132 KV | X: ----- Y: ----- | 132 KV Raiwind New Glamour Adda | 132 KV | X: ----- Y: ----- |
| 132 KV New Kasur | 132 KV | X: ----- Y: ----- | 132 KV Century Paper B-IV Jumber | CONSUMER GRID | X: ----- Y: ----- |
| 132 KV Lullyani | 132 KV | X: ----- Y: ----- | 132 KV Amir Cotton B-III Jumber | CONSUMER GRID | X: ----- Y: ----- |
| 132 KV Khudian | 132 KV | ----- | 132 KV Sphire Finishing B-III By Pass Raiwind | CONSUMER GRID | ----- |
| 132 KV Chunian | 132 KV | ----- | 132 KV Barket Grid B-III Ittefaq Adda | CONSUMER GRID | ----- |

| | | | | | | | |
|----------------------|--------|-------|-----------------------------------------------------------------|------------------|--|-------|--|
| 132 KV K.R.K | 132 KV | ----- | 132 KV M-Bux Grid B-IV By Pass Raiwind | CONSUMER GRID | | ----- | |
| 132 KV Kangan Pur | 132 KV | ----- | 132 KV Master Grid B-IV By Pass Raiwind | CONSUMER GRID | | ----- | |
| 132 KV E/Abad | 132 KV | ----- | 132 KV Colony Grid B-IV By Pass Raiwind Ham Aziz Chowk | CONSUMER GRID | | ----- | |
| 132 KV W.R.R | 132 KV | ----- | 132 KV Ghazi Grid B-IV Golden Adda | CONSUMER GRID | | ----- | |
| 132 KV Pattoki | 132 KV | ----- | 132 KV Bulley Shah B-IV Kasur | CONSUMER GRID | | ----- | |
| 132 KV Chak No.65 | 132 KV | ----- | 132 KV Shafi Steel B-IV Rosa Bhail | CONSUMER GRID | | ----- | |
| 132 KV Raiwind | 132 KV | ----- | 132 KV Queta B-IV Golden Adda | CONSUMER GRID | | ----- | |
| 132 KV Phool Nagar | 132 KV | ----- | 132 KV Nishat Chunian Golden Adda | CONSUMER GRID | | ----- | |
| 132 KV Manga Mandi | 132 KV | ----- | 132 KV Hira Terry Chak No.65 | CONSUMER GRID | | ----- | |
| 220 KV Sarfraz Nagar | 132 KV | ----- | 132 KV Chuchak | 132 KV | | ----- | |
| 132 KV Ahmad Abad | 132 KV | ----- | | | | | |

Airport / Landing Strips

Govt. Wheat Storage Facilities/Warehouses in the District Kasur

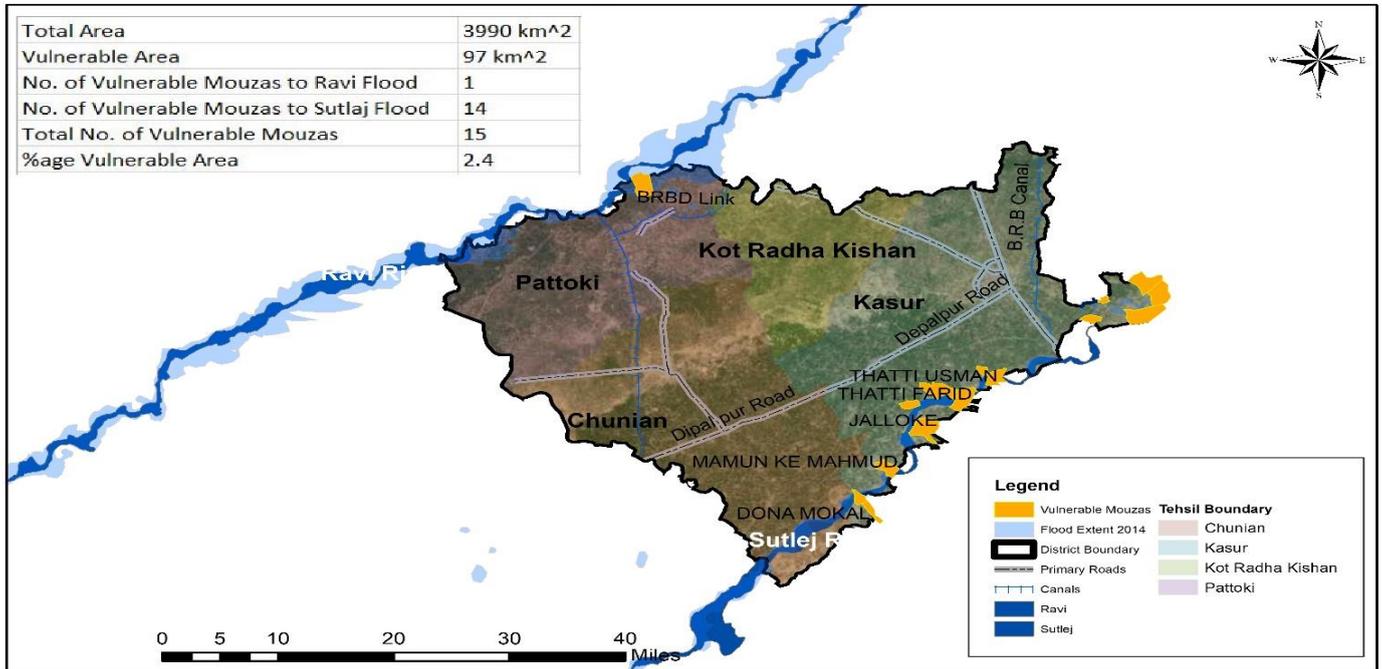
| NAME OF CENTRE OR STROGE PLACE | NO. OF GODOWNS | PER GODOWN CAPACITY | TOTAL ACCOMMODATION | | Location |
|--------------------------------|-------------------------|---------------------|---------------------|-------------------|--------------------------------|
| | | | STANDARD (M.T) | OPERATIONAL (M.T) | |
| PRC KASUR | 6 | 500 | 3000 | 4500 | Near Railway Station Kasur |
| | 8 | 1000 | 8000 | 10800 | |
| | 2 | 350 | 700 | 700 | |
| | 1 | 2000 | 2000 | 3000 | |
| | 1 Set of 55 Bins | 2000 | 2000 | 2000 | |
| Total | 1 Set Bins + 17 Godowns | 5850 | 15700 | 21000 | |
| PRC KHUDIAN | 2 | 1000 | 2000 | 3000 | Near Railway Station Khudian |
| PRC USMANWALA | 5 | 1000 | 5000 | 7000 | Near Ghalla Mandi Usmanwalla |
| PRC CHUNIAN | 14 | 1100 | 15400 | 18900 | Cant Chunian |
| PRC PATTOKI | 8 | 500 | 4000 | 6000 | Near Degree College Pattoki |
| PRC HABIBABAD | 5 | 1000 | 5000 | 7000 | Near Railway Station Habibabad |
| TOTAL | 1 Set Bins + 51 Godowns | 8450 | 45100 | 60900 | |

FLOOD RELIEF CENTRES

| Sr.No | Tehsil Name | Relief Centers Name |
|-------|------------------|------------------------------------------------|
| 1 | Kasur | Sehja (BHU Sehja and Govt. H/S Sehja) |
| 2 | Kasur | Bhedian usman Wala (Govt. Boys Primary School) |
| 3 | Kasur | Talwar Post |
| 4 | Kasur | Baqarkey Rest House |
| 5 | Kasur | Najabat Rest House |
| 6 | Kot Radha Kishan | Kot Radha Kishan |
| 7 | Pattoki | Jamia Hameedia High School, Sarai Mughal |
| 8 | Pattoki | Govt. Elementary School, Bhadian Chak No. 35 |
| 9 | Pattoki | Govt. High School, Islamia, Pattoki |
| 10 | Pattoki | Govt. Elementary School, Old Mandi Pattoki |
| 11 | Chunian | BHU, Mokal |
| 12 | Chunian | Govt. Primary School, Gara Singh |

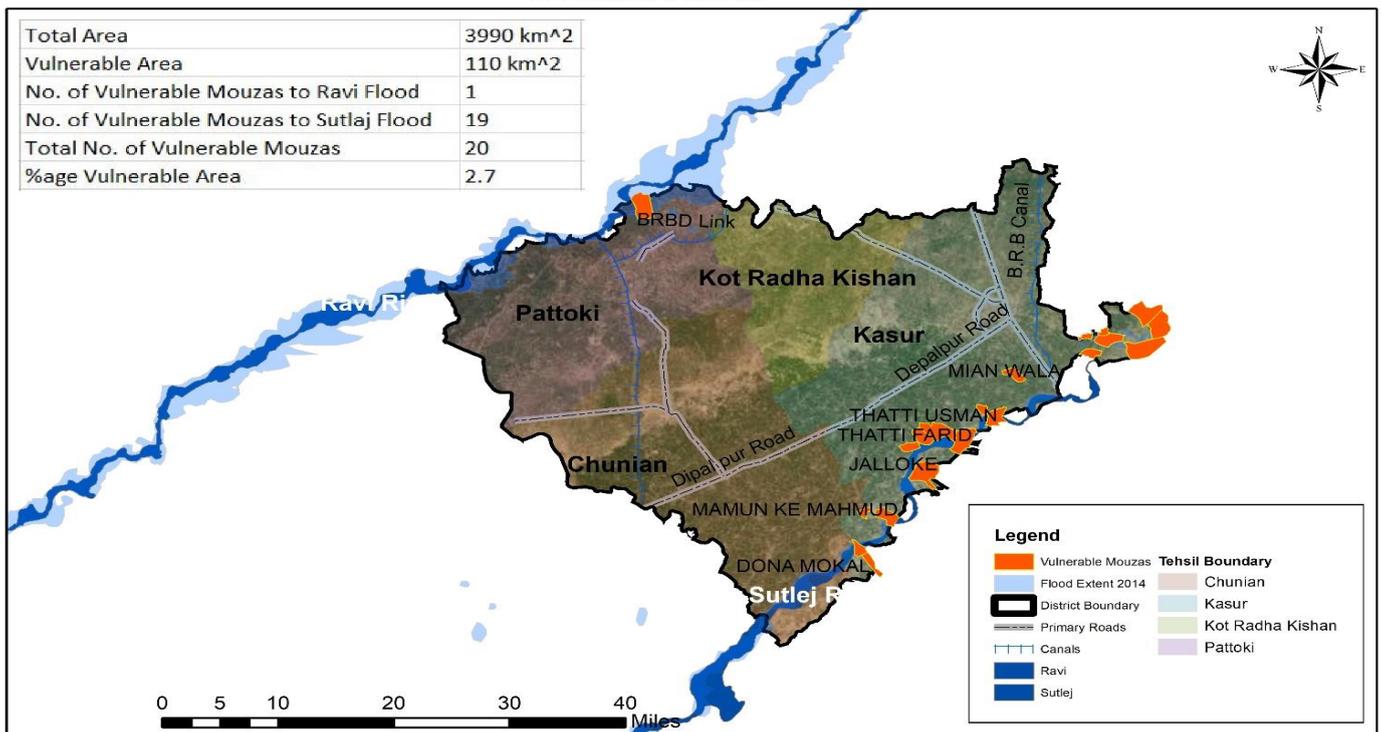
Inundation Map-Mouzas at Low Level Flood

**Inuandation Map-Mouzas at Low Level Flood
District Kasur**



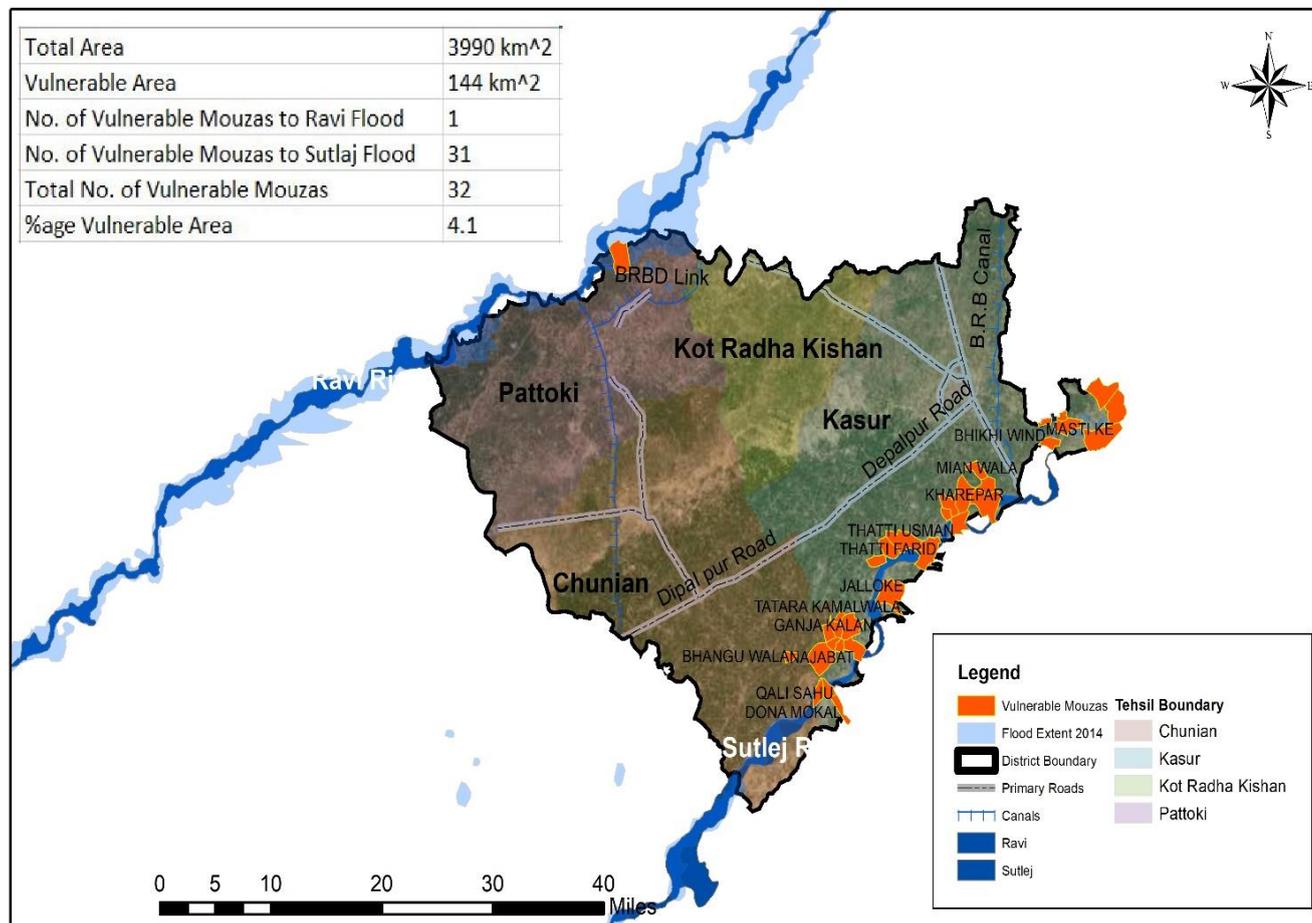
Inundation Map-Mouzas at Medium Level Flood

**Inuandation Map-Mouzas at Medium Level Flood
District Kasur**



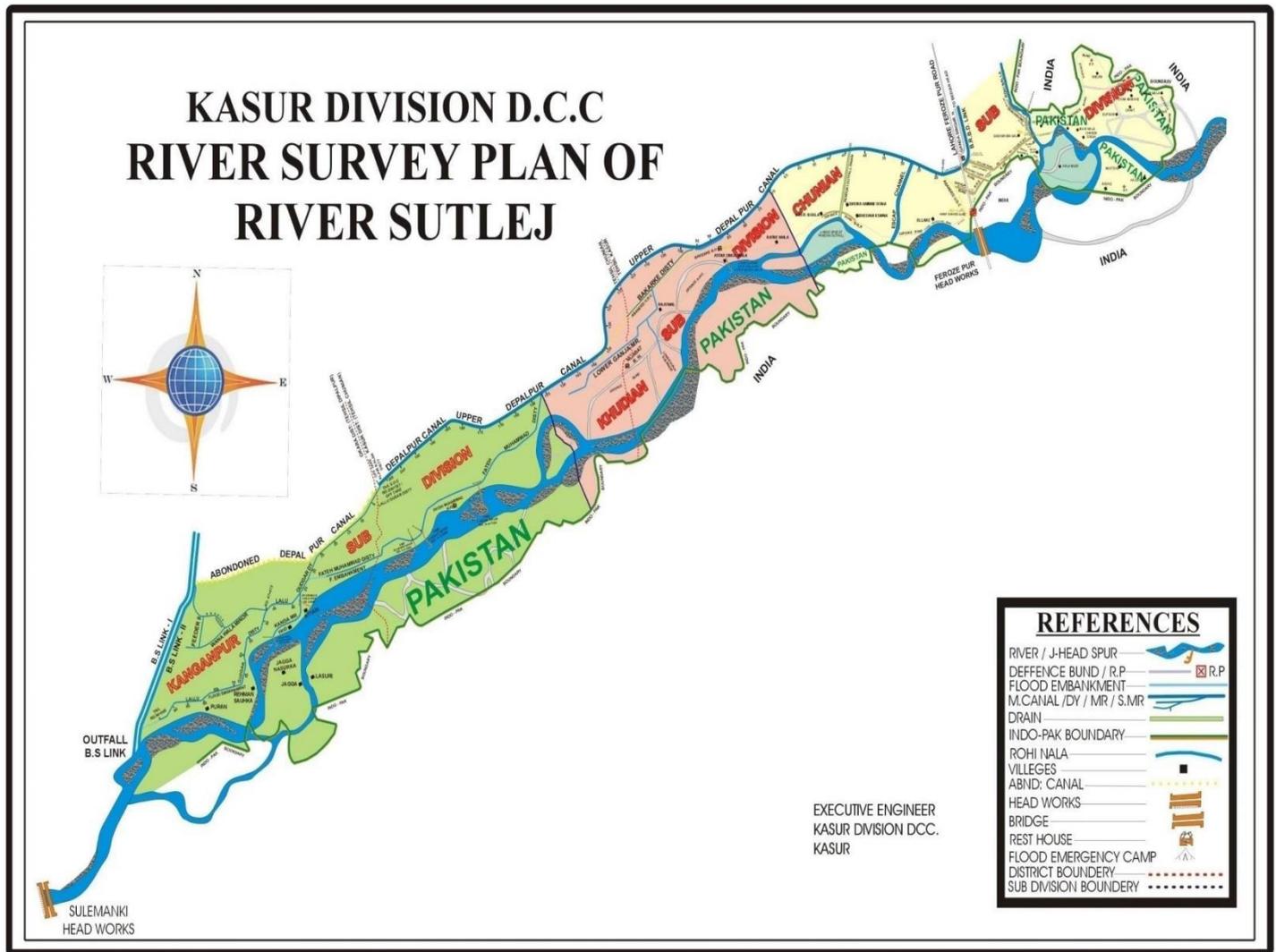
Inundation Map-Mouzas at High Level Flood

