

DISTRICT DISASTER MANAGEMENT PLAN DISTRICT SAHIWAL 2021





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Approved by:
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PREFACE

The Flood Fighting/Relief Plan has been prepared keeping in view the past history of floods / rains in this district. Moreover, the discharge of water from the River Ravi has also been given prime importance while preparing this plan. As the flow of water in the river keeps on changing in terms of their courses and ferocity, therefore, this plan has also been revised accordingly. The relief measures have been included in line with the latest instructions and guidelines received from the Provincial Disaster Management Authority / Relief & Crisis Management Department, Board of Revenue, Punjab. I am of the firm belief that the plan in hand would prove to be a useful and important document for the functionaries of the District Administration Sahiwal especially, those deployed for flood emergency duties, because, it covers almost each and every detail / aspect of Rescue / Relief operation with regard to pre and post flood arrangements. May Allah, the Almighty give us courage and firmness to combat with any sort of situation arising out of flood emergency with perseverance and also enable us to put sincere and strenuous efforts to mitigate the sufferings of the affected people in case of flood, or any kind

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XX

Estimated number of people at risk of **hill torrent** in 2020



Risk: High

XX

Estimated number of people at risk of Hill Torrent in 2020



Risk: Medium

XX

Estimated number of people at risk of earthquake in 2020



Risk: Low

XX

Estimated number of people at risk of epidemic in 2020



Risk: Medium

1. Sahiwal Canal Division is situated in District Sahiwal at 32.7 in north and 72.22 in east direction which is bounded with river Ravi on North and in South old river of Sukh Beas. In east side Okara Canal Division, District Okara and in west in Khanewal Division Khanewal District Khanewal.
2. Sahiwal Canal Division comprises of three Canal Sub Divisions namely Sahiwal, Ganjibar and Chichawatni Sub Divisions. Headquarter of Sahiwal Sub Division is at Sahiwal while the other Sub Divisions are located in Naiwala and Chichawatni respectively. Executive Engineer Sahiwal Canal Division Sahiwal is overall incharge of the Division. The jurisdiction of Sahiwal Canal Division starts from RD 255+000 Main Line LBDC and extends upto RD 527+000 with its off-taking distributaries and minors. Length of the channels is 543.12 miles which irrigates 6.541 acres area of Sahiwal Canal Division. The area falling in the jurisdiction of Sahiwal Canal Division is spread over in five Districts as under:-

Name of District	G.C.A (Acres) General Crop Area	C.C.A (Acres) Cultivated Crop Area
Sahiwal	773037.0	649412.0
Khanewal	3995.0	3995.0
Okara	513.0	513.0
Pakpattan	470.0	470.0
Faisalabad	18.0	18.0
Total	778033.0	654408.0

3. The Major portion of irrigated area falls in District Sahiwal. Major Crops in the command area are wheat, Sugarcane, Maize and Potato etc.
4. The River Ravi reach in Sahiwal Canal Division from Mari Pattan Bridge to Chichawatni Bridge. There exist 5 No. Spurs to protect Fertile land and adjoining abadies along left bank of river. Sub Divisional Officer Sahiwal and Ganjibar Circle are responsible for safety of these components, through proper watch and ward and Flood fighting arrangements.

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, I/NGOs);

DISTRICT PROFILE

Socio-Economic Indicators (Average)

S.No.	Particulars	Numbers
1.	Population	2,517,560
2.	No. of Tehsils	2
3.	No. of UCs	100
4.	No. of Revenue Estates	531
5.	Population Density (people per km ²)	649
6.	Family Size	6
7.	Pop Growth Rate	2.22%
8.	PCI	1.18%
9.	District GDP/Annual Income	19.6 million
10.	Poverty Rate	52%
11.	Patient/Doctor Ratio	50/38.7%
12.	AMR	
13.	IMR	32/1000
14.	MMR	164/100,000
15.	Literacy Rate	74.20%
16.	Global Acute Malnutrition (GAM) rate	23.2%
17.	Severe Acute Malnutrition (SAM) rate	26.3%
18.	Percentage of population having access to clean drinking water	72.3%
19.	Annual Crime	26.46%

Population

Total	Male (above 18)	Female (above 18)			
2,517,560	1,281,072	1,236,369			

Source/Note: Click here to enter text.

Number of Dwelling Units	Kaccha (Mud/clay)	Pakka (Bricks& Morter)
14440	4221	10219

Source/Note: Sahiwal 3,94,887 + Chichawatni: 3,94,969

Area (in acres)

Total Area of District in Km ²	Area under cultivation	Cultivation in Settled Area	Cultivation in Baid Area
3,201	1,30,530 Acres	6,59,335 Acres	

NOTE:. These figures are according to sences of year 2017.

Literacy Rate

Overall	Rural		Urban		Total	
	Male	Female	Male	Female	Male	Female
68%	33.8%	20.9%	30.2%	19.3%	64%	40.2%

Source/Note: Click here to enter text.

Government Schools

		Number of Functional Schools	Enrollment Rate
Total/ Overall		1207	290567
Boys	Primary	384	101729
	Middle	101	33141
	High/Higher	115	17784
Girls	Primary	345	95428
	Middle	169	26986
	High/Higher	90	15499
Co-Schools	Primary	-	-
	Middle	-	-
	High	-	-

Private Schools

		Number of Functional Schools	Enrollment Rate
Total/ Overall		744	176557
Boys	Primary	-	-
	Middle	-	-
	High/Higher	104	2216
Girls	Primary	-	-
	Middle	-	-
	High/Higher	63	2025
Co-Schools	Primary	394	146257
	Middle	183	26059
	High	-	-

Higher/Technical/Professional Education (Public & Private)

Particulars	College	Universities	Professional	Technical	Commerce	Total
No of Institution	14	01	1	3	2	21

Health Facilities

Particulars	Primary	Secondary	Tertiary	Private Hospital	Total
No. of Facilities	86	1	2	22	110
Annual OPDs	161,055	171,069	415,963	110313	8,58,400
No of beds	370	108	513	890	1818
Doctors Available	63	28	80	101	272
Paramedical staff	378	55	219	213	865
Ambulances available	11	3	3	20	37
Mobile Medical Units				(One)	01

Livestock Institutions:

Veterinary Hospitals	Veterinary dispensaries	Veterinary centers	Total
13	67	10	90

STAFF / MANPOWER TO BE DEPLOYED DURING FLOOD EMERGENCY

APVOs, VO s, SVOs	Veterinary Assistant	A.I Technician	Cattle Attendants & Others	Drivers	Total Staff
08	17	04	--	04	33

Livestock: Small Animals (goats, sheep etc.) Sheep, Goats, Dog, Cat, Hens Big Animals (cows, buffalos, camel etc.) Buffalos, Cows, Camel,

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

Agriculture	Lives tock	Poultry	Fish Farming	Services (Public & Pvt)	Business	Expatriates	Industrial Labor	Skilled Labor	Unskilled Daily Labor	General Labor
27%	7%	3%	0%	11%	5%	0%	8%	10%	13%	16%

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	1973	0				0	DISCHARGE U/S OF BALOKI (Cs) 2,98,000	
2	1976	0				0	DISCHARGE U/S OF BALOKI (Cs) 2,55,974	
3	1988	0				0	DISCHARGE U/S OF BALOKI (Cs) 3,89,345	
4	1995	0				0	DISCHARGE U/S OF BALOKI (Cs) 2,22,800	
5	1996	0				0	DISCHARGE U/S OF BALOKI (Cs) 2,20,000	
6	2013	0		0		2		
7	2014	0						
8	2015	0				1		
9	2016	0		0		0		

Disaster History – Other disasters (since 1970)

S#	Year	Disaster Type	No. of people affected	No. of deaths	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

General Information

Particulars	Detail
Neighboring districts and their vulnerabilities	OKARA, PAKPATTAN, TOBA TEK SINGH, FAISALABAD
Topographical Features	The demographical profile of city shows that it became city in 1865 by Sir Robert Montgomery, there are 10 UCs, and total area of the City is 34 Sq. Km, total Population of the City (Population reported by Urban Unit) was 331,182 in 1998, literacy rate of the City was 69.1% and average household size was 7.0, growth rate 1981-98 is 1.92% (District Census Report 1998). Current projected population of the City is 406,681.
Weather/Climate pattern	e.g. max. and min. temperature, annual precipitation, storms, heat waves, snow fall etc. The weather of Sahiwal is extreme during the months of May, June and July, when the temperatures soar to 40–50 °C. While in winter, down to 5–10 °C minimum. The average rainfall is about 200 mm annual. ^[1] The soil of the land is very fertile and climate tends to support short or scrubby vegetation. A significant area is dominated by grasses, shrubs and forests.
Major Rivers	Name of river, passing through areas along with length in the district Major Barrages and their Flood levels River Ravi having a length of 55.00 miles in District Sahiwal There is no barrage in the jurisdiction of Sahiwal Canal Division, LBDC Sahiwal Flood levels = 576.00 ft
Major Nullahs / Streams	Name of river, passing through areas along with length in the district Flood levels Sukhani Drain (Old creek of Sukh Bias river), passes along the boundary line of District Sahiwal and District Pakpattan/ Vehari in length of 180 KM passes through the lowest contour and rarely effect the surrounding area. Flood levels= 520.00 Ft.
Motorway/Highway	Vulnerable points of motorway/highway Vulnerable points of motorway/highway
Railways	Vulnerable points of Railway Vulnerable points of Railway
Geological features	e.g. fault line, mountainous areas etc. The area consist of alluvial, silt and sandy soils in the vicinity of river Ravi. Remaining areas are silty to clayey lands are highly fertile.

Dams (including small dams)

Name of Dam	Location	GPS Coordinates	Capacity	High Flood Level	Critical Points, if any	Remarks
There is no dam in District Sahiwal		X: Y:				
		X: Y:				

Major Embankments/Bunds

Name of Embankment	Length (km)	Starting Point (Mouza/Tehsil Name)	Ending Point (Mouza/Tehsil Name)	Name of Critical/vulnerable Points	GPS Location of Critical/Vulnerable Points
J-head Spur Ara Tulla	2.06	Ara Tulla/Sahiwal	Ara Tulla /Sahiwal	-	Latitude: 30.67882 Longitude: 73.090275
J-head Spur Dadra Bala	0.81	Dadra Bala/Sahiwal	Dadra Bala/Sahiwal	-	-
Guide spur 1 st Dulla Zareen	0.24	Daula Zareen/Sahiwal	Daula Zareen /Sahiwal	-	
Guide spur 2 nd Dulla Zareen	0.32	Daula Zareen/Sahiwal	Daula Zareen/Sahiwal		
Guide spur Kaureshah Zareen	0.58	Kaureshah Zareen/Sahiwal	Kaureshah Zareen/Sahiwal		
Guide spur	0.30	Nathus Wasli/Sahiwal	Nathus Wasli/Sahiwal		
Guide spur	0.15	Dad Baloch/Sahiwal	Dad Baloch/Sahiwal		
6 No. solid stone studs	0.18	New Daden Mochiwala/SWL	New Daden Mochiwala/SWL		
Gunda Bund	2.06	Aurangabad/Sahiwal	Aurangabad/Sahiwal		

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		
There is no breaching Section in District Sahiwal.		X: Y:					
		X: Y:					
		X: Y:					