Inuandation Map-Mouzas at High Level Flood District Kasur



Flood stages

| Sr. No. | Category | Sutlej River (Cs) | Ravi River (Cs) |
|---------|--------------------------|-------------------|-----------------|
| 1 | Low Flood | 70,000 | 40,000-65,000 |
| 2 | Medium Flood | 150,000 | 65,000-90,000 |
| 3 | High Flood | 300,000 | 90,000-135,000 |
| 4 | Very High Flood | 425,000 | 135,000-180,000 |
| 5 | Exceptionally High Flood | Above 425,000 | Above 180,000 |



Union Council Map of District Kasur, Punjab, Pakistan



Education Facilities in Kasur



Legend

- School Level**
- ▲ Higher Secondary
 - △ High
 - Middle
 - Primary
- Other Symbols**
- ▬ River
 - ▨ MC Area
 - ▭ Union Council
 - ▭ Tehsil
 - ▭ District
 - ▭ Neighbouring District

PAGE SIZE: A3 (16.5" X 11.7")
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COORDINATE SYSTEM:

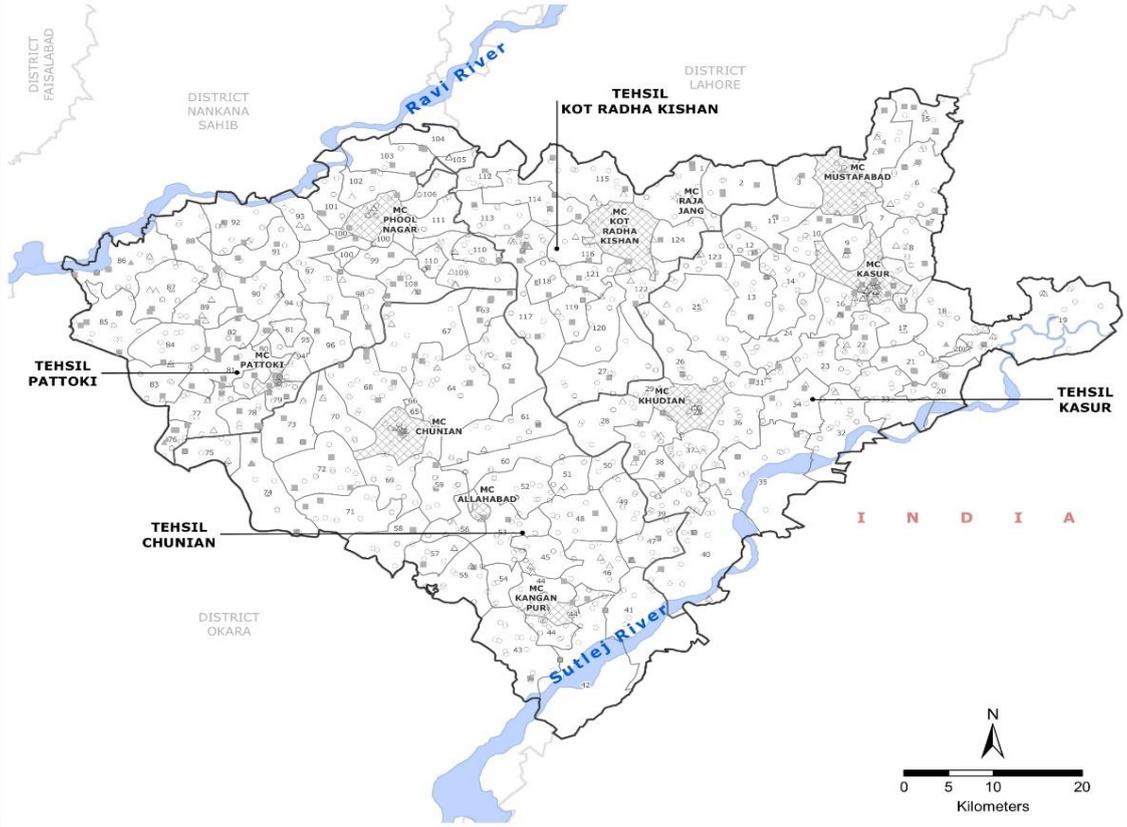
Coordinate System: WGS 1984
 Datum: WGS 1984
 Prime Meridian: Greenwich
 Angular Unit: Decimal Degree

DISCLAIMER:

The presentation of material on this map do not imply the expression of any opinion whatsoever on the part of PIU-PDMA concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The accuracy of the map is subject to the quality of data acquired from different sources.

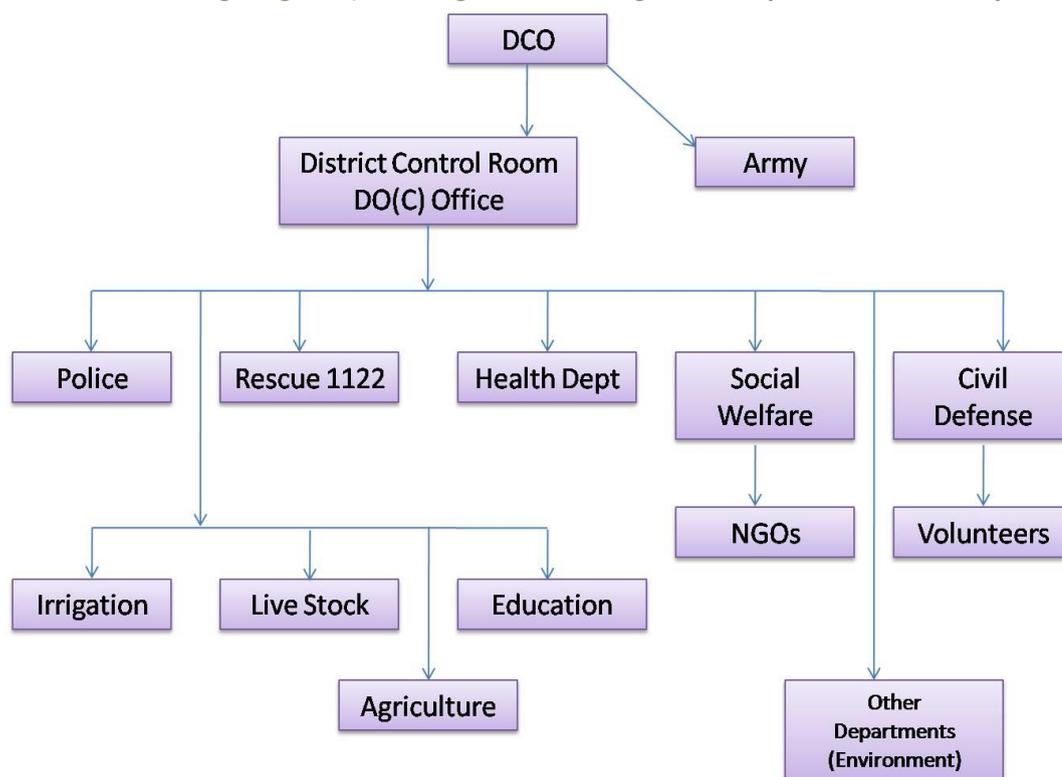


Project Implementation Unit (PIU)
 Provincial Disaster Management Authority (PDMA)
 Government of the Punjab



COORDINATION MECHANISM

Coordination Organogram (including Sector lead agencies/departments, Military, NGOs and Volunteers)



Powers and functions of District Disaster Management Authority under NDM Act 2010:

The District Authority shall be as the district planning, coordinating and implementing body for disaster management and take all measures for the purposes of disaster management in the district in accordance with the guidelines laid down by the National Authority and the Provincial Authority.

Without prejudice to the generality of the foregoing provisions, the District Authority may:

- a) prepare a disaster management plan including district response plan for the district;
- b) coordinate and monitor the implementation of the National Policy, Provincial Policy, National plan, Provincial Plan and District Plan;
- c) ensure that the areas in the district vulnerable to disasters are identified and measures for the prevention of disasters and the mitigation of its effects are undertaken by the departments of the Government at the district level as well as by the local authorities;
- d) ensure that the guidelines for prevention, mitigation, preparedness and response measures as laid down by the National Authority and the Provincial Authority are followed by all departments of the Government at the district level and the local authorities in the district;
- e) give directions to different authorities at the district level and local authorities to take such other measures for the prevention or mitigation of disasters as may be necessary;
- f) lay down guidelines for preparation of disaster management plans by the departments of the

- Government at the districts level and local authorities in the district;
- g) monitor the implementation of disaster management plans prepared by the departments of the Government at the district level;
 - h) lay down guidelines to be followed by the departments of the Government at the district level;
 - i) organize and coordinate specialized training programs for different levels of officers, employees and voluntary rescue workers in the district;
 - j) facilitate community training and awareness programs for prevention of disaster or mitigation with the support of local authorities, governmental and non-governmental organizations;
 - k) set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public;
 - l) prepare, review and update district level response plan and guidelines;
 - m) coordinate with, and give guidelines to, local authorities in the district to ensure that pre-disaster and post-disaster management activities in the district are carried out promptly and effectively;
 - n) review development plans prepared by the departments of the Government at the district level, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation;
 - o) identify buildings and places which could, in the event of disaster situation be used as relief centers or camps and make arrangements for water supply and sanitation in such buildings or places;
 - p) establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at a short notice;
 - q) provide information to the Provincial Authority relating to different aspects of disaster management;
 - r) Encourage the involvement of non-governmental organizations and voluntary social-welfare institutions working at the grass root level in the district for disaster management.
 - s) ensure communication systems are in order and disaster management drills are carried out periodically; and
 - t) Perform such other functions as the Provincial Government or Provincial Authority may assign to it or as it deems necessary for disaster management in the district.

District Plan:

- a) There shall be a plan for disaster management for every district of the Province.
- b) The District Plan shall be prepared by the District Authority having regard to the National Plan and the Provincial Plan.
- c) The District Plan shall be reviewed and updated annually.

Additional Powers of District Authority:

For the purpose of assisting, protecting or providing relief to the community, in response to any disaster, the District Authority may:

- a) give directions for the release and use of resources available with any department of the Government and the local authority in the district;
- b) control and restrict vehicular traffic to, from and within, the vulnerable or affected areas;
- c) control and restrict entry of any person into, his movement within and departure from, a vulnerable or affected area;
- d) remove debris, conduct search and carry out rescue operations;
- e) provide shelter, food, drinking water and essential provisions, healthcare and services;
- f) establish emergency communication system in the affected area;
- g) make arrangements for the disposal of the unclaimed dead bodies;
- h) direct any department of the Government of the Province or any authority or body under the Government at the district level to take such measures as are necessary in its opinion;
- i) require experts and consultants in the relevant fields to advise and assist as it may deem necessary;
- j) procure exclusive preferential use of amenities from any authority or person;
- k) construct temporary bridges or other necessary structures and demolish structures which may be hazardous to public or aggravate the effects of the disaster;
- l) ensure that the non-governmental organizations carry out their activities in an equitable and non-discriminatory manner; and
- m) Take such other steps as may be required or warranted to be taken in such a situation.

Revenue Department (Functions and Responsibilities)

In case of any disaster or calamity the head of the revenue department in the district i.e. the DC should ensure that the following measures and steps have been taken:

- Taking everyone on board is perhaps the most important thing to do. Regular meetings of DDMA should be held to clearly highlight the roles and duties of DPOs, EDOs, and XENs etc.
- Pre-flood meeting should be held and duties of all concerned officers and departments should be clearly defined and assigned.
- A district disaster management plan should be prepared using the set template and updated regarding any disaster or emergency that may strike the district.
- A focal person for the disaster or calamity should be nominated and his/her number should be communicated to all concerned departments.
- Proper stock taking should be done regarding available stocks of food and rations. Similarly stock regarding machinery and equipment should also be taken and inventories should be prepared. Out of order machinery should be repaired or replaced.
- Committees should be formed and constituted which will deal with various functions during a flood or emergency. Purchasing of food items, food, and machinery should all be done through committees.
- Identification of Low lying, medium and high vulnerability levels with flood level
- In case of evacuation the district administration should be very clear about the places where the relief camps or shelters will be established. Teams should be formulated which will look after these camps and will be in-charge for provision of tents, food, water and maintaining general law and order. Provision of cooked food is also to be ensured.
- Proper ware houses and stores should be made available for storing of aid and donated items that may be received from authorities such as PDMA, WFP etc. A committee should be constituted to look after the record of all the items in the store.

- Proper crop surveys or girdawaris should be conducted through the revenue officials so that crop damage assessment can be made after disaster or flood affects the district. These surveys will also help in determining the identity of the true owners as well.
- Post damage assessment should be carried out by joint teams constituted of patwaris, teachers, and agriculture field assistants. Technology should be involved and android sets should be used to gather accurate data.
- Round the clock active control rooms should be set up and the numbers be circulated to all concerned. The control rooms should be equipped with wireless, telephones and computers. All info gathered or received should be conveyed to the concerned. The control room should have representatives of concerned departments such as police, health, 1122, and revenue.
- Early warning is critical in saving lives. The local revenue officials along with local police should be deployed to warn the people against the oncoming disaster and to urge them to vacate the disaster prone areas and villages. Loudspeakers, mosque speakers and word of mouth should be used. Banners and posters can also be used.
- Data collection is of prime importance and the senior network administrator should be declared as the focal person for collection of relevant information such as number of casualties, damages to infrastructure, injured, perished livestock etc. for onward submission to PDMA etc.
- Mock exercises should be carried out along with all concerned departments specially 1122, Police, civil defense and Pakistan army regarding the action plan during any emergency or flood. This will give a fair idea about the preparedness of the district.
- Availability of vehicles should be ensured for use during any emergency especially off road vehicles like jeeps.
- Suitable locations should be identified for accommodating armed forces like the Pakistan army. Normally schools, colleges or stadiums are allocated for the armed forces

Checklist for Revenue Department:

- Survey of entire District (Preparation of Village level information by Patwari)
- Identification of Low lying, medium and high: vulnerability levels with flood level
- Liaison of Patwari with Numberdars of their respective villages
- Contacts of all revenue staff posted near river belts and their output in flood prone areas
- List of Numberdars with their contacts, volunteer from low lying settlements with contact numbers
- Prepare list of vulnerable villages and make an estimate of likely affected population in such villages in the event of flood
- Name and contact numbers of private boat owners and operators Announcement of Flood Warning at settlement level – Patwari responsible Forced evacuation with police
- Rapid assessment for relief goods and ration provision Coordination and reporting
- Carry out survey of entire flood affected areas to assess losses in collaboration with Agriculture, Livestock and Education Department
- Conduct crop damaged/ house damaged surveys

Tehsil / Town Municipal Committee

- Tehsil / Town Municipal Committee plays an important role of providing municipal services in the district including clean drinking water, sanitation facilities, maintenance of parks and removal of encroachment etc.

- Tehsil / Town Municipal Committee will provide assistance to the District Government for setting up and management of relief camps/ operations.
- TMAs are responsible for provision & restoration of water and sanitation facilities in their municipalities besides disposal of waste or rain water/sewerage.
- TMAs are equipped with trucks, water bowsers, and tractors, dewatering sets, bulldozers, loaders and dump trucks. All of these equipment are utilized to restore proper sanitary facilities, ensure the delivery of clean water and remove debris or excess water.
- TMAs sanitary workers can be employed for cleaning relief camps, or other such areas which has been affected by any disaster. TMAs employ de-watering sets to remove excess water. All TMAs are required to ensure the maintenance of all dewatering sets prior to the monsoon season. The TMA maintains a list of all the choking points where rainy water accumulates as a result of heavy storms which can cause urban flooding.
- TMA should ensure supply of clean drinking in overhead reservoirs and ensure supply to the affected areas or relief camps through water bowsers. Clean drinking water is a major issue and requirement during any disaster.
- In case of any disaster that requires people to be relocated, the TMA under the concerned Administrator i.e ADC/AC will assist in the migration of the affected people.
- During the relief effort and subsequent rehabilitation effort the, the local TMAs manpower can be effectively used for the distribution of food and essential commodities among evacuated people or any other relief activity such as provision of cash compensation.

District Disaster Management Authority (DDMA)

- DDMA's are created under the NDM Act 2010 under Chapter IV Section 18 and the law defines their composition and also outlines their functions, duties and powers.
- District Disaster Management Authorities are the first line of defense and the implementing arm of the government policy and plans. Within the district there are three to four key players/departments that have to put up a joint and coordinated effort in order to fight with and handle any disaster under the leadership and coordination of the DCO. The office of the DCO fully supported by the DPO and line departments such as Health, Agriculture, Livestock, Civil Defense, 1122, TMAs and the Revenue Department form the main disaster management team within any given district. This plan is an effort to highlight their sets of responsibilities followed by the role of provincial departments.
- All district administrations had prepared a detailed contingency plan to face any disaster or hazard specially floods which until recently have become an annual affair for some districts.
- The district administration will divide the area as per district division with the Assistant Commissioner as in charge of his her tehsil. All disaster related activities in a said tehsil will be coordinated through the concerned AC and the TMAs.
- On receipt of a flood warning, immediate warning will be conveyed to all the concerned officers. Immediate action will be taken in each sector / sub sector for evacuation of the population from risk prone areas to safer places or to Relief Camps. An Assistant Commissioner will ensure that announcements are made through loudspeakers of the mosques utilizing the services of the Revenue department. Each Patwari will inform the Numbardar, Headmaster of the School, Imam Masjid and councilors to make announcements etc.

- The tactical operations would be headed by the Additional District Collector (ADC). The ADC would be responsible for coordinating and supervising the disaster control and relief measures in the district.
- Provincial government had notified the following composition of DDMA for whole of the province:

Deputy Commissioner (Chairperson)

- i. **Deputy Commissioner Kasur**
- ii. District Police Officer
- iii. Additional Deputy Commissioner (R)
- iv. Two Elected Representatives to be nominated by the Chair
- v. Representative of Pak Army
- vi. Two Representatives of NGOs/Civil Society to be nominated by the Chair
- vii. District Officer (Coordination)
- viii. ADC (F&P)

-
- ix. Chief Executive Officer (DHA)
 - x. Executive District Officer (Health)
 - xi. Executive District Officer (Education)
 - xii. Chief Executive Officer (DEA)
 - xiii. SP Special Branch
 - xiv. XEN Irrigation / Public Health
 - xv. District officer Civil Defense
 - xvi. Administrators of Tehsil Municipal Administrations
 - xvii. All Tehsil Municipal Officers in District
 - xviii. District Emergency Officer, Rescue 1122 (Secretary)
 - xix. Representative of Red Crescent
 - xx. Such other District level Officers to be appointed by District Government
- District Governments must establish a Disaster / Flood control room at the DCO's office, the numbers of which will be circulated to all concerned. The Disaster / Flood Control Room has to maintain updated information regarding the threat of disaster and statistics post disaster. The center will maintain a regular communication with the Flood Forecasting Division or the dam authorities up stream in case of a flood.
 - The District Government would immediately mobilize the equipment needed to tackle the challenges created by a disaster. The District Governments will provide a comprehensive list of flood fighting equipment to PDMA as part of their flood contingency plans.
 - Executive District Officer (Health) will ensure the availability of adequate medicines for treatment of common issues, particularly for snake and dog bite cases and general vaccines at each relief camp.
 - EDO (Agriculture) and DO Livestock would arrange fodder and feed supplement for livestock and animals displaced.
 - District Regional Transport Authorities (DRTA) in all 36 districts of Punjab are managed by Secretaries who would coordinate with local transporters to arrange for arranging transport required for evacuation of people from affected areas. In case of shortfall in transport in a particular district, the adjoining district would mobilize the transporters in his district to assist with the evacuation of people.