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

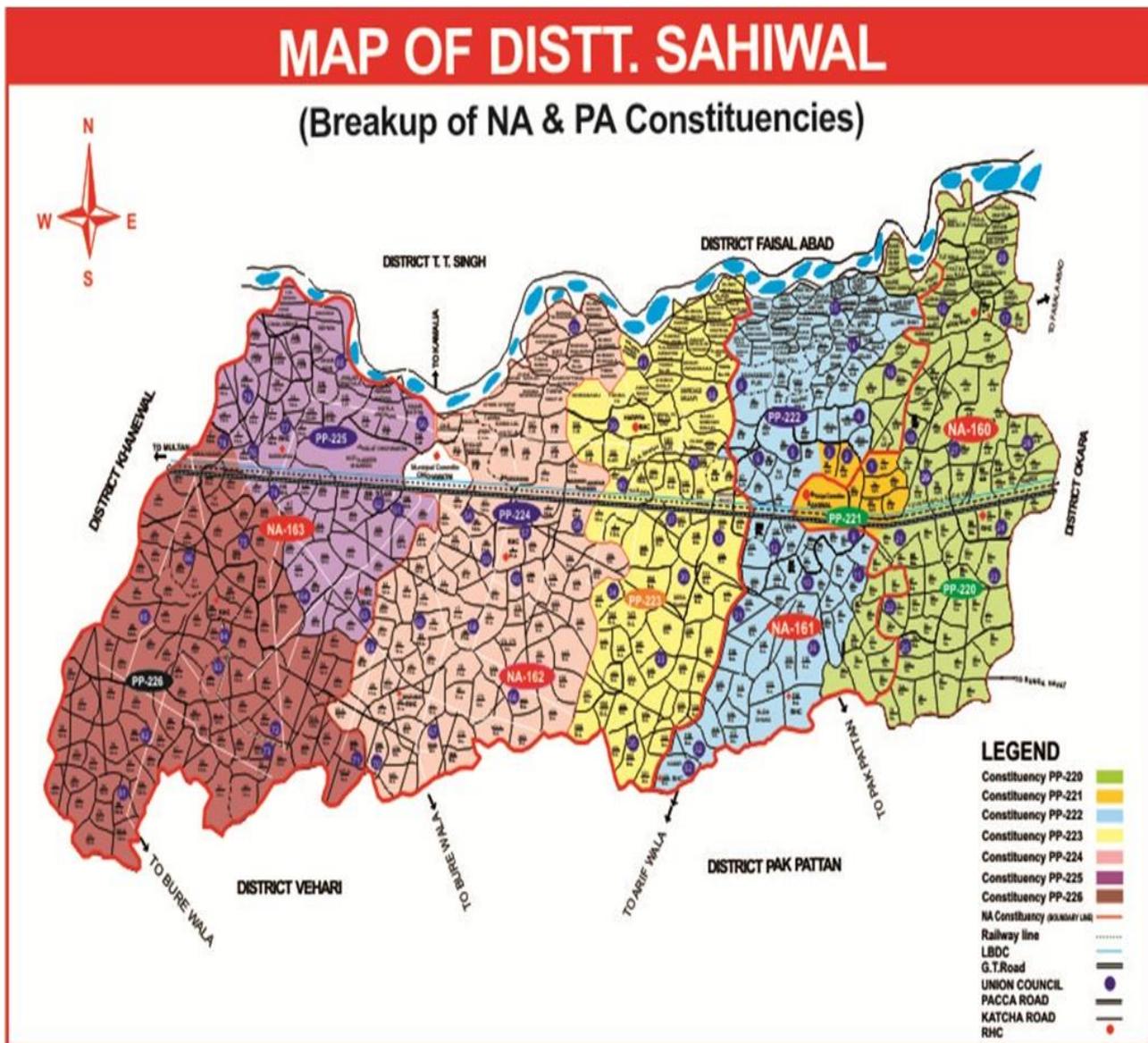
Name	Capacity	GPS Coordinates	Name	Capacity	GPS Coordinates
Grid station Yousaf wala	500- KV	Latitude: 30.669667 Longitude: 73.169625	Gird Station Swl Old	132-KV	X: Y:
Coal Fired Power Project, Qadirabad.	1320-KV	X: Y:	Gird Station Swl New	132-KV	X: Y:
Gird Station Qadirabad	132-KV		Gird Station Swl-III	132-KV	

Airport / Landing Strips

Type	Area Name	GPS Coordinates	Type	Area Name	GPS Coordinates
No Airport in District Sahiwal		X: Y:			X: Y:
		X: Y:			X: Y:

Govt. storage facilities/warehouses in the district

Facility Type	Capacity	Location with GPS Coordinates	Facility Type	Capacity	Location with GPS Coordinates
		X: Y:			X: Y:
		X: Y:			X: Y:



Source:

COORDINATION MECHANISM

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

District Flood Controls has been established in the office of Deputy Commissioner, Sahiwal with telephone No. **040-9200069**, it remains operational round the clock and one official and Naib Qasid remain present round the clock. All flood situation reports are received in this control room and conveyed to the concerned. Assistant Commissioner / Sub Divisional Control Officer. The daily situation reports are exchange on telephone and incase of emergency police wireless system is also used.