Role of Rescue 1122 in districts during disaster

- The immediate evacuation of people from the disaster prone and vulnerable areas.
 - Provision of immediate medical aid during any emergency and at the same time transporting the injured or sick to the nearby hospital through their team of ambulances.
 - In flood situations rescuing people from drowning in the strong currents is a specialty of 1122 as it has its own set of divers and boats. Similarly in case of collapsed buildings or structures the 1122 is equipped with heavy machinery to cut through heavy debris.
 - Apart from that responsible deployment of fire fighters, cordoning of hazardous areas, provision of first aid and medical treatment, immediate search and rescue of victims and management of the pre-hospital emergency system.
 - Rescue 1122 is well trained in setting up medical camps for provision of emergency medical treatment. These camps are setup by Rescue 1122's doctors and paramedic staff.
-

Pre-disaster Check list for DDMA

- Meeting of DDMA held
- Identification of vulnerable areas
- Identification of Safe places and Preparation of contingency plan

Bunds and encroachments visited

- Sites identified for relief camps Evacuation routes/plan
- Safe custody of Government records and essential equipment and their shifting to safer areas on receipt of flood warning
- Enlistment of department wise available resources
- Preparation of list of required relief goods/ items
- Involvement of Volunteers, NGOs and other CSOs
- Designation of Focal Person
- Preparation of District vulnerability map with varying degrees of floods
- Evacuation well in time from vulnerable areas
- Establishment of Camps – All services under one roof
- Flood warning and weather forecast: Loudspeakers announcements
- Establishment of control rooms
- Cancellation of all type of leaves of all employees Designation of Focal Persons
- Assignment of duties and responsibilities of all officers for flood emergency
- Preparation of Telephone Directories with the cell numbers of all the members of DDMA's and volunteers
- No leave during flood days; No official will leave station

Disaster Emergency Control Room (functions and responsibilities)

For any emergency Disaster Emergency Control Room is a permanently operative section of District Government. It is located in System Network Administrative (SNA) Office, District Complex Kasur. This office is well connected with functionaries by Multimedia and multiple communication mediums including Telephone, Wireless and Internet service. This office is responsible for reporting the updated situation to the District Government and Provincial Control Room. The Actions are initiated to pass information to functionaries through the same office.

DDMA (District Kasur)**Checklist for Control Room:**

- Dedicated Staff as per magnitude of the disaster
- Duty roaster of the staff
- 2 Dedicated telephone lines
- Dedicated Fax
- Wireless
- Internet and Email or any other source of communication □ Power backup

Checklist for Relief Camp Incharge:

- List of staff displayed with name and department teams will work in shifts
- Presence of representatives of all service providers i.e. Health, livestock, Rescue 1122, Civil Defense etc.
- No movement without the permission of Centre Incharge
- Each shift in-charge to contact District Control Room on arrival and then on departure
- In-charge will keep close liaison with SHO of the respective area
- No of affectees in camp (sick, aged and children) shall be communicated daily
- Availability of at least one emergency vehicle at center be ensured
- Keep record of private boat owners and their contacts details
- List of Doctors and private hospital in the vicinity
- List and contact of philanthropists in the vicinity
- Keeping record of donations coming directly to Centre and report the same to Tehsil and District Incharge.
- Centre Incharge shall ensure vaccination of animals and humans against Communicable diseases List of missing persons must be displayed at all Relief Camps

Role of Health Department

The public sector health delivery system comprises of four tiers and as such will continue to provide services at these four tiers during and after any disaster:

Outreach and Community Based Activities, which focus on immunization, sanitation, malaria control, maternal and child health, and family planning. Primary care facilities include BHUs, RHCs. THQs and DHQs provide inpatient and outpatient care. Tertiary care hospitals located in the major cities for more specialized care. In case of any disaster or calamity the health department will ensure that the following measures are in place;

- To provide first aid to the injured people and arrange evacuation of patients for further assistance.
- Medical camps and mobile health teams should be arranged for prevention and control of communicable diseases, immunization and provision of essential drugs.
- Health department would make a roster of all medical officers and paramedics that would be deployed to these camps and teams.
- Drugs and other medical equipment should be available at all these camps and with mobile teams. The medicine should be for relevant flood related issues, **Particularly Anti-snake venom, Anti-rabies.**
- The shelters or relief camps established by the district administration should have medical centers with ambulances and special facilities for women and children.
- An emergency control room will be established in the office of Directorate General Health Services and a representative of this emergency control room would be designated to PDMA's control room.
- A list of essential medicines would be prepared by the Health department and it would ensure that medicines and other resources are present in sufficient stocks in hospitals in disaster hit areas.
- Medical colleges may be involved to create Emergency Response teams
- Health department would also coordinate with international organizations such as WHO and UNICEF.
- Extensive disease surveillances in the disaster hit areas should be carried out warnings if needed be issued through the Disease Early Warning System. Medical teams and paramedic staff should be mobilized and deployed for rapid assessment and quick response in the affected areas.

- A contingency plan will be prepared and submitted regarding preparedness for any disaster or calamity.
- The National Disaster Management Authority has designated WHO as the key organization that will fill the gaps in the supply of medicines, rapid diagnostic kits, and vaccinations etc.
- The department would employ female health workers in emergency areas specially, for spreading awareness regarding health risks in a disaster and for any vaccination or immunization program that may be needed during any emergency.
- A Health and Nutrition Cluster for overall management and oversight of Health department's disaster response would be formed at the Directorate General Health office.
- In case the medicine stocks or even the infrastructure is damaged due to floods, the department would draw up a plan for early recovery of health infrastructure and service delivery.

Civil-Military Coordination Mechanism

The DC is responsible for all the coordination with Military. As the situation demands, the District Coordination Officer communicates and request for Mobilization and Demobilization of Army Troops through the procedure defined by the Provincial Government. District Government is responsible for facilitation of Army Troops deployed within Area of Emergency.

Livestock & Dairy Development

The Additional Director (Livestock) will ensure that the animals are vaccinated in area likely to be affected by the Floods before the Commencement of Flood season.

During the Floods, the Additional Director (Livestock) will ensure that adequate drugs and Veterinary Officers are available at the relief camps.

- Mobile Teams consisting of the following will be covering the Flood affected area.
 - a. Veterinary Officer 1
 - b. Veterinary Assistant 2
- For the livestock, affected by Flood, in Tehsil Kasur, Chunian and Pattoki services of Livestock Department will be utilized.

Food Department

The District Food Controller will ensure that adequate Atta is available on demand against payment for providing the same to the Flood affected persons.

LESCO

- The Executive Engineer LESCO will ensure that his staff is stationed in the village likely to be affected by Flood. The LESCO staff will disconnect the electricity before the Flood water reaches the area to avert any loss to life and property
- The Executive Engineer LESCO will also ensure timely restoration of electric supply accordingly

Information Department

- Coordination and close liaison with print and electronic media public message and local cable for flood warning, print and electronic media issue handouts regarding flood losses without creating panic while working in collaboration with District Flood Incharge.
- Issue hand outs to counter disinformation. wrong report to TV /Radio/Press and clarify the situation
- Assist District Flood Coordinator in holding press conference on daily flood situation
- After declaration of flood alert, furnish the press cuttings of flood related news to the District Flood Coordinator at 9 AM on daily basis.

- Projection and dissemination of Govt Rescue, Relocation, Relief, Rehabilitation and reconstruction efforts
- Close liaison and coordination with all Govt. Departments/ offices
- Establish of media desk during disasters and emergencies

Irrigation Department

Before disaster

- Equip irrigation department to mitigate floods and droughts with technical & managerial capacity and modern gadgetry and practices.
- Ensure development & maintenance of flood protection systems in the pre-flood season.
- Inspect and ensure the proper functioning of all the irrigation installations in the district.
- Identify the most vulnerable points of irrigation canals & headwork's in the district and takes corrective measures.
- Forge inter and intra departmental coordination mechanism, including coordination close with DC, DDMA, NGOs and PMD district office and share the information/updates about emergency with all the stakeholders.
- Demonstrate/assist & train local communities facing localized or regional droughts on cheaper rain water harvesting and storages techniques.
- Educate and train the drought affected communities on water use efficiency techniques/good irrigation practices.
- To establish a mechanism of early warning transmission, up and downstream across communities and establish special flood warning centers at UC level, with support of district administration and CSOs.
- Develop and regularly review the district level plans on water management.
- Prepare departmental contingency plan and circulate it among stakeholders before onset of Monsoon.
- Identify and discourage encroachment(s) of various water ways, with the help of other district authorities.
- Closely monitor discharge rates in the major water bodies, passing through the district and for this purpose and optimize functionality of the installed gauges.
- Arrange protection material such as sand-bags, stones, machinery, human resources and other material to be used at the time of need especially before the onset of moon soon.

During disaster

- Ensure establishment and operationalization of Flood Control Cell (FCC) in proper order.
- Keep liaison with field staff, Provincial Irrigation Department and district authorities
- Institutionalize regular patrolling of vulnerable points/ irrigation canals and breach sites to warn the potential victims on time.
- Create and disseminate flood situation reports among the stakeholders

After Disaster

- Do stocktaking exercise of disaster affected areas and examines all the existing flood protection systems like protection walls, spurs studs and head works of the irrigation canals.
- Estimate and collect damages data and do need assessment in terms of repair/maintenance; and disseminate the information to the relevant stakeholders for securing needed resources.
- Coordinate repair work of the damaged irrigation infrastructures.
- Prepare a sectorial specific recovery plan.

Education Department

Before disaster

- Conduct MHVRA for all education facilities, map all the educational facilities and identify structural vulnerabilities such as hazard-prone location, dilapidated condition, risks involved, and other secondary threats that may cause severe problems to educational facilities in case of a disaster
- During the construction of new school buildings or any other education facility, proper designing keeping in view the need of People with Disabilities (PWD) should be incorporated in the structure.
- Information about the existing hazards and risks in the district and the mitigation measures can be compiled in simple language, and share it with teachers and students at all levels (primary & secondary schools, colleges). The ultimate objective should be to incorporate inclusive DRR into school curriculum.

DDMA (District Kasur)

- Prepare Emergency Response Plan and DRR Plan for education facilities and arrange regular drills and exercises during pre-disaster phase.
- Gather information about me /NGOs working in the district in the education sector and make sure they mainstream DRR aspect into their project activities.
- Identify educational facilities that can be used as temporary evacuation centres for displaced population during or after any disaster. It is important that the identified facilities have water, proper sanitation and latrines facilities.
- Engage active student through Girls Guide, Scout Teams, and Parent Teacher Council (PTC) and conduct regular trainings on emergency response management for students, teachers and parents.
- Identify safe evacuation place in the school and in collaboration with other actors such as PTC, Civil Defense and I/NGOs, organize regular emergency response and evacuation drills with students and teachers.
- Promote the spirit of volunteerism amongst students through awareness raising and training sessions so that they become a useful resource for local communities in times of disasters.
- Build capacities of teachers in a way that they are able to prepare and implement disaster response plan for their respective educational facility.
- Educational facilities related data should be maintained and updated on regular basis along with data about those who are more vulnerable that include children under age of 10 and special persons.
- Teachers can be used for mass awareness and capacity building of the vulnerable groups through education & trainings and can disseminate messages by using students as a medium.

During Disaster

- Mobilize teachers and student volunteers to assist in the search & rescue operations to be followed by setting-up emergency evacuation and relief camps at already identified educational facilities.
- In case of flood, inform teachers of those schools where the water can probably hit the school building and cause damages. This information will help teachers to take any emergency preparedness measures with support from local communities.
- Conduct preliminary damages and needs assessment and submit flash reports to higher authorities, DDMA and DC office.
- Temporary shelters in the form of school's buildings can be provided for displace population during disaster, having water supply and latrine facilities available mostly in the buildings. Teachers can be used as valuable working force for smoothly running of the emergency operating centers established at evacuation sites.

After Disaster

- Undertake a detailed assessment of damages inflicted by disaster to the educational facilities. On the basis of this report, determine short, medium and long-term needs of the education sector in the district.
- Plan and provide provisional assistance on education after a disaster to ensure continuity of learning.
- Rehabilitation and restoration of damaged educational facilities should be given high priority.
- Nonstructural activities including preparedness, trainings, drills, awareness campaign and celebration of commemoration day in the schools should be continued.

Civil Defense Department**Before Disaster**

- Render first aid, fire safety and rescue trainings to communities, individuals and organizations in the peacetime.
- Develop and emergency evacuation plan and conduct regular drills and exercises.
- Create community awareness on public safety.
- Recruit/induct operational staff for search and rescue teams with required specialized skills and equipment.
- Ensure provision of trained rescue workers / Raza Kars and First Aid staff.
- Educate and train volunteers on DRR, emergency response management including first aid, Search and rescue, emergency evacuations and protection procedures against poisonous gases, chemical/biological/radiological explosions or attack.
- Participate in emergency drills with other stakeholders.

During Disaster

DDMA (District Kasur)

- Undertake search & rescue activities immediately after a disaster. To do it in more efficient manners, coordinate with other district departments in order to reach to the needy and more appropriate place.
- Render first aid to injured persons and transport them to nearest hospitals/dispensaries.
- Ensure evacuation from damaged buildings/structures including demolition of damaged structures to avoid further loss of life and properties.
- Assist in debris clearance and restoration of essential services to the affected buildings.
- Search and defuse unexploded bombs in the affected areas.
- Work with the Fire Brigade in rescue and first aid operations related to fire and other rescue incidents.

After Disaster

- On the basis of the response activities that performed, make a detailed assessment of the capacities of the department and identify gaps and requirements.
- Prepare a plan of action for the department and start resource mobilization accordingly.

Police Department**Before Disaster**

- Prepare details of inventory available at each police station that may be used during any disaster or emergency.
- Prepare and update regularly the contact information of staff, and always make sure that the main phone exchange and the wireless system works properly.
- Prepare Contingency and DRR plan for the department.
- Working with the Pakistan Meteorological Department and DC office, support in dissemination of warning to the affected communities.
- Support District Government Authorities in the process of evacuation to safer places.

During Disaster

- Ensure to maintain law and order situation during any disaster situation in the affected areas.
- Ensure security measures at evacuation points, in evacuated areas, at relief centers and godowns.
- Provide assistance in emergency warning, rescue, relief and evacuation operation.
- Ensure that over-loaded trucks are not coming/going to disaster affected areas.
- Divert traffic where necessary to keep the emergency relief operations going smoothly.
- Ensure security of humanitarian workers who perform duties after any disaster.
- Prevent harassment of women and children during any emergency.

After Disaster

- Keep order and prevent obstruction on public places.
- Aid and cooperate with other agencies for the prevention of destruction of public property by violence, fire or natural calamities.
- Provide assistance to victims of road accidents.
- Protect life and property of citizens.
- Preserve and promote public peace.

Social Welfare & Community Development Department**Before Disaster**

- Develop disaster risk management plan and contingency plan with regards to the mandate of the department.
- Raise awareness of staff of the department about special vulnerabilities and capacities of women and children with relation to disasters.
- Encourage involvement of women and PWDs in disaster risk management activities.
- Promote awareness amongst women and PWDs in hazard-prone areas about disaster risks and disaster preparedness.
- Develop capacities of women's, PWDs and Children focused organizations on disaster risk and emergency management.

DDMA (District Kasur)

- Ensure that needs of women survivors are addressed in post disaster situations during the relief rehabilitation and reconstruction phases.
- Properly plan and provide shelter to the affected women, beggars at DarulKafala, Drug rehabilitation, special education, blind institute, disable registration, child protector and other socially excluded groups.
- Promote awareness regarding the children rights.

During Disaster

- Facilitate participation of women and PWDs in the management of relief, rehabilitation and reconstruction activities.
- Use of emergency phone numbers helpline for Child protection during disaster.
- Provide shelter provision to affected women, support in damages and needs assessment of the affected area, service provision through reformal, shelter provision to missing unaccompanied children's.

After Disaster

- Support post-disaster rehabilitation of livelihoods of women survivors, which is mostly in the informal sector and is ignored many times.
- Support the district government and PDMA for re-unification of missing unaccompanied children, women, PWDs, rehabilitation of families, psychosocial support provision

Works & Services Department**Before Disaster**

- Develop district guidelines for safer construction of government buildings and infrastructure in hazard-prone areas multi hazard approach.
- Ensure DRR checklist of PC-1 has been seriously implemented in all new schemes.
- During the construction of any new buildings, proper designing keeping in view the need of People with Disabilities (PWD) should be incorporated in the structure.
- Develop sample designs of government buildings, high-rise buildings and infrastructure (bridges, roads) for safer construction in hazard-prone areas.
- Ensure environment impact assessment studies has been conducted for all new schemes
- Conduct training of builders, contractors and masons on safer construction methods and provide guidance on adopting inclusive DRR measures during the construction.
- Monitor construction of government buildings and infrastructure in hazard prone areas to ensure that safer construction techniques are followed.
- Incorporate disaster risk assessment in the planning process for construction of new roads and bridges.
- Construct, maintain and repair district and rural roads, bridges, tunnels and causeway etc.
- Prepare a disaster risk management plan and contingency plan with relation to departments programs and mandate.
- Develop guidelines on conduct of damage and loss assessment to infrastructure and government buildings in the wake of a disaster, and conduct assessments after disasters.

During Disaster

- Send information to other district departments on road conditions especially regarding blocked or impassable roads after a disaster.
- Ensure draining the flood water from roads and remove debris from under the bridges for smooth flow of water.
- Monitor disaster situation (in case of flood and landslide) with regard to roads and coordinate with other district departments for transporting relief items to affected areas.

After Disaster

- Undertake a detailed assessment of damages of government buildings, roads infrastructure including bridges, culverts, etc.
- Prepare a report of damages to be shared with the district and provincial authorities along with budget requirements for the rehabilitation and reconstruction of damaged/destroyed infrastructure.

Public Health Engineering (PHE) OR Building Department**Before Disaster**

DDMA (District Kasur)

- Repair and maintenance of the structure in command areas.
- Prepare contingency plan highlighting resources available with the organization.

During Disaster

- Collect damages data and prepare report for onward submission.

After Disaster

- Rehabilitation of the damaged infrastructure, including protection walls, retaining walls, check dams, water ponds, surface water tanks, land leveling, field terracing, small dams, spurs etc.