1.1 FLOOD WARNING SYSTEM:.

Sr. #	Flood Warning Center	Source of Information
1	District Flood Control Room SNA Office Sahiwal 040-9200069	1. Met Dept. Lahore (042-99200139) 2. Divisional Irrigation office at 040-9200222 3. Police Wireless Control (040-9200287) 4. Sector Incharge 5. Patwaris 6. General Public
2	Divisional Irrigation Office Sahiwal Mrs. Musfira Nadeem, SDO, Sukhrawa Drainage Sub Division-II Swl , Executive Engineer, 9200225, 0307-7733018	1. Muhammad Islam Bhatti SE LBDC Circle 0301.7729260 2. Dedrabala Sector (Mr. Nadeem Bhatti, SDO Sahiwal, 0300-8099265)

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 programmes for different levels of officers, employees and voluntary rescue workers in the district;
- j) facilitate community training and awareness programmes 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 centres 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 DCO/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, 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 defence 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 floodprone 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 Administration (TMA)

- Tehsil / Town Municipal Administration (TMA) 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 Administration TMA 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, 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 Defence, 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 councillors 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's for whole of the province:

- i. **Deputy Commissioner (Chairperson)**
- ii. District Police Officer
- iii. Additional District 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. Executive District Officer (F&P)
- ix. Executive District Officer (Works & Services)
- x. Chief Executive officer (Health)
- xi. Executive District Officer (Education)
- xii. Executive District Officer (C&D)
- 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 DC 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
- 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)

District Flood Control has been established in the Office of Deputy Commissioner, Sahiwal with telephone No.040-9200078, it remains operational round the clock and one official and Naib Qasid remain present round the clock. All flood situation reports are received in this control room and conveyed to the concerned Assistant Commissioner / Sub Divisional Control Officer. The daily situation reports are exchanged on telephone and in case of emergency, police wireless system is also used.

2.3 FLOOD WARNING SYSTEM

Sr. No	Flood Warning Center	Source of Information
01	District Flood Control Room	ADC Office Sahiwal 040-9200078
1.	Met. Dept. Lahore	(042-99200139, 99201238, 99201244, 99205159, 99205160)
2.	Divisional Irrigation office at	(040-9200222)
3.	Police Wireless Control	(040-9200287)
4.	Sector Incharges	
5.	Patwaris	
6.	General Public	
02	Divisional Irrigation Office Sahiwal	
1.	Sheikh Nawaz SE LBDC Circle Sahiwal	0345-4667777- 040-9200222)
	1. Dula Zareen Sector	

(Abbas Ali Najam,XEN, 0301-6902928)

2. Dadrabala Sector

(Rashid Qurashi, SDO, 0322-8752580)

Checklist for Control Room:

- Dedicated Staff as per magnitude of the disaster
- Duty roster 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 Defence 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 programme 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

Military Assistance is solicited formely through Home Department according to the required emergency situations. Past experience reveals that military is requested to come in aid of civil administration during elections and Muharram Ahuras. During election each of the polling stations is provided military personel to ensure security of polling material and election staff. Quich Re-action (QRF) are formed to respond to any untoward situation and mini Head quarters are establsihed of central locations. Logistics like POL, fire word, vehicles, telecommunication alongwith bording & lodging are provided to the military contigents. During Muharram, military is usually kept at certains vuluerable points and called in to the field only if some untoward incident takes place.

However, no such untoward incidents has so far been reported in the past few years in sahiwal.

VOLUNTEER NETWORK

E.g. how many registered volunteers, how to activate them, who will coordinate with them etc.

According the list of NGOs working under social welfare in the district and philanthropist the/volunteers help the district Govt. and relevant department play their own role in the any emergency but due to their limited resources they need. Community's assistance in this way NGOs /philanthropist/volunteers mobilize the community resource and develop relief centers to collect relief items as per need and deliver/supply where needed.

RISK ANALYSIS

1. Potential hazards of the district

Hazards	Likelihood (Score 1-5)	Impact (Score 1-5)	Risk
Floods	3	3	9
Urban Flooding	2	3	6
Flash Floods	1	1	1
Hill Torrent	0	0	0
Glacial Lake Outburst Flood (GLOF)	0	0	0
Landslide	0	0	0
Tornado	0	0	0
Earthquake	2	1	2
Drought	0	0	0
Epidemic	2	1	2
Fire Incidents	3	2	6
Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash)	3	3	9
Environmental Hazards (industrial accidents, severe pollution etc.)	3	3	9

Risk = Impact x Likelihood

Low : 1-7

Medium : 8-14

High : 15-25

2.Hazards

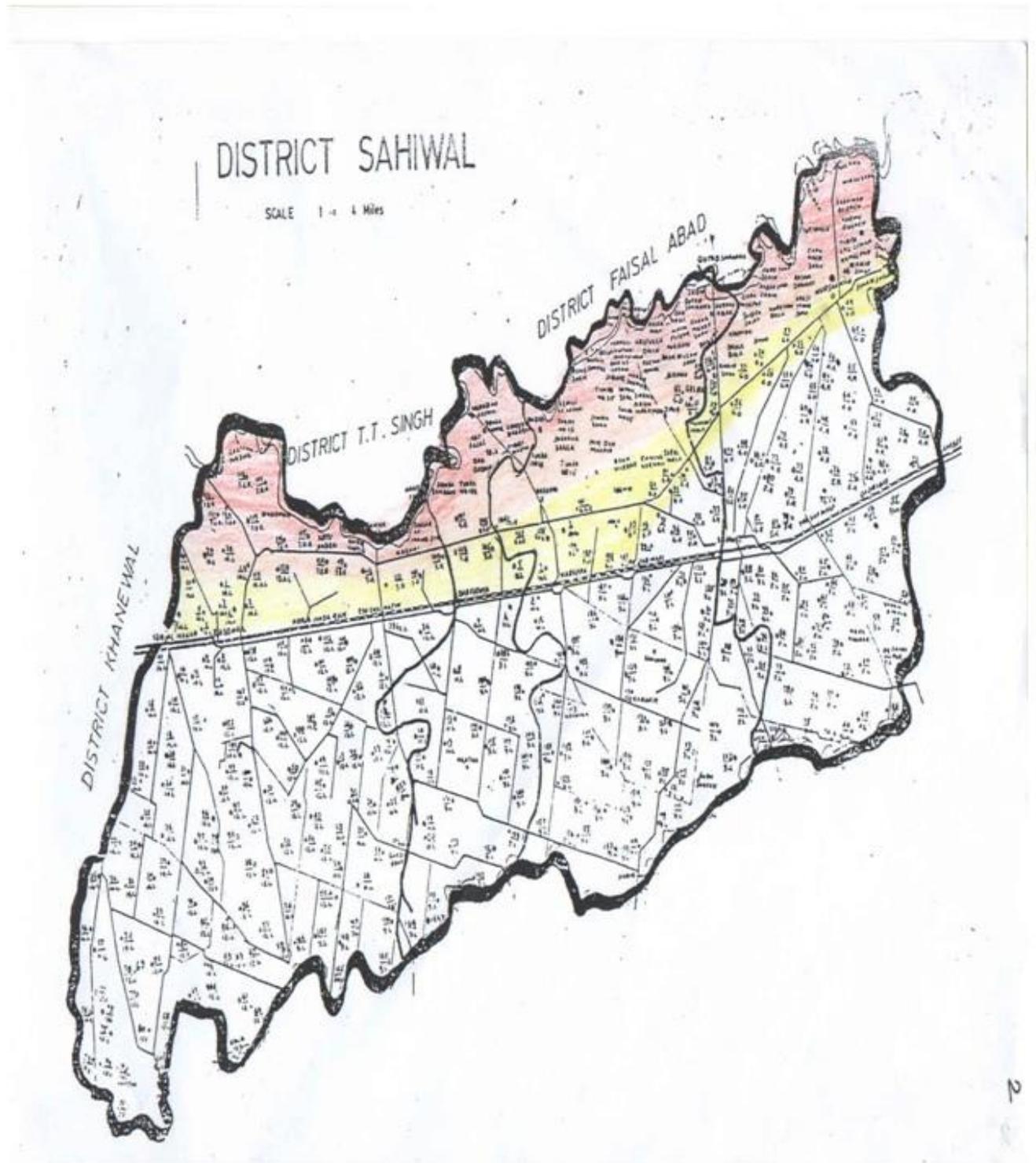
- *Disasters occurred over the past two to three decades and their impact on communities and development sectors*
- *Provide a brief description of the hazards being planned for (medium and high risks), including potential location that could be affected;*
- *Briefly outline the triggers*

The river reach of Sahiwal Canal Division LBD Sahiwal starts from Mari-Pattan to Chichwatni Bridge. Flood damages in this area have an old history which starts from the year 1955. During the year 1955, a heavy flood in river Ravi at Balloki headworks was recorded as 204360 Cs. A huge area and Government infrastructure i.e. Schools, Dispensaries and pacca roads etc were damaged in Sahiwal and Chichawatni Tehsil.

Similarly in 1976, the river Ravi with its discharge of 234474 Cs at D/S Balloki badly affected various villages in Sahiwal District. Again in 1988, an unprecedented discharge of about 240854 Cs, in river Ravi at D/S Balloki Head works caused heavy damages to human, animal lives, crops and houses. The following villages in Tehsil Sahiwal are also affected due to past flood events.

dad Baloch, aram Baloch, Shahmand Baloch, Mullah Hamza Dadan, Machiwala, Kaureshah Zareen, Dulla Zareen and Nathu Wasli.

District detail map with vulnerable points, hazards, planned camps, health facilities, warehouses etc.



Source:

3. Response & Operational Capacity

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

The District Sahiwal has got fairly good response capacities both on the part of government and its NGO partners. The District has got to big public hospitals and a number of private health facilities at its headquarter. The urban infrastructure which is fairly planned and spacious cope with any likely disaster both nature or imposed by some unwanted human intervention. The district emergency set up is also fairly well equipped and trained to respond promptly and accurately. More exercises are also part of usual training and keep the emergency response in proper shape. Emerging industrial set up may pose a threat to the calm and peaceful city headquarter but staff measures are being ensured by the district administration and its counter intelligence set up.

4. Strategic Reserves

Items	Available	Functional	Non-Functional
Boats	07	07	0
OBM	0	0	0
De-watering sets	06	06	0
Navigators	0	0	0
GIS devices	0	0	0
Life Jackets	80	80	0
Life Ring	140	140	0
Life Lines	0	0	0
Scuba diving suit with complete accessories	04	04	0
First Aid Kits	120	120	0
Rescue Bag	0	0	0
Safety Harnesses	03	03	0
Ambulances	07	07	0
Fire Brigade	04	04	0
Water Tanks / Bouzers	03	03	0
Extendable Ladders	0	0	0
Hydraulic Cutter	01	01	0
Sonar Rader	0	0	0
Jumping Sheet	0	0	0
Dumpers	0	0	0
Excavators	0	0	0
Cranes	0	0	0
Bulldozer	0	0	0
Boat Carrier/Trolleys	0	0	0
Pickups/Jeeps/4x4 vehicles/Mini Trucks	0	0	0
Searchlight	02	02	0
Tent	241	241	0
Mosquito Net	28	28	0
Plastic Mat	0	0	0
Blanket	0	0	0
Any other main relief/rescue equipment	0	0	0
Generator Sets	02	02	0
Gas-Cutters	0	0	0
Scuba Diving Set	04	04	0
Navigator/GPS Tracker	0	0	0
Floating Rope	03	03	0

5.Gaps and Constraints

- *Briefly outline the capacity gaps in the provision of rescue and response;*
- *Describe major obstacles to providing humanitarian assistance (security, access constraints, administrative obstacles, logistics, etc.)*

One of the outputs of the PCIIP was to develop a profile for each of the program cities that provided a detailed existing situation identifying gaps, wherever possible. The profile was to focus on providing sectoral information services of Water, Sanitation, Solid Waste Management and Urban Transport for the City.