Pakistan Army**Before Disaster**

- In consultation with NDMA, PDMA and other line department, identify areas that are most likely to be impacted in case of a disaster.
- Accordingly, prepare and upgrade necessary equipment, manpower and other necessary material to be used / deployed immediately after a disaster.
- Conduct regular capacity building programs for soldiers so that they are able to carry out emergency relief activities effectively.
- Evacuate people to safer areas and designated evacuation centers before and after a disaster.

During Disaster

- Provide search and rescue services where needed.
- Evacuate people to safer areas and evacuation centers with focus on giving priority to women, children and PWDs
- Close liaison with the District Government and Disaster Management Authorities and if required establish emergency relief centers and provide disaster victims with lifesaving food, shelter and health facilities.
- Install temporary bridges where appropriate to ensure mobility of affected population and smooth transportation of relief items.
- Provide logistic back-up in terms of trucks, boats, helicopters etc. to the civil administration, if need be.

After Disaster

- Supplement early recovery efforts of civilian administration and the humanitarian community.
- Reconstruct / repair roads and bridges at important locations.

Private Sector (NGOs, and Pakistan Red Crescent Society, etc.)**Before Disaster**

- Conduct MHVRA at the Tehsil/UC/village levels according to the standard procedure set by the PDMA/NDMA under the supervision and with close coordination with the DDMA.
- Develop DM Plans at all level and share with the DDMA for coordination and implementation.
- Mobilize communities and develop local level capacities for early warning, disaster preparedness and response.
- Support DDMA in establishing the Tehsil/UC/Village level DM Committees according to the set criteria of the PDMA.
- Provide all necessary trainings, conduct drills/exercises and provide necessary equipment to the DRR committees with the close coordination of the DDMA.
- Participate in disaster risk management activities such as training, public education, damage assessment, rehabilitation and construction projects in hazard prone areas.
- Implement programs for community vulnerability reduction; e.g. strengthening livelihoods, safer construction practices, drought mitigation, etc.
- The Pakistan Red Crescent Society is to assist the district government in crises, emergencies and disasters. The main activities of the Society are relief work during and after conflict, disaster relief and supplementary health and welfare services, which include a wide range of activities for the less privileged and marginalized people in both urban and rural areas. The Society provides ambulance and search and rescue service at times of emergencies in addition to capacity building of volunteers, CBOs, and district government officials.

During Disaster

DDMA (District Kasur)

- Facilitate local authorities in emergency relief operations (search & rescue, establishment of evacuation/relief camps, food distribution to displaced, provision of health services, etc.)
- Establish information management centers at evacuation/relief camps with close coordination of the DC office and the DDMA.

After Disaster

- Mobilize disaster affected communities for early recovery and rehabilitation efforts.
- With the support of DM committees, assess Tehsil/UC/Village level damages/losses and needs and contribute it to the district government's data.
- Prepare village level early recovery and rehabilitation plans and mobilize resources for their implementation.
- Provide emergency livelihood support to communities in terms of providing agriculture inputs, conditional cash grants, etc.
- Work on promoting community based disaster risk management.

Agriculture Department**Before Disaster**

- Keeping in mind the most significant hazards in the district, undertake a field exercise of risk assessment to identify vulnerabilities and risks vis-à-vis food security, agriculture activities such as cropping patterns in the face of climate change, and the livestock/dairy/poultry. This exercise should also look into the possibility of likely damages / losses which might occur in the wake of any disaster to all the sub-sectors of the Agriculture department. The outcome of the exercise will be an informed and practical DRR plan of the department.
- Establish and maintain farmers' groups to raise their level of awareness with regards to issues falling under the overall mandate of the department. The farmers' group may also be trained on basic disaster preparedness and response skills. They can potentially become extremely useful during disaster situations in their respective areas
- Prepare departmental contingency plan and organize regular drills/simulation exercises
- Maintain emergency stock of vaccination, fodder and seeds etc.
- Creating community seed banks at the Union Council level is a very viable option to support the small farmers with minimum seeds requirements after any disaster to enable them to resume and regenerate agriculture based livelihood activities.
- Mass awareness regarding epidemics and diseases to livestock, poultry and crops. Regular vaccination is an effective tool to prevent diseases.
- Regular surveillance of water sources, which may be damaged or cause flooding in monsoon.
- Close coordinating with Pakistan Meteorological Department and media to ensure that early warning messages are appropriately relayed / disseminated to hazard prone communities. It will help people to plan for sowing/planting and harvesting crops accordingly.
- Arrange different trainings on impact of global warming and climate change and adoptability of agriculture crops and enhance the productivity for the farmers
- Promote adoption of flood and drought resilient crops through research and dissemination to farmers with the help of agriculture extension workers.

During Disaster

- Immediately, start interacting with DDMA/DC office for coordinating emergency response activities.
- Make available all the technical and material resources to be made part of relief efforts.
- Carryout agriculture sectors damages/losses and needs assessment and prepares flash report for response.
- Help other relevant departments in establishing relief camps in safe places.
- Arrange feed and fodder for surviving livestock.

After Disaster

- Prepare detail report of agriculture sector damages/losses and needs and submit it to DDMA/DC office for onwards transmission to PDMA/NDMA.
- Repair and rehabilitation of water sources to ensure that agriculture activities are resumed as early as possible.
- Livestock vaccination.
- Ensure foods and fodders availability.
- Provision of seeds, fertilizers and other agri-inputs/implements to farmers as disaster early recovery support.
- Document lessons learnt and revise the departmental contingency and DRR plan accordingly.

Volunteer Network

DDMA & 1122 along with civil defense Kasur for operating a network in District Kasur. 72 Volunteers have been registered from Rescue 1122, Social Welfare and Civil Defense in the district. The head of Rescue 1122, Civil Defense and Social Welfare will activate their respective Volunteers, assigned their duties and issue their deployment plan as per need and nature of emergency. All respective department will coordinate in the district to meet any emergency disaster.

RISK ANALYSIS

1. Potential hazards of the district

| Hazards | Likelihood (Score 1-5) | Impact (Score 1-5) | Risk |
|----------------------------------------------------------------------------------------------------------|---------------------------|-----------------------|------|
| Floods | 3 | 3 | 9 |
| Urban Flooding | | | |
| Flash Floods | | | |
| Hill Torrent | | | |
| Glacial Lake Outburst Flood (GLOF) | | | |
| Landslide | | | |
| Tornado | | | |
| Earthquake | 3 | 3 | 9 |
| Drought | 3 | 3 | 9 |
| Epidemic | 2 | 2 | 4 |
| Fire Incidents | 3 | 3 | 9 |
| Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash) | 2 | 2 | 4 |
| Environmental Hazards (industrial accidents, severe pollution etc.) | 4 | 3 | 12 |

Risk = Impact x Likelihood

Low : 1-7

Medium : 8-14

High : 15-25

2. Hazards

- *Disasters occurred over the past two to three decades and their impact on communities and development sectors*
- *Provide a brief description of the hazards being planned for (medium and high risks), including potential location that could be affected;*
- *Briefly outline the triggers*

Hazard mapping plans Risk reduction plans at Village and Union Council level are readily available with District Disaster Management Forum Kasur. Which may be available to District Disaster management Authority (DDMA)

Response & Operational Capacity

Briefly describe the existing response capacities in District (including government and NGO partners)

At Government level DDMA, Rescue 1122 and Civil Defense have their plans ready, needs and shortfalls have been identified in their plans, duly communicated to competent authorities. Other line departments act according to instructions received from Flood Control center, all NGO working in the district response strategy is shared with district Govt.

Strategic Reserves Rescue 1122

| Items | Available | Functional | Repairable/Non Functional | Extra Demand |
|---------------------------------------------|-----------|------------|---------------------------|----------------------------------------------------------------------------------------|
| Navigators | 0 | 0 | 0 | 0 |
| GIS devices | 0 | 0 | 0 | 25 |
| Life Buoys | 60 | 60 | 00 | 00 |
| Life Lines | 0 | 0 | 0 | 30 |
| Scuba diving suit with complete accessories | 3 | 3 | 0 | 2 |
| Rescue Bag | 45 | 45 | 0 | 0 |
| Safety Harnesses | 0 | 0 | 0 | 10 |
| Ambulances | 18 | 18 | 00 | 15 |
| Fire Brigade | 05 | 05 | 00 | 05 |
| Water Tanks / Boozers | 00 | 00 | 0 | 04 |
| Extendable Ladders | 0 | 0 | 0 | 02 |
| Hydraulic Cutter | 1 | 1 | 0 | 04 |
| Sonar Rader | 0 | 0 | 0 | 02 |
| Jumping Sheet | 0 | 0 | 0 | 20 |
| Dumpers | 0 | 0 | 0 | 0 |
| Excavators | 0 | 0 | 0 | 0 |
| Cranes | 0 | 0 | 0 | 0 |
| Bulldozer | 0 | 0 | 0 | 0 |
| Boat Carrier/Trolleys | 02 | 02 | 0 | 5 |
| Pickups/Jeeps/4x4 vehicles/Mini Trucks | 0 | 0 | 0 | 05 |
| Searchlight | 0 | 0 | 0 | 50 |
| Mosquito Net | 0 | 0 | 0 | 50 |
| Any other main relief/rescue equipment | 0 | 0 | 0 | Search Cam-01 Rain Suit-100 Umbrella-20 Boat Paddel-20 pairs Binoculars-20 |
| Gas-Cutters | 00 | 00 | 0 | 04 |
| Navigator/GPS Tracker | 0 | 0 | 0 | 25 |
| Floating Rope | 0 | 0 | 0 | 100 |

Strategic Reserves Rescue 1122, Civil Defense and MC

| Sr.No | Particulars | Availability 2021 | FUCTIONAL 2021 | NON FUNCTIONAL 2021 | NEW DEMAND 2021 | RATIONAL DEMAND 2021 |
|-------|--------------------------------------|-------------------|----------------|---------------------|-----------------|----------------------|
| 1 | Pnumatic Boat(Inflatable) | 31 | 25 | 5 | 1 | 0 |
| 4 | OBM 40 HP | 25 | 18 | 0 | 1 | 0 |
| 6 | Tent | 107 | 107 | 0 | 59 | 0 |
| 7 | Life Jacket | 155 | 155 | 0 | 60 | 0 |
| 8 | Life Ring | 58 | 58 | 0 | 75 | 0 |
| 9 | Dewatering Sets 1 Cusec | 33 | 28 | 5 | 13 | 0 |
| 10 | Dewatering Sets 1.5 Cusec | 9 | 9 | 0 | 5 | 0 |
| 11 | Dewatering Sets 2 Cusec | 5 | 5 | 0 | 2 | 0 |
| 12 | Dewatering Sets 3 Cusec | 0 | 0 | 0 | 0 | 0 |
| 13 | Dewatering Sets 4 Cusec | 0 | 0 | 0 | 1 | 0 |
| 14 | Generator with light stand set 5-KVA | 8 | 5 | 3 | 32 | 0 |
| 15 | Plastic Mat | 50 | 50 | 0 | 52 | 0 |
| 16 | Mosquito Net | 0 | 0 | 0 | 122 | 0 |
| 17 | First Aid Kit | 1 | 0 | 0 | 20 | 0 |
| 18 | Blankit | 35 | 35 | 0 | 75 | 0 |
| 19 | Quilt | 0 | 0 | 0 | 80 | 0 |
| 20 | Scuba Set | 3 | 3 | 0 | 8 | 0 |

| DDMA (District Kasur) | | | | | | DDMP 2021 | |
|-----------------------|---------------------------------------|---------|---------|---|----|-----------|---|
| 19 | Quilt | 0 | 0 | 0 | 80 | 0 | 0 |
| 20 | Scuba Set | 3 | 3 | 0 | 7 | 32 | 0 |
| 21 | First Aid Kit | 31 | 31 | 0 | 15 | 0 | 0 |
| 22 | PICK Axe | 10 | 10 | 0 | 0 | 0 | 0 |
| 23 | Stretchers | 3 | 3 | 0 | 0 | 0 | 0 |
| 24 | Helmet | 64 | 64 | 0 | 0 | 0 | 0 |
| 25 | Rope Various Size | 27 | 27 | 0 | 0 | 0 | 0 |
| 26 | Iron Pans | 13 | 13 | 0 | 0 | 0 | 0 |
| 27 | Shovels | 56 | 56 | 0 | 0 | 0 | 0 |
| 28 | Kassi | 3 | 3 | 0 | 0 | 0 | 0 |
| 29 | Fire Extinguishers CO2 | 9 | 9 | 0 | 0 | 0 | 0 |
| 30 | Fire Extinguishers DCP | 12 | 12 | 0 | 0 | 0 | 0 |
| 31 | Trolley Mounted Fire Extinguishers | 3 | 3 | 0 | 0 | 0 | 0 |
| 32 | Bucket | 50 | 50 | 0 | 0 | 0 | 0 |
| 33 | Gum Boot(Paires) | 6 Pairs | 6 Pairs | 0 | 0 | 0 | 0 |
| 34 | Jumping Sheet | 2 | 2 | 0 | 0 | 0 | 0 |

13. Gaps and Constraints

- Communication gap is major issue during emergency / disaster between DEOC and the affected areas there must be a strong wireless communication for information timely decisions and coordination among the department.
- Transportation of staff at the location of disaster.
Non availability of proper heavy and latest equipment's for search and rescue the victims specially in building collapse / earthquake and drowning cases
 - Major obstacles to providing humanitarian assistance Non accessibility of roads
 - Security issues
 - Logistic obstacles faced by District Govt time to time different sort of equipment as mentioned above is missing and request sent to concerned office technical man power is another bottle neck especially at the time of disaster.

Mitigation Strategy

- Briefly describe what measure could be taken to reduce the impact of the potential disaster.
- Strategic pre-positioning of available relief stocks
- Public education and community awareness

| Hazards | Mitigate Actions | Responsible Department |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Floods | <p>i. Strengthening of embankment with stone pitching and repair of embankment where local people cut down the embankment for ways or any other purpose.</p> <p>ii. Awareness Raising</p> <p>iii. Community Based Disaster Risk Reduction</p> <p>iv. Emergency Response Kits at Village Level</p> <p>v. Periodic Multi Hazard Vulnerability and Risk Assessment (MHVRA) studies</p> <p>vi. Enforcement of Flood Plain Regulations</p> <p>vii. Clear roles and responsibilities in pre flood, during flood and post flood scenarios</p> <p>viii. Identification of evacuation and relief sites</p> <p>ix. Implementation of PDMA guidelines regarding flood</p> <p>x. Establishment of Control Rooms by all concerned</p> <p>xi. Regular DDMA meetings</p> <p>xii. Rescue 1122 to submit their plan including CERT team deployment</p> <p>xiii. Readiness certificates submission by all concerned</p> <p>xiv. Timely updating of list of private boats and volunteers by ACs, Rescue, Civil Defense, Social Welfare etc.</p> <p>xv. Pre flood/monsoon contingency preparation by all concerned as per PDMA requirements</p> <p>xvi. Timely inspection of sites for relief camps and ensuring their suitability</p> <p>xvii. Timely vaccination of flood prone areas by health and Livestock department</p> <p>xviii. Updating of list of relief camp in charges and sector in charges etc.</p> <p>xix. Inspection of buildings during and after flood</p> <p>xx. XEN Highway to ensure breaches of respective roads</p> <p>xxi. Mobile teams of Health and Livestock department</p> <p>xxii. Disconnection of electricity of flood areas and timely restoration</p> <p>xxiii. Involving NGOs in all stages of flood preparation</p> <p>xxiv. Ensuring availability of Ata by Food Department</p> <p>xxv. Arrangement of fodder, husk, seeds, pesticides, fertilizers and medicines in adequate quantity by Livestock and Agriculture departments</p> <p>xxvi. Inspection of Flood Bunds and structures</p> <p>xxvii. Arrangement of Mock Exercise by Rescue 1122 involving all stakeholders</p> <p>xxviii. All department will ensure that the guide lines for prevention, mitigation, preparedness and</p> | <ul style="list-style-type: none"> • Irrigation and Revenue Department • DDMA • Recue 1122 • Civil Defense • Social welfare • Health • Education • Livestock Department • Agriculture Department • Buildings Department • Highway Department • LESCO • Police Department • MCs • DFC Information Department |

| | | |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>response measures as lay down by national authority and provincial authority are followed in latter at spirit.</p> <p>xxix Tree plantation in flood prone areas</p> <p>Xxx Get the people of flood prone areas aware regarding the importance embankment.</p> <p>xxxi. Construction of embankment where it is still not constructed</p> | |
| Earthquake | <ol style="list-style-type: none"> i. Compliance of seismic provisions of Building Codes of Pakistan as a minimum standard for existing and new construction ii. Conduction of Evacuation Mock Drills at public and private institutions. iii. Deceleration of dangerous buildings iv. Multi Hazard Vulnerability and Risk Assessment (MHVRA) study v. Earthquake emergency related Rescue equipment and machinery are available and are in functional condition vi. Periodic mock exercises have been conducted to test equipment and machinery. vii. Also ensure that human resources equipped with desired skills required to deal with earthquake emergencies are available in the district. Viii. Various drills and exercises along with awareness campaigns in community, schools and colleges | <ul style="list-style-type: none"> • MCs • C &W Department • Education Department • Rescue 1122 • Civil Defense • Education Department • Health Department • DDMA • Information Department • Building Department • TMA |
| Drought | <ol style="list-style-type: none"> i. Encourage high efficiency irrigation practices by use of drip Bubbler, sprinkler irrigation etc. ii. Desertification trends be dealt with practices like sand dune fixation and shelterbelts plantations. iii. Protection Walls iv. Stoppage & reduction of irrigation induced seepage salinity & water logging, in the whole Thal area, which due to irrigation induced seepage of Chashma – Jhelum Link Canal (Non-lined Kacha Canal in the sandy area of Thal desert) v. Awareness of drought mitigation technologies, actions and interventions for farmers vi. Introduction of drought and heat resistant arid zone crops that are tolerant to reduced rain spells and are less prone to insects and pest attacks. vii. Measures to save livestock. viii. Multi Hazard Vulnerability and Risk Assessment (MHVRA) study viii. Drought Contingency Plans at Tehsil and District level x. Clear roles and responsibilities for drought mitigation and response ix. Encouraging cultivation of drought resistant crops | <ul style="list-style-type: none"> • Agriculture Department • Forest Department • Civil Society Organizations • Water Management • Forest Department • Irrigation Department • Livestock Department • DDMA • Information Department |

| | | |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Locust | <ol style="list-style-type: none"> i. Ensuring implementation of national and provincial action plans. ii. Regular preparation and updating of yearly Locust Control Contingency Plan and submission to the quarters concerned. iii. Effective coordination mechanism. iv. Nomination of Focal Persons. v. Formation of surveillance committees at District, Tehsil and UC levels. vi. Feedback and Monitoring Mechanism vii. Regular survey and awareness activities in the farming community. viii. Mega seminars at District and Tehsil levels. ix. Maintaining proper stock of pesticides during the year x. Capacity Building and trainings for the concerned HR xi. Mock Exercises. xii. Training of farmers on locust control and corner meetings in villages | <ul style="list-style-type: none"> • Agriculture Extension Department • Pest Warning and Quality Control of Pesticides(PW&QCP) Department • Revenue Department. • DDMA • LG&CDD • MCs • Information Department |
| Epidemics | <ol style="list-style-type: none"> i. Preventive Actions ii. Awareness campaigns on regular basis iii. Medical Treatment of patients iv. Ensure 100 percent vaccination of the target group v. Convene regular meetings of all concerned departments to remain current and updated and plan for future course of action | <ul style="list-style-type: none"> • Health Department • MCs • District Government • DDMA • Information Department • TMA |
| Fire Incidents | <ol style="list-style-type: none"> i. Mock exercise, trainings, equipment ii. Installation of fire hydrants at narrow streets iii. Ensure installation of fire extinguisher at shops, offices and markets. iv. MCs should ensure that there is no encroachment v. On the way to potential fire prone buildings which can hinder firefighting operations. vi. Ensure that all building / potential vulnerable points have escape route for residents / workers in case of fire emergency vii. Ensure that fire extinguishing equipment is available and in functional condition and all security / firefighting teams know their location viii. Ensure that security staff / firefighting staff is well trained and physical and medically fit to combat fire in case of emergency. ix. Ensure that residents / workers of building and flashpoints are aware of emergency SOPs (to be followed in emergency situation) and know escape route x. Ensure that all equipment and material required to combat fire with rescue department is ready, in order, functional and firefighting team is trained and all members are physically and medically fit to xi. Combat fire. Xii. Ensure that that health department has made all necessary arrangements (inclusive of human resources, | <ul style="list-style-type: none"> • RESCUE 1122 • Civil defense • MCs • DDMA • Health Department • District Wildlife Department • Information Department |