Due to the budgetary constraints the coverage and quality of municipal service delivery is affected. The major source of receipts of the municipalities is the fiscal transfers from the provincial government of their share in the provincial consolidated fund based on the PFC Award announced by the Provincial Finance Commission.

MITIGATION STRATEGY

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

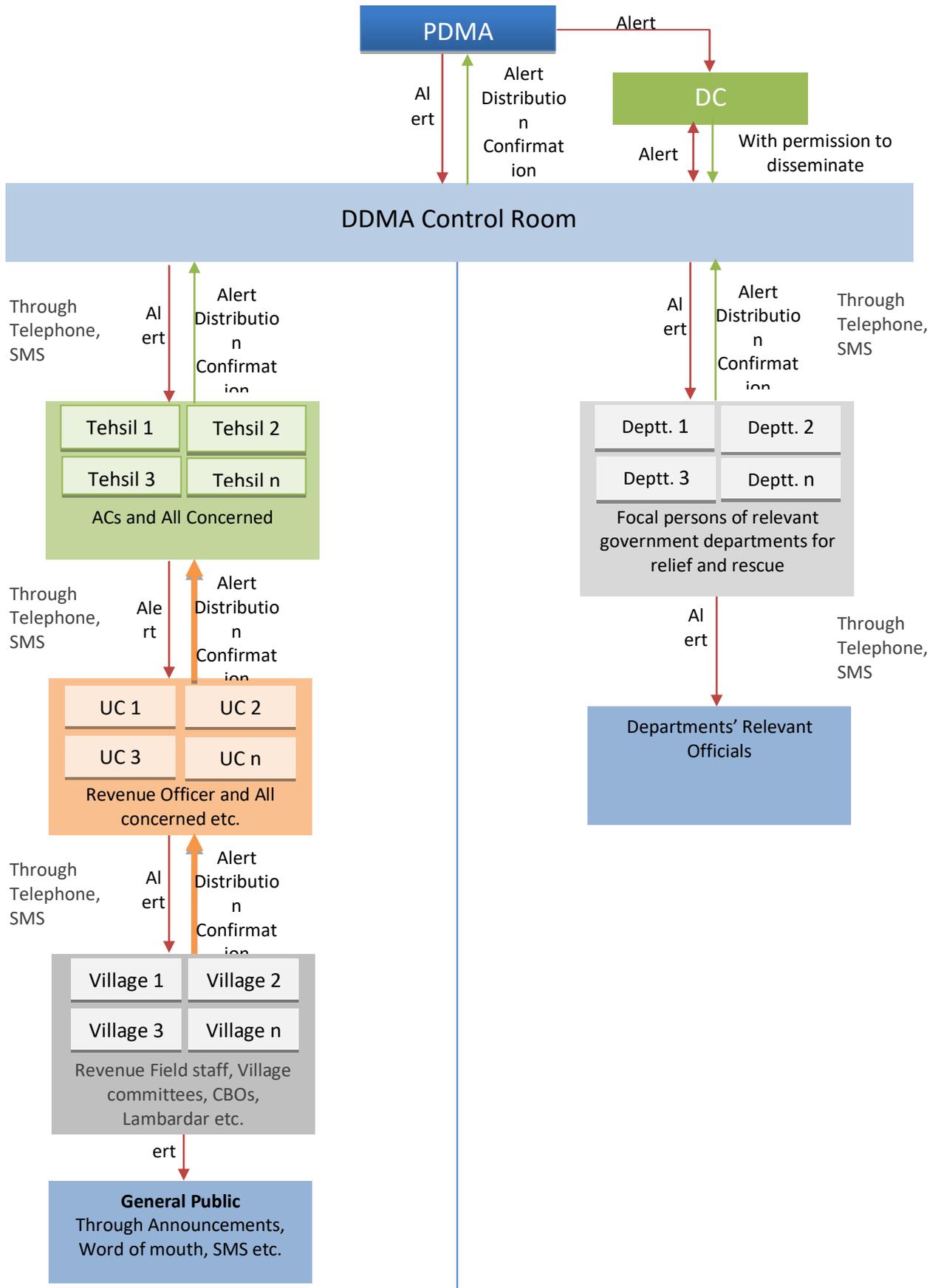
Hazards	Mitigate Actions	Responsible Department
Floods	<p>Mock exercises regarding flood are conducted with all departments in District.</p> <p>Medical camps may be established in flood affected areas.</p> <p>Public awareness campaign for timely evacuation from flood affected areas.</p> <p>Ensure coordination with all departments for timely response in flood prone areas.</p>	<p>Irrigation, Rescue 1122, Health Department TMA, Revenue Department , Live Stock Department</p>
Urban Flooding	<p>The waste water disposal stations are in bad shape because of out dated and workout structure. The sewage pipe line are also old and work out. The same is meant to catch the rain water as well. Hence, poses great threat towards urban flooding in rainy seasons especiously when power failures occure. However a 500mm packges of ADB under intermidate cities improvement programme initiated by LG &CDD is likely to give the udner ground city a new look and shed all the fears of likely urban flooding during raining seasons as well as its over all out look within the next a couple of years.</p>	
Flash Floods	Nil	
Hill Torrent	Nil	
Glacial Lake Outburst Flood (GLOF)	Nil	
Landslide	Nil	

Tornado	NII	
Earthquake	NII	
Drought		
Epidemic		
Fire Incidents	Small fire incidents become of shot circuits and decanting of liquified petroleum gases do assure of and on in the city but Fire service both of TMA and Rescue 1122 is equiped enough to respond to any suchg situation.	Rescue 1122, Fire Bregade, TMA
Other Major Accidents (Building Collapse, road traffic accidents, train accident, Stampede, plane crash)	Ensure to prevent one wheeling ensure to prevent high speed and overloading ensure to use helments ensure to use safety belts ensrue to use reflectors behinds trolley and rikshawas ensuree demolishing of old and dengerious buildings ensure safety protocols to be followed in high rise build ings evacuation plan must be ensured enter & exist points must be declared industries should not be situated in residential areas	RExcue 1122, Health Department, Moter way Police, TMA, Tariffice Police.

	ensure to conduct evacuatin drill in all schools, colleges, universities and industries.	
Environmental Hazards (industrial accidents, severe pollution etc.)		

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 DCO 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, TMA 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

Briefly describe how the early warning will be received from provincial level?

Who is the focal person at district level?

Functions of District/Tehsil Emergency Control Rooms in early warning

How the early warning will be communicated to relevant departments for different disasters? What actions each relevant department should take after receiving the early warning e.g. evacuation.

How the early warning will be communicated to the relevant population? E.g. through Patwaris, SMS, Announcements, Media etc.

A District Control Room is established at the start of each flood season or as soon as any severe weather/disaster alert is generated from the Provincial Headquarter (met office or PDMA). Similarly, control rooms at each Tehsil headquarter is compulsorily established under the direct supervision of each Assistant Commissioner. Each District department especially police and Rescue 1122 also established their separate control rooms. The District Control Room is directly monitored by the Deputy Commissioner or his nominee (ADC or DOC etc).

As soon as some alert situation is initiated the lower revenue formations i.e. upto Patwaris are intimated and directed to respond immediately through landline and cellular networks e.g. evacuation of population of any target area. Safe havens are already identified to move the target population thereto e.g. schools etc. Camps of all emergency services departments are also established therein as required by the magnitude of the emergency situation.

RESCUE STRATEGY

- *What actions will be taken as an immediate response to the situation? E.g. Evacuation, medical assistance*
- *Who does what and when? Responsible departments/agencies*
- *How and when Pakistan Army will be requested to support the rescue activities*
- *Camp sites identified? List at Annex I.*

1. As an immediate action, information is to be disseminated to the target area/population through announcements on local speakers and drum beats by the lower revenue field staff.

2. Rescue 1122 responds to any emergency situation in minimum possible time and other departments like Health and Civil Defense follow suit. District administration is always alert to make up the deficiencies and fill up the gaps by mobilizing communities through NGOs and its own revenue field formations.

3. Pakistan Army is usually kept on call and invited only when the situation is out of control of the Civil Administration. In Sahiwal, usually two companies of Army are deployed during elections or Muharram processions.

HUMANITARIAN ASSISTANCE

- *How damage and losses data will be collected and communicated to higher level?*
- *How the priority needs (e.g. food, shelter, health etc.) will be determined?*
- *What activities will be carried-out to provide assistance to the affected population and by whom?*
- *What assistance will be provided?*
- *Standardization of different packages/kits e.g. food, tents*
- *Humanitarian Assistance monitoring mechanism – to avoid duplication and identify gaps*
- *Minimum standards for camps, if camps are established*
- *What is the current capacity in the district? Enough for how much caseload?*
- *Explain how protection, gender and age, environment and other relevant cross-cutting issues that will be addressed or mainstreamed into the humanitarian assistance strategy*

The damage and loss data is collected by registration of affectees of any disaster either in the relief camps established for the displaced people through revenue/ agriculture field formations in case of damage to life or property/crops etc in case of earth quakes, floods etc. Usually, a third party validation is done to authenticate the validity of data either by outsourcing the task to some well renowned national/international firm or a neutral team from some neighbouring district is detailed to conduct the data validation by field visits of the actual disaster stricken area.

usually, the relief activities are designed and provided as per UN standards regarding food, health, shelter etc which are constantly monitored by PDMA onmitoxs and even independent NGOs, working in aid of the government.

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	Govt. High School Noor Shah	250	X: Y:	16			X: Y:
2	Govt. High School Muhammad Pur	300	X: Y:	17			X: Y:
3	Govt. High School 58/GD	200	X: Y:	18			X: Y:
4	Govt. High School Harappa	250	X: Y:	19			X: Y:
5	Govt. High School Mirdad Muafi	250	X: Y:	20			X: Y:
6	Govt. Girls Comm. Middle School 112/7R	200	X: Y:	21			X: Y:
7	Govt. Girls Elem. School-5 Shammas Pura CCI	150	X: Y:	22			X: Y:
8	Govt. Boys Primary School 107/7R	150	X: Y:	23			X: Y:
9	Boys Primary School 108/7R	150	X: Y:	24			X: Y:
10	Govt. Girls Elem. School 119/7DR	175	X: Y:	25			X: Y:
11	Govt. Girls Middle School 120/7ER	175	X: Y:	26			X: Y:
12			X: Y:	27			X: Y:
13			X:	28			X:

			Y:				Y:
14			X: Y:	29			X: Y:
15			X: Y:	30			X: Y:

LIST OF HAZARD PRONE VILLAGES/REVENUE ESTATE.