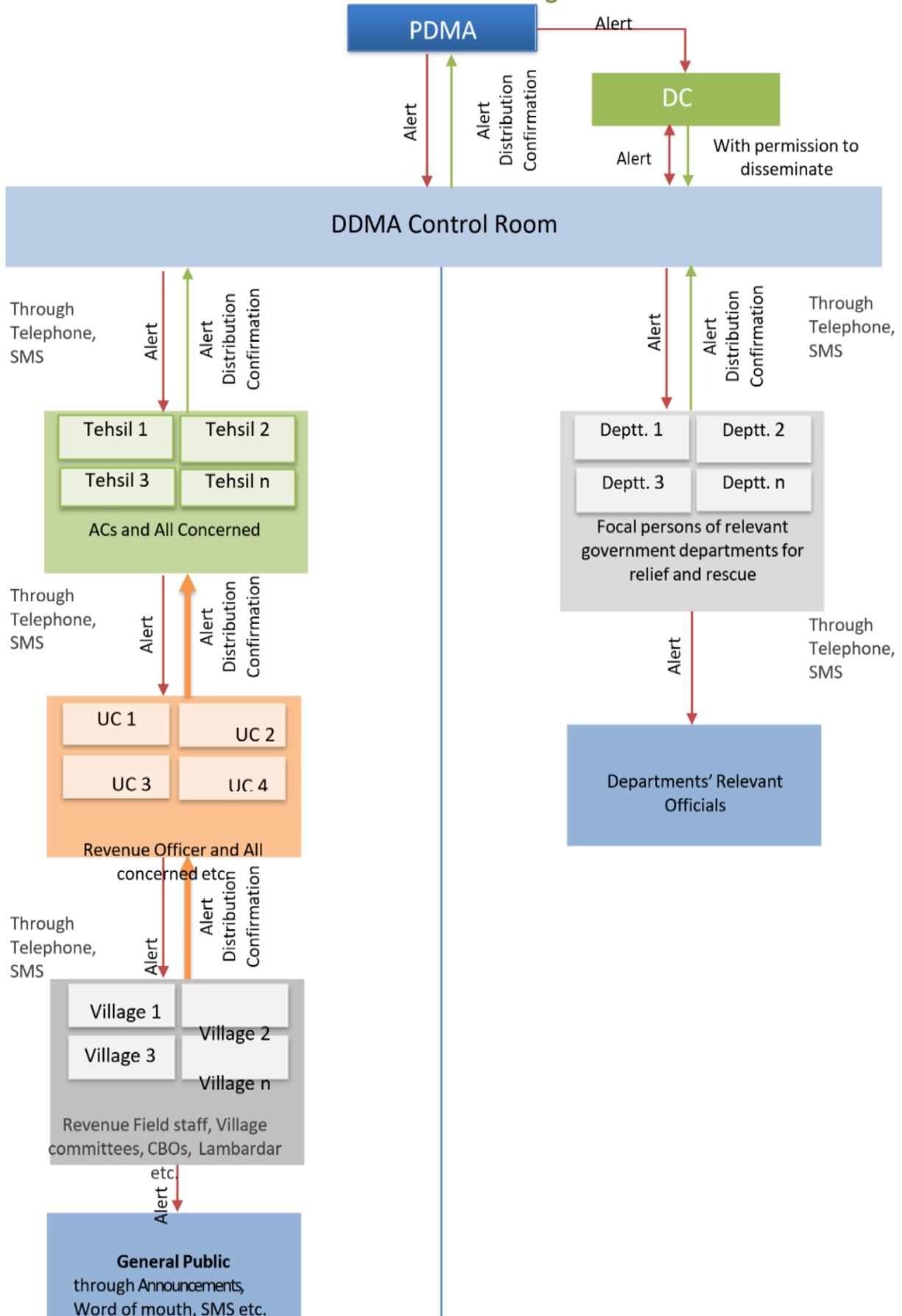
| | | |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | <p>equipment and medicines etc.) to deal with burn cases resulting from fire break out.</p> <p>xiii. Ensure that mock drills have regularly been conducted and firefighters are aware of the potential threats of fire emergency in their area (involving all stakeholders Rescue, Health, DDMA's etc.)</p> <p>xiv. DDMA should convene periodic meeting with all owners of such building periodically and inspection teams should visit all tall building, flash points (petrol and gasoline station) to ensure that all precautionary measures have been taken and fire extinguish equipment is available (functional) and staff is trained.</p> <p>xv. Should also include forest department in all meetings and operations</p> <p>XVI Capacity building of volunteers/Raza Kars on rescue and relief mechanisms during fire incidents</p> <p>XVII. Provision of adequate fire mitigation equipment to different tehsil headquarters for prompt action</p> <p>XVIII. Mobilization of ambulances and vehicles</p> | |
| <p>Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash)</p> | <p>i. First aid and RESCIE trainings Infrastructure maintenance basic life supports trainings, installation of cautionary & informative sign boards and reflecting polls at roads/highways</p> <p>ii. Installation of reflectors at slow moving vehicles checking of vehicles certification / clearance certificate.</p> | <ul style="list-style-type: none"> • Rescue 1122 • Health Department • Highway Police • Traffic Police • DRTA • DDMA • Information Department • District Government |
| <p>Smog</p> | <p>i. Close monitoring by Environment Protection Department. Shutting down of industries which are working without emission control equipment's or are using substandard fuel.</p> <p>ii. Imposition of ban on burning municipal wastes and crop residues. Awareness campaign among farmers regarding that and for environmentally safe disposal of crop residues.</p> <p>iii. Agriculture department to prepare, share and implement plan of disposal of crop residues.</p> <p>iv. Municipal corporations to ensure efficient collection and disposal of solid waste.</p> <p>v. Issuance of Health Advisories and maintenance of data of smog related patients by Primary and Secondary Health Care Department</p> <p>vi. Devising of fugitive dust control mechanism and its implementation</p> <p>vii. Checking of petrol pumps for safe storage of petroleum products</p> <p>viii. Ensuring Municipal Laws compliance reporting</p> <p>ix. Clean and green activities in the district</p> <p>x. Establishment of nurseries and tree plantation including awareness regarding this in the general public.</p> | <ul style="list-style-type: none"> • Environment Department • Agriculture Department • Industries Department • Primary and Secondary Health Care Department. • District Police • LG&CDD • Forest Department • Punjab Housing and Town Planning Agency • Building Department • Information Department MCs • Traffic Police • DDMA • Information Department |

| | | |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | xi. Nomination of Focal Persons. | |
| Other Environmental Hazards (industrial accidents, severe pollution etc.) | <p>i. Awareness Raising campaigning on environment at community level</p> <p>ii. Initiating tree plantation and nurseries projects Carrying energy efficiency project that includes biogas and solar panel generated projects</p> <p>iii. Inspection & Correction and capacity building of communities on environment hazards</p> | <ul style="list-style-type: none"> • Environment Department • Building Department • TMA • Works Department • Education • Social welfare • Health Department • DDMA • Information Department |
| Climate Change (Heat & and Extreme Cold) | <p>i. Implementation of National Climate Change Policy (2013) followed by Climate Change Act (2017)</p> <p>ii. Implementation of Water Policy: Pakistan approved Water Policy in April 2018. Besides, Punjab has a provincial water policy. The government's approval and implementation of the draft Punjab Water Policy (April 2017).</p> <p>iii. Implementation of Agriculture Policies: selection and use of climate resilient crops/agriculture and cropping patterns together with water-efficient irrigation systems are need of the time.</p> <p>iv. Revision of infrastructure designs (such as bridge piers, buildings plinth levels, buildings HVAC, roads) based on climate change assessment.</p> <p>v. Provision of shelter during extreme cold and establishment of shades for extreme heat and other measures to control heat shocks including awareness campaigns</p> <p>vi. Adequate health facilities provision.</p> <p>vii. Adequate control and measures against viral disease</p> <p>viii. Encouraging urban forestation.</p> <p>ix. Adequate control and measures against viral diseases;</p> <p>x. Adaptation of best agriculture practices and use of climate resilient crops;</p> <p>xi. Use of least water-intensive crops and water efficient irrigation systems such as sprinkler and drip irrigation, particularly where rice and sugar cane is grown.</p> <p>xii. Adaptation of best water management practice, such as lining of watercourses and land leveling together with demand-based supplies using soil moisture sensors.</p> <p>xiii. Launching of farmers' awareness schemes to educate them about climate change risks, efficient irrigation systems, use of best available seeds variety, changes in cropping patterns.</p> <p>xiv. Growing of more trees to control temperature and to reduce water losses together with adverse</p> | <ul style="list-style-type: none"> • Forest Department • Agriculture Department • Water Management Department • DDMA • Social Welfare department • Health Department • Environment Department • Information Department |

| | | |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | <p>climate change impacts.</p> <p>xv. Changes in cropping patterns to increase food production and to cope up with the rise in food demand and water losses.</p> <p>xvi. Parthenium and other such types of weeds should be treated through biological treatment and Integrated Pest Management (IPM).</p> <p>xvii. Public awareness schemes, and capacity building of line departments' staff to educate people about climate change risks and adaptation measures.</p> <p>xviii. Well managed operation and maintenance to avoid water loss</p> | |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|

EARLY WARNING

Information Flow Diagram



Alertness Levels

Following four levels alertness have been established:

Level-D
(Disaster threat
is perceptible)

DDMA shall conduct monthly meetings besides atleast 2 mock exercises as per DDMP, well in time, to make the concerned officers/officials understand their role and responsibility for better coordination and testing of rescue and relief equipment. DDMA shall also ensure the physical presence of concerned staff deputed and availability of equipment/resources for all designated vulnerable sites within given time frame during disaster. Vulnerable site's inspections and necessary works/action shall be carried out as mitigation measures.

Level-C
(Alert)
(Warning
issued but
likelihood of
occurrence is
less than 100%)

Activities to be undertaken in level D

+

DDMA shall issue "alert" to all concerned for the vulnerable area. DDMA and LDMA (tehsil level) control rooms be made operational 24/7 and ensure availability of all required (available and additional) resources for on call mobilization and monitor the situation 6 hourly. Only DC and DPO shall grant leave according to the situation.

Level-B
(High Alert)
(Disaster threat
is imminent)

Activities to be undertaken in level C

+

DDMA shall issue EW to all stakeholders and "High Alert" for the district to ensure that all additional HR and material resources including volunteers has reported to their assigned duties, and all resources for evacuation and disaster management have been mobilized as per DDMP. All emergency (health, fire, rescue 1122, LOCAL BODIES etc) facilities shall work 24/7 with full staff strength. DDMA shall monitor the situation on hourly basis.

Level-A
(Red Alert)
(Disaster is
materialized)

Activities to be undertaken in level B

+

DDMA shall respond to the emergency immediately and shall carry out rescue and relief operation as defined in DDMP and shall continuously monitor the situation. Resources of adjoining districts shall be mobilized and Army may be called keeping in view the magnitude of the disaster.

Early Warning

- On the early warning will be communicated to the relevant population? E.g. through Patwari, SMS, Announcements, Media etc.
- The information / early warning will be received by DC / ADCR and District Control Room from provincial level control room.
- ADCR will be focal person for early warning / coordinating and supervising the disaster relief measures in the district.
- The district control room will intimate the information to the focal persons of DDMA, departments & Public Representatives and Tehsil Control room and will issue the alert to concerned department.
- After the intimation from Control Room all departments will take appropriate measures for evacuation, first aid, security and relief etc. as per their role and responsibilities
- Tehsil control room will issue early warning through telephone and revenue field staff to concerned chairman and councilors of the area.

RESCUE STRATEGY

- DEOC / district control room shall intimate to all concerned department / agencies and Rescue 1122, Police, shall rush to emergency / disaster effected area. Evacuation, Medical assistance and rescue shall be made by rescue 1122 in coordination with line agencies in coordination with TMA and Health and other stake holders.
- Police will be responsible to maintain law & order situation and for security of peoples/ agencies. Complex emergencies shall be lead by police and rescue 1122 will support the rescue activates.
- Pak army will be requested by chairman DDMA in accordance with govt SOPs, after DDMA meeting keeping in view nature and magnitude of disaster / emergencies.

Flood Forecasting and Early Warning System

Flood Forecasting and Early Warning System should be announced by Irrigation Department, Patwaris and through announcement in loud speakers of masjid. Master control Room which is controlled by Met office issues forecast information to Flood Control Room. Rescue 1122 is looking after Flood control Room and that disseminate area on alerts to residents living in vulnerable areas.

District Emergency Control Room disseminates immunity flood information to residents of low lying areas by blowing risers which are installed along River Sindh. District Control Room also plays role coordination & Communication along all stakeholders.

After receiving information of pre alert through District Flood control Room, all the relevant stakeholders are Part on high alert and their team start deployment in highly vulnerable low lying areas.

DISASTER PREVENTION CONTROL CENTRE (DPCC)

A Central Flood Control Centre has been established at DC Office building, under the command of Deputy Commissioner & with the assistance of District Emergency Officer, Rescue 1122. This Control Room shall be the source of dissemination of information to the concerned departments and will also act as Operation Centre for coordinating all response activities. All the concerned departments / emergency service

HUMANITARIAN ASSISTANCE

- Humanitarian Assistance is extremely helpful in coping up disasters.
- The DC will comprise a committee regarding collection of data of house damages and losses and communicated to higher level by the SNAs / ADCR.
- Relief camp incharges / revenue staff and the social welfare department will have determined the needs of the effected people. DDMA, civil society and local volunteers provide the assistance to affectees from early warning, search and rescue, medical assistance to relief activities.
- Government instructions shall be followed for standardization of different packages like food, kits etc. DC will establish a humanitarian assistance mechanism establishing a committee to avoid duplication and to identify gaps.
- Camp management SOPs shall be followed as per DDMP attached guidelines. District Govt have capacity for at least 18000 persons to provide assistance
- The District Govt is very keen for the protection especially Govt gender based protection is on the first in agenda, especially keen for children and person with disabilities. DDMA will ensure it with the help of NGOs and civil society.

ANNEX I: IDENTIFIED SITES FOR DISPLACED PERSONS

| S# | Location | No. of persons which can be accommodated | GPS Coordinates | S# | Location | No. of persons which can be accommodated | GPS Coordinates |
|----|---------------------------------------------------------------|------------------------------------------|-----------------|----|---------------------------------------|------------------------------------------|-----------------|
| 1 | District Public School, Kasur | 3340 | ----- | 11 | Govt. Girls High School, Pial Kalan | 2625 | ----- |
| 2 | Technical College, Raiwind Road, Kasur | 2390 | ----- | 12 | Govt. Primary School, Usman Wala | 650 | ----- |
| 3 | Cricket Ground Degree College, Kasur | 1000 | ----- | 13 | Veterinary Hospital, Usman Wala | 6645 | ----- |
| 4 | Govt. College for Boys, Kasur | 3350 | ----- | 14 | Elementary School Chak No. 66 | 106 | ----- |
| 5 | Commercial College, Kamal Chisti, Kasur | 3450 | ----- | 15 | Boys Elementary School, Cheemba | 175 | ----- |
| 6 | Govt. College for Women, Kasur Govt. Islamia School, Kasur | 3450 | ----- | 16 | Degree College for Girls, Phool Nagar | 102 | ----- |
| 7 | Govt. Girls Middle School, Baqarkey | 2650 | ----- | 17 | Boys Elementary School, Sindhu | 200 | ----- |
| 8 | Govt. Boys Primary School, Baqarkey | 2204 | ----- | 18 | Boys High School No. 2, Phool Nagar | 271 | ----- |
| 9 | Govt. Boys High School, Usman Wala | 7350 | ----- | 19 | Boys Elementary School, Katar Mal | 67 | ----- |

| | | | | | | | |
|----|-------------------------------------|------|-------|----|-------------------------------------------|-----|-------|
| 10 | Govt. Girls High School, Usman Wala | 1640 | ----- | 20 | Girls High School, Hala | 117 | ----- |
| 21 | Boys High School, Alpa Kalan | 76 | ----- | 24 | Govt. High School, Mokal | 392 | ----- |
| 22 | Commuity Model School, Qazi Wala | 1350 | ----- | 25 | Govt. Higher Secondary School, Kangar Pur | 415 | ----- |
| 23 | Govt. High School, Mokal | 1900 | ----- | | | | |

Note: More camps will be established according to intnsity of flood and population affected.

ANNEX II:**LIST OF HAZARD PRONE VILLAGES/REVENUE ESTATE (NAMES REQUIRED)**

| Hazards | Tehsils | UCs | Names of Revenue Estates | Names of Villages | POPULATION |
|---------|---------|-------------|--------------------------|-------------------|------------|
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | SEHJRA | 5009 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | NAGAR EMAN PURA | 1257 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | MABOKEY | 372 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | LUKHMER WALA | 11 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | CHANDA SINGH WALA | 827 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | MAHI WALA | 546 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | KAMAL PURA | 989 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | FATI WALA | 293 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | SHEIKHPURA NAU | 543 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | BHIKHI WIND | 523 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | KALANJAR HITHAR | 524 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | KALU WARA | 53 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | MASTEKEY | 329 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | BUDHA SINGH WALA | 50 |
| Floods | KASUR | SEHJRA 19 | Ganda singh wala | KASOKI | 15 |
| Floods | KASUR | THAHI USMAN | Usman Wala | DABURJI | 394 |
| Floods | KASUR | THAHI USMAN | Usman Wala | JODH SINGH WALA | 1554 |
| Floods | KASUR | VERM | Usman Wala | BAQAR KE | 2261 |
| Floods | KASUR | THAHI USMAN | Usman Wala | ATTA SINGH | 692 |
| Floods | KASUR | THAHI USMAN | Usman Wala | SALEKE | 35 |
| Floods | KASUR | THAHI USMAN | Usman Wala | TATRI KE | 177 |
| Floods | KASUR | RAJUWAL | Usman Wala | GANDA WALA | 135 |

| | | | | | |
|--------|---------|---------------|-------------|-----------------|---------------|
| Floods | KASUR | THAHI USMAN | Usman Wala | DAHAL HITHAR | 108 |
| Floods | KASUR | THAHI USMAN | Usman Wala | JAJOKE | 729 |
| Floods | KASUR | RAJUWAL | Usman Wala | DHENKE | 197 |
| Floods | KASUR | RAJUWAL | Usman Wala | GHATI DHENKE | 26 |
| Floods | KASUR | RAJUWAL | Usman Wala | RAJUWAL NAU | 944 |
| Floods | KASUR | THAHI USMAN | Usman Wala | MABU WALA | 6 |
| Floods | KASUR | THAHI USMAN | Usman Wala | BETU JAGER | 73 |
| Floods | KASUR | RAJUWAL | Usman Wala | GANJA KALAN | 446 |
| Floods | KASUR | RAJUWAL | Usman Wala | GANJA KHURD | 261 |
| Floods | KASUR | RAJUWAL | Usman Wala | MAMONKE MEHMOOD | 164 |
| Floods | KASUR | RAJUWAL | Usman Wala | MUBARA | 27 |
| Floods | KASUR | RAJUWAL | Usman Wala | MATTAR | 70 |
| Floods | KASUR | RAJUWAL | Usman Wala | MAMONKE KHIZRA | 174 |
| Floods | KASUR | RAJUWAL | Usman Wala | MAHTMA WALA | 25 |
| Floods | KASUR | RAJUWAL | Usman Wala | SIDHU WALA | 112 |
| Floods | KASUR | RAJUWAL | Usman Wala | BOHGEY KE | 5 |
| Floods | KASUR | RAJUWAL | Usman Wala | DAWALA MADAR | 21 |
| Floods | KASUR | RAJUWAL | Usman Wala | SADAR | 632 |
| Floods | KASUR | RAJUWAL | Usman Wala | NATHAL KE | 11 |
| Floods | KASUR | RAJUWAL | Usman Wala | NAJABAT | 3706 |
| Floods | Pattoki | Nathay Jageer | Phool Nagar | Nothe Jagir | 7500 |
| Floods | Pattoki | Nathay Khalsa | Phool Nagar | Nothe Khalsa | 8000 |
| Floods | Pattoki | Nathay Jageer | Phool Nagar | Lakhankay | 3000 |
| Floods | Pattoki | Gagga Sarai | Phool Nagar | Bhangoor | 2500 |
| Floods | Pattoki | Gagga Sarai | Phool Nagar | Gagga Sarai | 10000 |
| Floods | Pattoki | Gagga Sarai | Phool Nagar | Raiwind | No Population |
| Floods | Pattoki | Lambay Jageer | Phool Nagar | Gulzar Jagir | 7000 |
| Floods | Pattoki | Lambay Jageer | Phool Nagar | Kamongil | 6500 |
| Floods | Pattoki | Lambay Jageer | Phool Nagar | Megha | 2000 |
| Floods | Pattoki | Olakh Bonga | Phool Nagar | Hargan | No Population |
| Floods | Pattoki | Gagga Sarai | Phool Nagar | Jhugian Marati | No Population |

| | | | | | |
|--------|---------|------------------|--------------|---------------------|---------------|
| Floods | Pattoki | Gagga Sarai | Phool Nagar | Jhugian Arain | No Population |
| Floods | Pattoki | Olakh Bonga | Phool Nagar | Gohar Ghulab Singh | 3500 |
| Floods | Pattoki | Olakh Bonga | Phool Nagar | Olakh Bonga | 4000 |
| Floods | Pattoki | Balloki | Sarai Mughal | Balloki | 8500 |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Bonga Malla | 1500 |
| Floods | Pattoki | Balloki | Sarai Mughal | Gohar Jatari | No Population |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Jajja | 11300 |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Towrian | 1200 |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Bonga Kahan Singh | No Population |
| Floods | Pattoki | Bath Kalan | Hallah | Dullo Gurokay | 3500 |
| Floods | Pattoki | Bath Kalan | Hallah | Tannikay | 2500 |
| Floods | Pattoki | Bath Kalan | Hallah | Aray Wala | 1200 |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Kalu Khokhar | 700 |
| Floods | Pattoki | Sarai Noshehra | Sarai Mughal | Atari Bhoop Singh | 1200 |
| Floods | Pattoki | Bath Kalan | Hallah | Rathoor | No Population |
| Floods | Pattoki | Bath Kalan | Hallah | Qila Take Chand | 38 |
| Floods | Pattoki | Bath Kalan | Hallah | Bath Kalan | 5500 |
| Floods | Pattoki | Alpa Kalan | Hallah | Dullo Multani | 2339 |
| Floods | Pattoki | Alpa Kalan | Hallah | Ojla | 2212 |
| Floods | Pattoki | Alpa Kalan | Hallah | Qila Noth Singh | No Population |
| Floods | Pattoki | Alpa Kalan | Hallah | Jhugian Natha Singh | No Population |
| Floods | Pattoki | Alpa Kalan | Hallah | Wasai Pura | 2203 |
| Floods | Pattoki | Alpa Kalan | Hallah | Alpa Kalan | 6000 |
| Floods | Pattoki | Alpa Kalan | Hallah | Alpa Sadhari | 1900 |
| Floods | Pattoki | Alpa Kalan | Hallah | Mandhali | 1000 |
| Floods | Pattoki | Alpa Kalan | Hallah | Bongi Lalu | 1700 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | DAYA SINGH WALA | 1561 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | MOHAR SINGH WALA | 222 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | DHARMA | 453 |

| | | | | | |
|--------|---------|------------------|-----------------------|---------------------|------|
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | SATTOKI | 350 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | MEHMOOD KHANKE | 319 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | MARAOKE | 299 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | BODAL PERKE | 407 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | BODAL KHANKE | 459 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | RUPAL | 205 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | SHAHBAZ KE | 339 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | BURJ SHAHBAZ KE | 458 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | KARI SANARI | 223 |
| Floods | CHUNIAN | Gandi Roop Singh | Kangan pur | BESUKE | 376 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | QILI SOKAL | 883 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | CHANGA SINGH WALA | 2675 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | MOKAL | 8675 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | QILI SAHO | 429 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | LOHY JATTA | 780 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | DONA MOKAL | 0 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | GATI GIDAR PANGRAIN | 29 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | QILI EMAN | 518 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | KALU MUQEEM | 17 |

| | | | | | |
|-------------------|---------|-------|--------------------------|------------------|-----|
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | AJAIB SINGH WALA | 72 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | HIMAT SINGH WALA | 233 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | PACCA | 450 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | SEHLUL KE | 0 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | AYA SINGH WALA | 260 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | RUKAN PURA | 834 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | DHIN | 188 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | MAL SINGH WALA | 183 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | BAGYANA | 0 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | SARONKEY | 38 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | BABLYANA HIGHAR | 86 |
| Floods | CHUNIAN | MOKAL | Consolidation Chunian | BHAGOKE DOGRAN | 190 |
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| | | | | | |
| Urban Flooding | | | | | |
| Flash Floods | | | | | |
| Hill Torrent | | | | | |

| | | | | | |
|-------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------|-----------------------------|--------------------------|--|
| Tornado | | | | | |
| Epidemic | Kasur, Chunain, Pattoki,Kot Radha Kishan | Anywhere In District | Any Where In District | Any Where In District | |
| Environment al Hazards (industrial accidents, severe pollution etc.) | Kasur, Chunain, Pattoki,Kot Radha Kishan | Anywhere In District | Anywhere in the District | anywhere In District | |

ANNEX III: LIST OF HEALTH FACILITIES AND THEIR VULNERABILITY TO HAZARDS

| S# | Name and Location | GPS Coordinates | Health Facility Type (Primary, Secondary, Tertiary) | Name and Contact No of Focal Person | Hazard Vulnerability (Floods, Earthquake etc.) |
|----|----------------------|-----------------|------------------------------------------------------|-------------------------------------|------------------------------------------------|
| 1 | BHU Sehjra | ----- | Primary | Dr. Amina Saeed 033-5830851 | Threat of flood but not earthquake |
| 2 | Burj Kalan | ----- | Primary | Dr. Nayaab Niazi 0300-5621577 | No threat of flood and earthquake |
| 3 | RHC Ganda Singh Wala | ----- | Primary | Dr. Rifat Nosheen 0333-4287301 | No threat of flood and earthquake |
| 4 | BHU Kharper | ----- | Primary | Dr. Aneeqa Ashraf 0321-4356718 | No threat of flood and earthquake |
| 5 | RHC Joura | ----- | Primary | Dr. Abdul Qadir 0300-6592065 | No threat of flood and earthquake |
| 6 | BHU Rajowal | ----- | Primary | Dr. Nadeem 0343-5555044 | No threat of flood and earthquake |
| 7 | BHU Tara Garh | ----- | Primary | Dr. Moza 0307-6253909 | No threat of flood and earthquake |
| 8 | BHU Mokal | ----- | Primary | Dr. Tanveer Razaq 0322-6783347 | No threat of flood and earthquake |
| 9 | Gandi Roopsingh | ----- | Primary | Dr. Zameer ahmad 0301-4141554 | Threat of flood but not earthquake |
| 10 | BHU Akbar Abad | ----- | Primary | Dr. Zainab 0332-4124248 | Threat of flood but not earthquake |
| 11 | Alpa Kalan | ----- | Primary | Dr.Syed Raza 0344-4000414 | No threat of flood and earthquake |
| | | | | | |

ANNEX IV:
LIST OF VULNERABLE EDUCATIONAL INSTITUTIONS

| S# | Name | Institute type (School, College) | GPS Coordinates | Enrolment | Incharge Name | Contact Number |
|----|------------------------|----------------------------------|-----------------|-----------|----------------|----------------|
| 1 | GMPS ULAN KAY | School | ---- | ---- | Javed Iqbal | 3116824993 |
| 2 | GMPS RANGAY WALA | School | ---- | ---- | Saba Sultan | 3074263163 |
| 3 | GGPS MUMBAYKAY | School | ---- | ---- | Yasmeen | 3048802350 |
| 4 | GGPS BHOJA | School | ---- | ---- | Sadaf Qasim | 3078895194 |
| 5 | GGES FATOOHI WALA | School | ---- | ---- | KASHFA RAZA | 3054095754 |
| 6 | GGPS LADHAY KI HITHAR | School | ---- | ---- | Naila Huma | 3217513352 |
| 7 | GGPS SHEIKH PURA NAU | School | ---- | ---- | NAJAM UN NISA | 3034800185 |
| 8 | GMPS BIKHI WIND | School | ---- | ---- | Kalsom Manzoor | 3054698659 |
| 9 | GGPS SHEIKH PURA KOHNA | School | ---- | ---- | Ruqia Attah | 3006596307 |
| 10 | GMPS KAMAL PURA | School | ---- | ---- | Amina Jameel | 3004570806 |
| 11 | GMPS MAHI WALA | School | ---- | ---- | Ayisha Jafar | 3237515769 |
| 12 | GGES SEHJRA | School | ---- | ---- | Gulnaz Samina | 3040949376 |
| 13 | GGPS DHOOP SARI | School | ---- | ---- | Amina Shareef | 3067491606 |
| 14 | GGPS CHANT SEHJRA | School | ---- | ---- | Asia Rasheed | 3094410457 |
| 15 | GMPS MABBOO KAY | School | ---- | ---- | Bushra Nazeer | 3018307461 |
| 16 | GMPS HAKOO WALA | School | ---- | ---- | Sajida Perveen | 3027251931 |

| | | | | | | |
|----|---------------------|--------|------|------|-------------------|-------------|
| 17 | GGPS ROHYWAL | School | ---- | ---- | Tasneem Akhtar | 3354723311 |
| 18 | GGPS BALLAN WALA | School | ---- | ---- | M. Riaz | 3406221474 |
| 19 | GGPS NOORI WALA | School | ---- | ---- | SAMRA BATOOL | 3030454431 |
| 20 | GGPS BHADIAN USMAN | School | ---- | ---- | RAMZANA ALLAHDIN | 3014619679 |
| 21 | GGMPS SHAKE UMAD N | School | ---- | ---- | IRAM SHAFIQ | 3004651511 |
| 22 | GMPS HERDOBANBODLA | School | ---- | ---- | PARVEEN AKHTAR | 3073295904 |
| 23 | GGPS SHEIKHPURIAN | School | ---- | ---- | AZRA BANO | 03044899822 |
| 24 | GMPS TATTRA KAMAL | School | ---- | ---- | BILQEES BEGUM | 03018011308 |
| 25 | GGES SANDA KHANWA | School | ---- | ---- | SAIMA AROOJ | 03076098454 |
| 26 | GGES NAJABAT | School | ---- | ---- | MARIA YASEEN | 03026808402 |
| 27 | GGPS KATLOHI KALAN | School | ---- | ---- | Zareena Shaheen | 3024574140 |
| 28 | GGES Gaddoki | School | ---- | ---- | Farzano Kousar | 03066839878 |
| 29 | GGPS THEH PANWAN | School | ---- | ---- | Noor ul Nissa | 03016835687 |
| 30 | GGPS WADRA | School | ---- | ---- | FARKHANDA PARVEEN | 3004333857 |
| 31 | GGPS RATNAY WALA | School | ---- | ---- | Ghazia Mushtaq | 3065450975 |
| 32 | GGPS KUJIAN WALA | School | ---- | ---- | Shabana Kousar | 3084049172 |
| 33 | GGPS BURJ KHURD | School | ---- | ---- | Asia Rifat | 312680009 |
| 34 | GGES RAI KALAN | School | ---- | ---- | Uzma | 3075261466 |
| 35 | GGES ABRAHIM ABAD | School | ---- | ---- | TOQIR AZMAT | 3042295207 |
| 36 | GGPS CHACK BALLYANA | School | ---- | ---- | Shahida | 3476088792 |

| | | | | | | |
|----|------------------------|--------|------|------|-----------------|--------------|
| 37 | GGCMS BAGGY | School | ---- | ---- | AFIFA MUJAHID | 3234895800 |
| 38 | GGPS BAZEED PUR | School | ---- | ---- | SAIMA SHAHEEN | 3009485374 |
| 39 | GGPS RASOOL NAGER | School | ---- | ---- | SHAZIA PARVEEN | 3034413639 |
| 40 | GGPS KILCHA MADONA | School | ---- | ---- | SHAZIA YASEEN | 3074118200 |
| 41 | GGPS BASTI JUMMAY KHAN | School | ---- | ---- | NUSRAT SHEHZADI | 3214953053 |
| 42 | GGPS Basti Shamay Wali | School | ---- | ---- | Manzoor Bibi | 0302-4848202 |
| 43 | GGPS Kot Sunder Singh | School | ---- | ---- | Sughra Bibi | 0300-6598443 |
| 44 | GGMPS BHADIAN KHAN PUR | School | ---- | ---- | Tahira Tasleem | 3066816971 |
| 45 | GGES QAISER GARH | School | ---- | ---- | Zaitoon Fatima | 3237976450 |
| 46 | GGES BURJ KLAN | School | ---- | ---- | Shakila Kousar | 3237535108 |
| 47 | GMPS THATI USMAN | School | ---- | ---- | Nusrat Khushi | 3070114740 |
| 48 | GGES BADAR PUR | School | ---- | ---- | RUKHSANA BANOO | 3445167473 |
| 49 | GGPS AMREEK SINGH | School | ---- | ---- | ZAHIDA PARVEEN | 3008831035 |
| 49 | GGPS KALIAN | School | ---- | ---- | SHUBANA KOSAR | 3004978257 |
| 50 | GGES CARE COLONY | School | ---- | ---- | Samina Anjum | 3074670249 |
| 51 | GGPS SAEEDA ABAD | School | ---- | ---- | Samina M. Ali | 3086800892 |
| 52 | GGPS RANG PUR | School | ---- | ---- | Nomana Shabbir | 3034504784 |
| 53 | GGPS PEERO WALA | School | ---- | ---- | Nawal Rasheed | 3064702374 |
| 54 | GGPS LOGHER JUGHIAN | School | ---- | ---- | Asifa Khalid | 3008817935 |
| 55 | GGCMS PATTO KOHANA | School | ---- | ---- | Safora Anjum | 3044851904 |
| 56 | GMPS PATTO KHURD | School | ---- | ---- | Amara Arshad | 3348035021 |

| | | | | | | |
|----|---------------------------|--------|------|------|------------------|--------------|
| 57 | GGPS KHAREPAR HATHAR | School | ---- | ---- | SHAGUFTA | 3064318835 |
| 57 | GMPS GOHAR HITHAR | School | ---- | ---- | SAMIA BANO | 3065964137 |
| 58 | GGES CHABBAR | School | ---- | ---- | NAGINA AMIN | 3226754434 |
| 59 | GMPS MAHALAM KHURD | School | ---- | ---- | Shakeela yasmeen | 3067570322 |
| 60 | GGPS Harcho Ki Hithar | School | ---- | ---- | Jabeen Asif Khan | 0323-4859923 |
| 61 | GGPS Chabbar | School | ---- | ---- | Sadaf Zahra | 0305-4030331 |
| 62 | GGES Fateh Muhammad Kalan | School | ---- | ---- | Farhat Yasmeen | 0301-4228434 |
| 63 | GGPS Fateh Muhammad Khurd | School | ---- | ---- | Amtal Shafique | 0306-4903155 |
| 64 | GGPS Basti Hakim Shah | School | ---- | ---- | Amtal Mateen | 0306-2485221 |

ANNEX V: LIST OF INDUSTRIES WITH THEIR RISK LEVEL

| S# | Industry Name | Location | GPS Coordinates | Risk Type (Chemical, Biological, Radiological, Nuclear) | Name and Contact of Focal Person | Risk Level (low, medium, high) | Prone to Hazard? Fire/ Floods/Earthquake |
|----|------------------------|----------------------------|-----------------------------|---------------------------------------------------------|----------------------------------|--------------------------------|------------------------------------------|
| 1 | Swat Chemical Industry | Ferozepur Road Bhalo Khara | X: 74.450532 Y:31.163807 | Chemical | Atif | Low | Flood |
| 2 | Nasir Cold Storage | Ghanda Singh Road Kasur | X: 74.499283 Y:31.066671 | 0 | Nasir | Low | Flood |
| 3 | | | | | | | |
| 4 | | | | | | | |

ANNEX VI: LIST OF NGO WORKING IN THE DISTRICT

| S# | NGO Name | NGO Type (Local, National, International) | Location where they are working | Sector/Cluster of work (e.g. WASH, Health, Education) | Focal Person Name | Contact No. |
|----|-----------------------------------------------------------------|----------------------------------------------------|---------------------------------------|-------------------------------------------------------------|------------------------|--------------|
| 1 | Birra Welfare Society Bangla Kambhoy Kasur | UC level | Bangla Kambhoy Kasur | General Welfare oblige for woman development | Dr. Yousaf Arain | 0323-8440589 |
| 2 | Itthead Foundation Dhan Pat Road Kasur | UC level | Dhan Pat Road Kasur | General Welfare oblige for woman development | Mrs. Irshad Safdar | 0321-6573180 |
| 3 | Good Thinker Organization Shahbaz Road Tehsial & District Kasur | UC level | Shahbaz Road Tehsial & District Kasur | Health | M. Waqas Abid | 0322-6812700 |
| 4 | Khuram Welfare Society Village Khuram Hithar Kasur | UC level | Village Khuram Hithar Kasur | Health | Hafiz Ghafar | 0333-4178699 |
| 5 | SEHR Foundation Mahlam Kalan Kasur | UC level | Mahlam Kalan Kasur | Health | Zain ul abaideen | 0300-4054049 |
| 6 | Naveed Welfare society Kangan Pur Chunian | Town Kangan Pur | Kangan Pur Chunian | Health | Ashraf Shahid | 03004165494 |
| 7 | Karamat Human welfare society Seray Chheemba | UC/Local | Seray Chheemba Pattoki. | Health | Sayed Amanat Ali Shah. | 0333-4293490 |
| 8 | Bismillah Welfare Society, Mohallah Dawani Marla Gharbi (K.R.K) | Tehsil Level | Mohallah Dawani Marla Gharbi (K.R.K) | Health | Malik M. Irshad | 0300-4210235 |
| 9 | | | | | | |

ANNEX VII: CONTACT LIST OF MAIN STAKEHOLDERS/ DEPARTMENTS

| S# | Designation | Person Name | Telephone (Office) | Telephone (Residential) | Mobile |
|----|------------------------------------------|------------------------|----------------------------------------------------|-------------------------|--------------|
| 1 | Commissioner | Saif Anjum | 042-99211003-4 | 042-99214322-334 | 0304-0920050 |
| 2 | Regional Police Officer | Shahid Javeed | – | – | 03004011380 |
| 3 | DC, Kasur | Madam Asia Gul | 049-9250143 049- 9250067 Fax No. 049-9250162 | 049-9250140 | 0304-0920062 |
| 4 | DPO , Kasur | Imran Kishwar | 049-9250137 Fax No. 049-9250195 | 049-9250195 | 0300-7652020 |
| 5 | ADC (R)/ Focal Person for Disaster Kasur | Dr. Rabia Riasat | 049-9250099 Fax No. 049-9250270 | 049-9250099 | 0323-4296406 |
| 6 | AC,Kasur | Aurang Zaib | 049-9250157 | 049-2721523 | 0333-8706007 |
| 7 | AC, Chunian | Adnan Badar | 0494-310055 | – | 0301-6969206 |
| 8 | AC,Pattoki | Osama Sheron | 0494-424646 | – | 0321-3333131 |
| 9 | AC, Kot Radha Kishan | Raja Qasim | 0492-385091 | – | 0335-4489097 |
| 10 | ADC (General), Kasur | Shabbir Hussain Cheema | 049-9250218 | – | 0300-4492191 |
| 11 | Tehsildar, Kasur | Hafeez ur Rehman | 049-9239105 | – | 0300-4286344 |
| 12 | Tehsildar,Pattoki | Mujahid Zia | 0494-424642 | – | 0309-7759623 |
| 13 | Tehsildar, Chunian | Muhammad Afzal Hiraj | 0494-311916 | – | 0300-6890786 |
| 16 | Fire Bridge,Kasur | Sultan | 049-2772501 | – | 0322-7771122 |
| 17 | CEO,(Health), Kasur | Doctor Iqbal Javeed | 049-9250063 | – | 0300-8898589 |
| 18 | DHO,(Health),Kasur | Doctor Mubashir | 049-9250048 | 049-9250048 | 0320-4747498 |
| 19 | MS DHQ Hospital, Kasur | Doctor Laiquat | 049-9250096 | 049-2764481 | 0300-6587744 |
| 20 | RESCUE KASUR | Sultan | 049-2772301 | – | 0322-7771122 |
| 22 | XEN Irrigation, Kasur | Adan Zia | 049-9250201-9250141 Fax No.9250059 | – | 0300-4283627 |
| 23 | XEN Irrigation, Balloki | Muhd Amir | 049-4610300 Fax No.0494-610399 | 049-4610300 | 0333-6289951 |

| | | | | | |
|----|--------------------------------------|-------------------------|--------------------------------|--------------|--------------|
| 24 | Tehsildar, Kot Radha Kishan | Ghulam Dastagir | 0492-385091 | | 0300-4909311 |
| 25 | DO Social Welfare, Kasur | Sohail Akhtar Ijaz | 049-9250283 | – | 0300-2170770 |
| 26 | CEO (Education), Kasur | Naheed Wasif | 049-9250191 | – | 0304-8253696 |
| 27 | DEO(Secondary), Kasur | Kasuir | 049-9250116 | – | 0302-8461620 |
| 28 | DEO(Elementary), Kasur | Sheikh Hasnat | 049-9250113 | – | 0300-4240977 |
| 29 | DEO(Elementary)Female, Kasur | Ayesha | 049-9250040 | – | 0301-7687122 |
| 30 | Deputy Director (Agriculture), Kasur | Muhammad Naveed | 049-9250249 | – | 0300-6597138 |
| 31 | DO (Livestock), Kasur | NA | 049-9250126 | – | 0300-4567241 |
| 32 | XEN WAPDA Kasur | Muhammad Jamshid | 049-9250194 Fax No. 0499250158 | 049-9250085 | 0320-0521710 |
| 33 | XEN Rural WAPDA | Basharat | 049-9250256 | – | 0320-0521720 |
| 34 | DE Telephone, Kasue | Haji Zafar | 049-2765657 | 049-2765650 | 0333-6656670 |
| 35 | District Food Controller, Kasur | Majid Khan | 049-9250168 | – | 0300-9637463 |
| 36 | CO, MC Kasur | CH.Zubair | 049-9250206 | – | 0300-6223400 |
| 37 | CO, MC Chunian | Afzal Zahid | 049-4310092 | 049-4890056 | 0300-6969369 |
| 38 | DO Civil Defence, Kasur | Saif Sahab | 049-9250068 | – | 0301-6839926 |
| 39 | CO, MC Pattoki | Asif Inyat | 049-4424447 | 0049-4420050 | 0342-7777200 |
| 40 | MET (Weather Department) | Mr. Muhammad Ajmal Shad | 042-99205367 to 72 | – | – |
| 41 | Commissioner Indus Waters Lahore | Syed Mehr Ali Shah | 042-99212789-90 | – | – |
| 41 | Director Operation PDMA Lahore | Nisar Ahmad Sani | 042-99204405 | – | 0343-9209201 |
| 43 | DD Colleges Kasur | Abdul Ghafar Dogar | 049-9239091-2771749 | – | 0300-4105138 |
| 44 | SNA Kasur | Muhammad Qazafi | 049-2724931 | – | 0321-7148688 |
| 45 | Incharge Child Protection | Zartab Khan | – | – | 03088830066 |
| 46 | NADRA Station B | Babar Sahab | 049-2771020 | – | 0300-6539716 |
| 47 | DDLG | M.Iqbal | 049-9250139 | – | 0300-8894411 |
| 48 | DD Social Welfare Kasur | Sohail Akhtar Ijaz | – | – | 0333-4146776 |
| 49 | CO, MC Raja Jang | Jabrar Abass | – | – | 0300-5435219 |
| 50 | AM, AX CAMP | COL. Hafeez | 049-2724754 | – | 0346-5666465 |
| 51 | DDMC PIU-PDMA Kasur | Taimur Baig | 049-2724888 | – | 0333-4498090 |
| 52 | IT Assistant (Expert) PIU-PDMA Kasur | Rashid Mahmood | 049-2724888 | – | 0315-4056806 |

ANNEX VIII: LIST OF VOLUNTEERS

| S# | Volunteer Name | CNIC | Address | Contact Number and Email | Blood Group | Time Required to be on-board |
|----|-----------------------------------------------|-------|---------|--------------------------|-------------|------------------------------|
| 1 | Muhammad Sheraz s/o Muhammad Sadiq | ----- | ----- | 0309-7426904 | ----- | ----- |
| 2 | Muzaffar Ali s/o Asghar Ali | ----- | ----- | 0307-0493699 | ----- | ----- |
| 3 | Sharifat Ali s/o ftikhar Ahmad | ----- | ----- | 0320-4850194 | ----- | ----- |
| 4 | Muhammad Shabban s/o Muhammad Din | ----- | ----- | 0301-432900 | ----- | ----- |
| 5 | Muhammad Akbar s/o Muhammad Ashraf | ----- | ----- | 0320-6 č179668 | ----- | ----- |
| 6 | Sami Ullah s/o Ghululalm Haider | ----- | ----- | 0306-4273823 | ----- | ----- |
| 7 | Muhammad Adal s/o Manzoor Hussain | ----- | ----- | 03228685213 | ----- | ----- |
| 8 | Abid Hussain s/o Muhammad Rafique | ----- | ----- | 0305-42334 89 | ----- | ----- |
| 9 | Rafi Boota s/o Boota Masih | ----- | ----- | 0300-6574763 | ----- | ----- |
| 10 | Muhammad Rafique s/o Muhammad Amin | ----- | ----- | 0303-5970834 | ----- | ----- |
| 11 | Zeeshan Wahid Bhatti s/o Abdul Wahid | ----- | ----- | 0307-2918621 | ----- | ----- |
| 12 | Muhammad Rizwan s/o Abdul Ghafoor | ----- | ----- | 03047672376 | ----- | ----- |
| 13 | Muhammad Bilal s/o Muhammad Ramzan Pattoki | ----- | ----- | 03111234949 | ----- | ----- |
| 14 | Muhammad Saleem Butt s/o M. Saddique | ----- | ----- | 0323-7507288 | ----- | ----- |
| 15 | Muhammad Akram s/o Sana Ullah | ----- | ----- | 0308-8304899 | ----- | ----- |
| 16 | Abu Zar s/o Muhammad Sharif Chunian | ----- | ----- | 0305-4356242 | ----- | ----- |
| 17 | Muhammad Iqbal s/o Umer Hayat I RK | ----- | ----- | 0306-6225176 | ----- | ----- |
| 18 | Muhammad Shafique s/o Sharif | ----- | ----- | | ----- | ----- |
| 19 | Zaheer-U-Din Babar s/o Bashire Ahmad | ----- | ----- | 030141540Z1 | ----- | ----- |
| 20 | Muhammad Imran s/o Muhammad Hanif | ----- | ----- | 0323-0490811 | ----- | ----- |
| 21 | Nadeem Abbass/o Muhammad Abbas Pattoki | ----- | ----- | 0303-0282688 | ----- | ----- |
| 22 | Habib Ullah s/o | ----- | ----- | | ----- | ----- |
| 23 | Ali shan s/o Muhammad Akbar | ----- | ----- | 0300-6047593 | ----- | ----- |

| | | | | | | |
|----|-------------------------------------------------------|-------|-------|---------------|-------|-------|
| | | | | | | |
| 24 | Faqir Hussains/o Muhammad Sharif | ----- | ----- | 0301-4317162 | ----- | ----- |
| 25 | Ibrar Hussains/o Muhammad Ashraf | ----- | ----- | 0303-2878475 | ----- | ----- |
| 26 | Rashid Ali s/o Muhammad Hanif | ----- | ----- | | ----- | ----- |
| 27 | Muhammad Rafique s/o Muhammad Habib | ----- | ----- | 03006588037 | ----- | ----- |
| 28 | Haji Muhammad Yousaf s/o Faqir Hussain (Group Warden) | ----- | ----- | 0301-7986179 | ----- | ----- |
| 29 | Mehar Muhammad Hanif (Group Walden) | ----- | ----- | 0322-94144 45 | ----- | ----- |
| 30 | Khalid Billa s/o Maher Arif (Post Warden) | ----- | ----- | 03088978491 | ----- | ----- |
| 31 | Waseem Ali s/o Waris Ali (Past Warden) | ----- | ----- | 0307-6802232 | ----- | ----- |
| 32 | Muhammad Ashraf s/o Muhammad Barkat (Post Warden) | ----- | ----- | 03246551649 | ----- | ----- |
| 33 | Younas Bombal s/o Muhammad Yaqub (Post Warden) | ----- | ----- | 0322-94144 45 | ----- | ----- |
| 32 | M. Afzal Nasir Bhatti | ----- | ----- | 0301-8449049 | ----- | ----- |
| 33 | M. Aslam | ----- | ----- | 0300-6586815 | ----- | ----- |
| 34 | Haji M. Ashraf | ----- | ----- | 0322-4908460 | ----- | ----- |
| 35 | M. Azam | ----- | ----- | 0300-6583048 | ----- | ----- |
| 36 | Dr. Yousaf Arain | ----- | ----- | 0323-8440589 | ----- | ----- |
| 37 | Mrs. Irshad Safdar | ----- | ----- | 0321-6573180 | ----- | ----- |
| 38 | M. Waqas Abid | ----- | ----- | 0322-6812700 | ----- | ----- |
| 39 | Asghar ali | ----- | ----- | 301-6833075 | ----- | ----- |
| 40 | M. Saleem Mehar | ----- | ----- | 0300-6595449 | ----- | ----- |
| 41 | Abdul Rehman Shah | ----- | ----- | 0300-6579735 | ----- | ----- |
| 42 | Haji M. Nawz | ----- | ----- | 049-2761578 | ----- | ----- |
| 43 | Ghulam Rasool | ----- | ----- | 0304-7420310 | ----- | ----- |

| | | | | | | |
|----|------------------------------------|-------|-------|------------------------------|-------|-------|
| 44 | Dr.Masood Iqbal sajid | ----- | ----- | 0321-6592882 | ----- | ----- |
| 45 | M. Azam | ----- | ----- | 0300-6583048 | ----- | ----- |
| 46 | Zain ul abaideen | ----- | ----- | 0300-4054095 | ----- | ----- |
| 47 | M. Ishaq | ----- | ----- | 049-2762682 | ----- | ----- |
| 48 | Rana M. Ishraf Sher Ali Khokhar | ----- | ----- | 0301-4571202 0300-6582786 | ----- | ----- |
| 49 | M. Yousaf Bhatti | ----- | ----- | 0307-4121816 | ----- | ----- |
| 50 | M. Sharif | ----- | ----- | 0321-7074108 | ----- | ----- |
| 51 | Syed Abaid-ullah Shah | ----- | ----- | 0300-6590486 | ----- | ----- |
| 52 | Muhammad Maqsood Sarwar | ----- | ----- | 03006579096 | ----- | ----- |
| 53 | Muhammad Saddique | ----- | ----- | 03319844183 | ----- | ----- |
| 54 | Shoukat Javed | ----- | ----- | 03016612262 | ----- | ----- |
| 55 | Jamil Ahmed | ----- | ----- | 03006545633 | ----- | ----- |
| 56 | Muhammad Ahmed | ----- | ----- | 03014544467 | ----- | ----- |
| 57 | Muhammad Amin Tahir | ----- | ----- | 03006573070 | ----- | ----- |
| 58 | Hafiz Kashif | ----- | ----- | 03064797224 | ----- | ----- |
| 59 | Muhammad Imran | ----- | ----- | 03016740054 | ----- | ----- |
| 60 | Zeshan Arif | ----- | ----- | 03040030963 | ----- | ----- |
| 61 | Abdur Rauf | ----- | ----- | 03094811082 | ----- | ----- |
| 62 | Javed Iqbal | ----- | ----- | 03224696800 | ----- | ----- |
| 63 | M Ilyas Anjum | ----- | ----- | 03074502579 | ----- | ----- |
| 64 | M Aslam | ----- | ----- | 0307-4055323 | ----- | ----- |

| | | | | | | |
|----|-------------------|-------|-------|--------------|-------|-------|
| 65 | Shoukat Ali | ----- | ----- | 0333-4080511 | ----- | ----- |
| 66 | M Ashraf | ----- | ----- | 03414026528 | ----- | ----- |
| 67 | Sajid Husain | ----- | ----- | 03008485611 | ----- | ----- |
| 68 | Zahad Ali Shah | ----- | ----- | 03334200896 | ----- | ----- |
| 69 | Numan Kashif shah | ----- | ----- | 03006200930 | ----- | ----- |
| 70 | M Mazahar usman | ----- | ----- | 03008485611 | ----- | ----- |
| 71 | Awais Ahmed | ----- | ----- | 03097146225 | ----- | ----- |
| 72 | Ahmed Kamal | ----- | ----- | 03126574587 | ----- | ----- |

ANNEX IX: POLITICAL CONSTITUENCIES

| NATIONAL CONTITUENCIES | | | | |
|-------------------------------|--------------------------|--------------|---------------------------------------------------------------------------------------------|------------------------------|
| CONSTITUENCY NO. | NAME OF MNAs | PARTY | ADDRESS | CONTACT |
| NA-137 | Saad Waseem Shaikh | PML(N) | Circular Road, Outside Mori Gate, Kasur C-407, Parliament Lodges, Islamabad | 0323-2227999 0306-4158000 |
| NA-138 | Rasheed Ahmad Khan | PML(N) | Feteh Pur P/O Dost Pura , Teh & Distt. Kasur 106-E Block, Parliament Lodges, Islamabad. | 0300-6599700 |
| NA-139 | Rana Muhammad Ishaq Khan | PML(N) | Gulzar Jageer, P/O Khas, Tehsil Pattoki District Kasur 312-G, Parliament Lodges, Islamabad. | 0333-4511666 |
| NA-140 | Sardar Talib Naki | PTI | NA | 03444442323 03008465577 |

| PROVINCIAL CONSTITUENCIES | | | | 63 |
|----------------------------------|------------------------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| CONSTITUENCY NO. | NAME OF MPAs | PARTY | ADDRESS | CONTACT |
| PP-177 | Hashim Dogar | PTI | ----- | 0300-8389180 0321-3544260 |
| PP-179 | Peer Mukhtar Ahmad | PML (N) | ----- | 0300-9437936 |
| PP-174 | Muhammad Naeem Safdar Ansari | PML (N) | (a) Mohalla Wali Street, Syed All Ahmad Shah Colony, District Kasur (b) Madni Chowk, Munir Shaheed Colony, Shahbaz Khan Road, Kasur | 0321-4451313 |
| PP-175 | Malik Ahmad Saeed Khan | PML (N) | Village Fateh Pur, Tehsil & District Kasur | 0300-4004228 |
| PP-176 | Malik Muhammad Ahmad Khan | PML (N) | Khai Hithar P.O. Same Tehsil & District Kasur ⁶³ | 0301-4404545 |

| | | | | |
|---------------|----------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| PP-182 | CH M. Ilyas Khan | PML(N) | ----- | 0300-8493838 0300-0732323 |
| PP-178 | Sheikh Allauddin | PML (N) | (a) 19-N, Gulberg-II, Lahore. (b) Toyota Ravi, 37 Main Jail Road, Lahore. (c) Kot Sandras Gilanwala, Tehsil Chunian, District Kasur | 042-37422945 0333-4197718 |
| PP-180 | Sardar Muhammad Asif Nakai | PML(N) | (a) 470-E, Iqbal Park, Walton Road, Lahore Cantt (b) Wan Adhan Kalan, Pattoki, District Kasur | 042-99214759 0344-5500000 |
| PP-181 | Rana Muhammad Iqbal Khan | PML (N) | (a) Rana Phool House, Lamby Jagir, Tehsil Pattoki District Kasur (b) 3-Upper Mall, Lahore. | 042-99212761 0333-4511777 |

ANNEX X: **LOCAL GOVERNMENT**

ANNEX XI: DATA COLLECTION PROFORMAS

P1: House Damage Assessment

District: _____

Date: _____

| S# | Name | Father Name | CNIC | Address | Revenue Estate | Union Council | Tehsil | Partially/Completely | Katcha/Pakka | %age of Damage | Contact No. | GPS Coordinates | Picture Taken (Y/N) |
|----|------|-------------|------|---------|----------------|---------------|--------|----------------------|--------------|----------------|-------------|-----------------|---------------------|
| | | | | | | | | | | | | | |

P2: Deceased Person Reporting Proforma

District: _____

Date: _____

| S# | Name of deceased | Fathers name | Address | Domicile | Gender | Age | CNIC | Cause of death | Date of death | Place of death | Marital status | Next of kins (Name and Contact and CNIC etc.) | Verifying Officer (Name, Designation and Contact) | Compensation Paid or not |
|----|------------------|--------------|---------|----------|--------|-----|------|----------------|---------------|----------------|----------------|-----------------------------------------------|---------------------------------------------------|--------------------------|
| | | | | | | | | | | | | | | |

P3: Injured Person Reporting Proforma

District: _____

Date: _____

| S# | Name of injured | Father's name | Address | Domicile | Gender | Age | CNIC | Cause of injury | Date of injury | Injury Type (Permanent or Temporary) | Compensation Paid or not |
|----|-----------------|---------------|---------|----------|--------|-----|------|-----------------|----------------|--------------------------------------|--------------------------|
| | | | | | | | | | | | |

P4: Cattle Head Perished

District: _____

Date: _____

| S# | Name of Farmer | Father Name | CNIC | Mauza | Tehsil | Type of Animals | Number of Animals (Cow, sheep etc.) | Vaccinated/ Unvaccinated | Witness 1 name and contact No. | Witness 2 Name and Contact No. |
|----|----------------|-------------|------|-------|--------|-----------------|-------------------------------------|--------------------------|--------------------------------|--------------------------------|
|----|----------------|-------------|------|-------|--------|-----------------|-------------------------------------|--------------------------|--------------------------------|--------------------------------|

P5: Crop Damages

District: _____

Date: _____

| S# | Tehsil | Qanoongoi | Union Council | Mauza | Farmer Name | Land owner/Tenant | CNIC of farmer | Contact number | Type of Crops | Total land affected (acres) | % of mauza affected |
|----|--------|-----------|---------------|-------|-------------|-------------------|----------------|----------------|---------------|-----------------------------|---------------------|
|----|--------|-----------|---------------|-------|-------------|-------------------|----------------|----------------|---------------|-----------------------------|---------------------|

P6: Relief Distribution Tracking Proforma

District: _____

Date: _____

| S# | Location/ Destination | Arrival Date and time | Items | Quantity | Items short (if any) | Items sent by | Driver name | Received by | Bilty no |
|----|-----------------------|-----------------------|-------|----------|----------------------|---------------|-------------|-------------|----------|
|----|-----------------------|-----------------------|-------|----------|----------------------|---------------|-------------|-------------|----------|

P7: Private Machinery (Boats, Bulldozers, Cranes etc.)

In case of mega disaster that overwhelms the resources of the Government in certain area, the equipment of private owners are engaged to continue with evacuation, rescue or relief services. The following template is filled to maintain a record of boat owners that might be engaged at the time of a disaster.

District: _____

Date: _____

| S# | Name of boat owner | Father name | Contact Number | Age | CNIC | Location of boat/Machinery | Type of Machinery (Boat, Bulldozers, Cranes etc.) | Engine type | Boat capacity | Equipment Condition | Number of Machinery |
|----|--------------------|-------------|----------------|-----|------|----------------------------|---------------------------------------------------|-------------|---------------|---------------------|---------------------|
|----|--------------------|-------------|----------------|-----|------|----------------------------|---------------------------------------------------|-------------|---------------|---------------------|---------------------|

P8: Relief camp registration Proforma

New entrants in the relief camps should be documented on a weekly basis by utilizing the following template:

District: _____

Date: _____

| | | | | | | | | | | |
|----|-------------|----------|------|--------|-----|-------------------|-----------------|------|---------|----------|
| S# | Nationality | Domicile | Male | Female | Age | Children Under 12 | Infants under 3 | Sick | Injured | Pregnant |
|----|-------------|----------|------|--------|-----|-------------------|-----------------|------|---------|----------|

P9: NGOs registration proforma

All the Non-Governmental Organizations operating in the disaster affected areas should register themselves at PDMA's website. The following template has been developed for NGOs assisting the Government in disaster response.

District: _____

Date: _____

| | | | | | | | |
|----|-------------|-------------|-----------------|--------------------|------------------------------|----------------------|-----------------------------------|
| S# | Name of NGO | Local /INGO | Relief activity | Relief camp if any | Focal person in the district | Registered with PDMA | Foreigners to be visiting or not. |
|----|-------------|-------------|-----------------|--------------------|------------------------------|----------------------|-----------------------------------|

P10: Control Room

PDMA requires all districts to setup a control room at the incidence of a disaster. This control room would plan and execute a well-knit Governmental disaster response by bringing together all representatives of the various Governmental departments. This control room would be operational around the clock and PDMA must be informed about its operation and in-charge by filling the following template:

District: _____

Focal Person: _____

Date: _____

| | | | | | | | |
|----|--------------------------|-----------------------------------|------------------------------------|-------------------------------------|---------------|-------------|-----------------|
| S# | Location of control room | Shift I Incharge Name and Contact | Shift II Incharge Name and Contact | Shift III Incharge Name and Contact | Phone Numbers | Fax Numbers | E- Mail Address |
|----|--------------------------|-----------------------------------|------------------------------------|-------------------------------------|---------------|-------------|-----------------|

ANNEX XII:

CAMP MANAGEMENT SOPS

- Camps would be established in areas accessible by metaled roads so that provision of essential facilities is not difficult
- Basic facilities such as food, clean drinking water, health, hygiene and sanitation should be available at these shelters.
- Proper registration mechanism should be in place to differentiate between those actually affected and cunning opportunists
- Proper security system should be in place in coordination with the local police as the presence of police always acts as deterrence for criminals who may be attracted to such places.
- Emergency medical care should be available as well as a proper firefighting system as fire out breaks are common in such tents
- Proper camp management should be announced and notified and there should be a complaint cell as well
 - A proper distribution mechanism should be in place to ensure that the needy get what they deserve.
- Scattered camps should be catered for and encouraged to join the main camp.
- At times shallow hand pumps are not safe for drinking as the water underground has been affected. In such cases clean medicated water should be provided through water bowsers.
- Vector control is an essential part of the camp management and steps should be taken to remove rats, snakes and mosquitoes etc.
- Un-accompanied and missing children shall be placed separately with proper care and fulfilment of their physical and psycho-social needs.
- Needs of women as per local and cultural environment shall be considered for establishing separate relief camps for ladies with provision of proper security and light arrangements.

| | |
|------------------------------|----------------------------------------------|
| Land | 3.0-4.5 square meter per person |
| Shelter | 3.5 square meter per person |
| Water | 15-20 liters per person per day |
| Food | 2100 kcal per person per day |
| Toilet | One per family of 6-10 persons |
| Health Centre | One per 20,000 persons |
| Child Friendly Spaces | 2-4 year olds- 15 children:2 facilitators |
| | 5-9 year olds-20 children : 2 facilitators |
| | 10-18 year olds- 30 children :2 facilitators |
| Hospital | One for as many as 200,000 persons |

ANNEX XIII: FLOOD BUNDS

INFORMATION REGARDING FLOOD BUND CATEGORY A

| SR:# | NAME OF DIVISION | NAME OF EMBANKMENT / BUND | LENGTH (ft) |
|----------------------------|------------------------------|-------------------------------|----------------|
| SARGODHA ZONE | | | |
| 1 | Rasul Head works Division | Right Guide Bund | 2,121 |
| 2 | -do- | Left Guide Bund | 3,360 |
| 3 | -do- | Right Guide Spur | 2,762 |
| 4 | -do- | Left Marginal Bund | 17,170 |
| Total in feet. | | | 25,413 |
| Total in Miles. | | | 4.81 |
| 1 | Kalabagh H/Works Division | Jinnah Barrage | 25,080 |
| Total in feet. | | | 25,080 |
| Total in Miles. | | | 4.75 |
| FAISALABAD DIVISION | | | |
| 1 | Khanki Division | Left Marginal Bund | 21,000 |
| 2 | -do- | Right Marginal Bund | 29,000 |
| 3 | Jhang Division | Jhang Flood Protection Bund | 43,875 |
| 4 | Qadirabad Barrage Division | Left Marginal Bund | 20,000 |
| 5 | -do- | Right Marginal Bund | 20,000 |
| Total in feet. | | | 133,875 |
| Total in Miles. | | | 25.36 |
| BAHAWALPUR ZONE | | | |
| 1 | Punjad Head works Division | Right Marginal Bund | 15,000 |
| 2 | -do- | Left Marginal Bund | 15,000 |
| 3 | -do- | Colony Protection Bund | 15,000 |
| 4 | Khanpur Canal Division | Minchin Flood Bund | 10,000 |
| Total in feet. | | | 55,000 |
| 1 | Trimmu Division - | Right Marginal Bund | 20,000 |
| 2 | do- | Left Marginal Bund | 20,000 |
| 3 | Sulemanki Division | Left Marginal Bund | 10,000 |
| 4 | -do- | Right Marginal Bund | 10,000 |
| 5 | Shuja Canal Division | Right Bank of Shujabad Branch | 10,000 |
| 6 | -do- | Akbar Flood Bund | 10,000 |
| Total in feet. | | | 80,000 |
| Total in Miles. | | | 15.15 |
| 1 | Taunsa Barrage | Right Guide Bund Upstream | 15,000 |
| 2 | -do- | Left Guide Bund | 20,000 |
| 3 | -do- | Shahwala Groyne | 10,000 |
| 4 | Muzaffargarh Canal Division | Muzaffargarh Flood Bund | 50,000 |
| 5 | -do- | Doaba Flood Bund. | 5,000 |
| 6 | -do- | Khangarh Flood Bund | 5,000 |
| 7 | -do- | Khanwah Flood Bund | 5,000 |
| 8 | Jampur Construction Division | Jampur Flood Bund | 5,000 |
| 9 | -do- | Rojhan Flood Bund | 20,000 |

| | | | |
|--------------------|--------------------------------|------------------------------------------------------------------------------------------------------|-----------------|
| | | Total in feet. | 1,35,000 |
| | | Total in miles | 25.57 |
| LBDC(IP) | | | |
| 1 | Balloki Head works Division | Left Marginal Bund | 15,000 |
| 2 | do | Right Marginal Bund | 15,000 |
| | | Total in Feet | 30,000 |
| | | Total in miles | 6 |
| LAHORE ZONE | | | |
| 1 | FLOOD Bund Division Narowal | Jassar Highway Bund | 10,000 |
| 2 | do | Rayya flood Bund | 5,000 |
| 3 | Pasrur Link Division Sialkot | City Flood Protection Bund along Aik Nullah | 7,340 |
| 4 | do | Hajoipur Flood Protection Bund along Aik Nullah | 86,00 |
| 5 | do | Left Flood Protection Bund over deg Nullah from defence embankment to Zafarwala Kingra road | 10,000 |
| 6 | Marala Division UCC | Left Marginal Bund | 50,000 |
| 7 | do | Right Marginal Bund | 10,000 |
| 8 | Lahore Drainage Div. | Shahdara Flood Protection Bund | 15,000 |
| | | Total in Feet | 115,940 |
| | | Total in miles | 22 |
| | | Grand total in miles | 114 |

INFORMATION REGARDING FLOOD BUND CATEGORY B

| S# | Name of Division | Name of Embankment / Bund | Length (ft.) |
|------------------------|----------------------------|--------------------------------|----------------|
| SARGODHA ZONE | | | |
| 1 | Rasul Headworks Division | Important / Vulnerable Reaches | 10,000 |
| 2 | Bhakkar Division | -do- | 10,000 |
| 3 | Layyah Division | -do- | 10,000 |
| 4 | Jhelum Division | -do- | 5,000 |
| | | Total in feet. | 35,000 |
| | | Total in miles | 6.63 |
| FAISALABAD ZONE | | | |
| 1 | Khani Division | -do- | 20,000 |
| 2 | Jhang Division | -do- | 50,000 |
| 3 | Qadirabad Barrage Division | -do- | 60,000 |
| 4 | Burala Division | -do- | 35,000 |
| | | Total in feet. | 165,000 |
| | | Total in miles | 31.25 |
| BAHAWALPUR ZONE | | | |
| 1 | Punjnad Headworks Division | -do- | 90,000 |
| 2 | Khanpur Canal Division | -do- | 100,000 |
| 3 | Bahawalpur Canal Division | -do- | 50,000 |
| 4 | Rahimyar Canal Division | -do- | 50,000 |
| | | Total in feet. | 290,000 |

| | | | |
|----------------------|--------------------------------|-----------------------|----------------|
| | | Total in miles | 54.92 |
| MULTAN ZONE | | | |
| 1 | Trimmu Division | -do- | 80,000 |
| 2 | Suleimanki Division | -do- | 50,000 |
| 3 | Shujabad Canal Division | -do- | 72 60,000 |
| | Total in feet. | | 190,000 |
| | Total in miles | | 35.98 |
| D.G.KHAN ZONE | | | |
| 1 | Taunsa Barrage | -do- | 80,000 |
| 2 | Kot Adu Canal Division | -do- | 90,000 |
| 3 | Muzaffargarh Canal Division | -do- | 180,000 |
| 4 | River Diversion Division | -do- | 80,000 |
| 5 | Jampur Construction Division | -do- | 140,000 |
| 6 | D.G.Khan Construction Division | -do- | 60,000 |
| | Total in feet. | | 630,000 |
| | Total in miles | | 119.32 |
| LBDC (IP) | | | |
| 1 | Balloki Headworks Division | -do- | 40,000 |
| 2 | Okara Division | -do- | 40,000 |
| 3 | Sahiwal Division | -do- | 20,000 |
| | Total in feet. | | 100,000 |
| | Total in miles | | 18.94 |
| LAHORE ZONE | | | |
| 1 | Flood Bund Division Narowal | -do- | 40,000 |
| 2 | Pasrur Link Division Sialkot | -do- | 10,000 |
| 3 | Chakbandi Division | -do- | 20,000 |
| 4 | Marala Division UCC | -do- | 50,000 |
| 5 | Lahore Drainage Division | -do- | 80,000 |
| 6 | Kasur Division | -do- | 80,000 |
| 7 | Gujranwala UCC | -do- | 100,000 |
| 8 | Rachna Drainage | -do- | 42,000 |
| | Total in feet. | | 422,000 |
| | Total in miles | | 79.92 |
| PMO BARRAGES | | | |
| 1 | Jinnah Barrage | -do- | 20,000 |
| | Total in feet. | | 20,000 |
| | Total in miles | | 3.79 |
| | Grand Total (in miles) | | 350.76 |

ANNEX XIV: RIVER DISCHARGE RATES

| River | Gauge Site | Designed Capacity | Low | Flood Limits in Lac Cs. | | | Exp. High |
|--------|---------------|-------------------|------|-------------------------|------|-----------|-----------|
| | | (lac Cs) | | Med: | High | Very High | |
| INDUS | Kalabagh | 9.5 | 2.5 | 3.75 | 5 | 6.5 | 8 |
| | Chashma | 10 | 2.5 | 3.75 | 5 | 6.5 | 8 |
| | Taunsa | 10 | 2.5 | 3.75 | 5 | 6.5 | 8 |
| JHELUM | Kohala | 12 | 1 | 1.5 | 2 | 3 | 4 |
| | Mangla | 10.6 | 0.75 | 1.1 | 1.5 | 2.25 | 3 |
| | Rasul | 8.5 | 0.75 | 1.1 | 1.5 | 2.25 | 3 |
| CHENAB | Marala | 11 | 1 | 1.5 | 2 | 4 | 6 |
| | Khanki | 8 | 1 | 1.5 | 2 | 4 | 6 |
| | Qadirabad | 9 | 1 | 1.5 | 2 | 4 | 6 |
| | Trimmu | 6.45 | 1.5 | 2 | 3 | 4.5 | 6 |
| | Punjnad | 7 | 1.5 | 2 | 3 | 4.5 | 6 |
| RAVI | Jassar | 2.75 | 0.5 | 0.75 | 1 | 1.5 | 2 |
| | Ravi Syphon | 4 | 0.4 | 0.65 | 0.9 | 1.35 | 1.8 |
| | Shahdara | 2.5 | 0.4 | 0.65 | 0.9 | 1.35 | 1.8 |
| | Balloki | 2.25 | 0.4 | 0.65 | 0.9 | 1.35 | 1.8 |
| | Sidhnai | 1.5 | 0.3 | 0.45 | 0.6 | 0.9 | 1.3 |
| SUTLEJ | G.S.Wala | 10 ft. | 19.5 | 21.5 | 23.3 | 25.3 | 2 |
| | Suleimanki | 3.25 | 0.5 | 0.8 | 1.2 | 1.75 | 2.25 |
| | Islam | 3 | 0.5 | 0.8 | 1.2 | 1.75 | 2.25 |
| | Mailsi Syphon | 4 | 0.75 | 1.1 | 1.5 | 2.25 | 3 |

ANNEX XV:

LIST OF BASIC TERMS

Acceptable risk

The level of loss a society or community considers it can live with and for which it does not need to invest in mitigation

Biological hazard

Biological vectors, micro-organisms, toxins and bioactive substances, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.

Capacity

A combination of all the strengths and resources available within a community, society or organization that can reduce the level of risk, or the effects of a disaster.

Capacity may include physical, institutional, social or economic means as well as skilled personnel or collective attributes such as leadership and management. Capacity may also be described as capability.

Capacity building

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

Climate change

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

Coping capacity

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

Disaster

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

Disaster risk management (DRM)

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

Disaster risk reduction/disaster reduction

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

Early warning

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

Emergency management

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

Forecast

Estimate of the occurrence of a future event (UNESCO, WMO). This term is used with different meanings in different disciplines.

Geological hazard

Natural earth processes that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. For example earthquakes, tsunamis, volcanic activity and emissions, landslides, rockslides, rock fall or avalanches, surface collapses, expansive soils and debris or mud flow.