Tehsil	No. Of Revenue Estate	Names of Villages
Tehsil Sahiwal	43	Miran Shah, Mullah Hamza, Longawali, Dad Baloch, Karam Baloch, Toot Wala, Chak Noor Shah, Karyal, Thatta Manak, Dadan, Ahmad Shah, Akbar Shah, Saidan Shah, Chak Musa Pur, Aurangabad, Qutab Shahana, Dulla Zareen, Bashera, Nathu Fatiana, Dad Wasli, Meher Shah, Bahawal Fatiana, Raja Dilla, Kahichi rehana, Arra Tullah, Murad Dillu, noor Ke Kathia, Bela Budh Wala, Nama Saria, Nama Smoor, Nooram Sanpal, Mullah Kathia, Rang Shah, Tukra 25, Jewen Shah, Tukra 26, Shaboka, Rakh Mir Dad Maufi, Tulla Bhutta, Azmat Ke Kathia, Dadra, Jahan Saghla, Ara Shahamand
Tehsil Chichawatni	34	Tukra 26, Doda Sahu, Tukra 18, Tibi Qasam, Ahmad Bhagala, Sher Khana, Kot Fazal, Murad Ke Kathia, Chak Bandi, Bakkha, Mauza Dad Fatiana, Bunga Bahawal, Khund Muhammad Mira, 18-B/7R, Bunga Shahamand, Kotla Jinaram, Nawab Katia, Khair Katia, Dharaman Shawa, Jhalar Dina Tulla, Hashim Chakar Bub, Dadu Ana, Lal Kathia, 117,118, 119/7DR, 121, 112/7ER, Old Chichawatni, Khachi Balloama, Jhalar, Muhammad Rehma, Jhangle Sial, 18/C Tukra
GRAND TOTAL	77	

EARLY WARNING

A District Control Room is established at the start of each flood season or as soon as any severe weather/ disaster alert is generated from the Provincial Headquarter (met office or PDMA). Similarly, control rooms at each Tehsil headquarter is compulsorily established under the direct supervision of each Assistant Commissioner. Each District department especially police and Rescue 1122 also established their separate control rooms. The District Control Room is directly monitored by the Deputy Commissioner or his nominee (ADC or DOC etc).

As soon as some alert situation is initiated the lower revenue formations i.e. upto Patwaris are intimated and directed to respond immediately through landline and cellular networks e.g. evacuation of population of any target area. Safe haven are already identified to more the target population thereto e.g. schools etc. Camps of all emergency services departments are also established therein as required by the magnitude of the emergency situation.

RESCUE STRATEGY

1. As an immediate action, information is to be disseminated to the target area/population through announcements on local speakers and drum beats by the lower revenue field staff.
2. Rescue 1122 responds to any emergency situation in minimum possible time and other departments like Health and Civil Defense follow suit. District administration is always alert to make up the deficiencies and fill up the gaps by mobilizing communities through NGOs and its own revenue field formations.
3. Pakistan Army is usually kept on call and invited only when the situation is out of control of the Civil Administration. 2 companies will be required in case of high flood in District Sahiwal.

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	RHC Noor Shah	X: 30.83 Y:78.19	RHC	Dr. Muhammad Umair Shahid 0335-0345335	Flood
2	BHU Asad ullah Pur	X: 30.70 Y:73.01	BHU	Dr. Ramsha Zafar- 0322-4089961	Flood
3	BHU 58/G-D	X: 30.63 Y:72.86	BHU	Dr. Abdullah 03000975157	Flood
4	RHC Harrapa City	X: 23.18 Y:73.99	RHC	Dr. Khizar Hayyat 03006938451	Flood
5	BHU Murdad Mafi	X: 30.67 Y:72.92	BHU	Dr. Parvez Iqbal 0321-7201030	Flood
6	BHU 112/7-R	X: 30.55 Y:72.67	BHU	Dr. Tahir Abbas 0334-7680963	Flood
7	GGES Shams Pura old Chichawatni	X: 30.53 Y:72.69	BHU	Dr. Rabia Iftikhar 0334-7571812	Flood
8	GBPS 107/7-R	X: 30.61 Y:72.77	Dispenser	M. Khalid 0345-7198783	Flood
9	GPS 108/7-R	X: 30.59 Y:72.75	BHU	Dr. Ashan Ullah 03006939128	Flood
10	GGES 119/7-DR	X: 30.55 Y:72.52	BHU	Dr. Shahzad 0334- 820468	Flood
11	GMS 120/7-ER	X: 30.67 Y:73.08	BHU	Dr. Salman Aziz 0343-0818789	Flood

LIST OF VULNERABLE EDUCATIONAL INSTITUTIONS

S#	School Name	Primary/ Middle/ High	GPS Coordinates	Functional/ Non- Functional	Enrolment	Incharge Name	Contact Number
1	GHS Dadra Bala Sahiwal	High		Functional	435		
2	GHS Murad k Kathia Sahiwal	High		Functional	310		
3	GPS Ahmad Baghela CCI	Primary		Functional			
4	GPS Dadra Zarren Sahiwal	Primary		Functional			
5	GES Tulla Bhulla Swl	Middle		Functional			
6	GPS Nooran Sanpal Swl	Primary		Functional			
7	GGPS Nooran Sanpal Swl	Primary		Functional			
8	GPS 26 Tukra Swl	Primary		Functional			
9	GPS GPS Nathoo Dad Wasli Swl	Primary		Functional	67		
10	GPS Koray Shah Zarren Swl	Primary		Functional	169		
11	GGPS Koray Shah Zarren Swl	Primary		Functional			
12	GPS Qutab Shahana	Primary		Functional	103		
13	GPS Dolla Zarren Swl	Primary		Functional	69		
14							
15							
16							
17							
18							
19							
20							

LIST OF INDUSTRIES

Sr. #	Category of Units	Number
1	Agricultural Implements Manufacturing Units	14
2	Aluminum Products	9
3	Auto Parts	10
4	Biscuits Factories	6
5	Cement Products	2
6	Cold Storages	79
7	Confectionery	35
8	Cosmetics	1
9	Cotton, Ginning & Pressing	58
10	Dairy Products units	5
11	Drugs & Pharmaceuticals	2
12	Electric Goods / Fans & Coolers	9
13	Flour Mills	14
14	Food Products	2
15	Foundry Products	4
16	Leather Garments	2
17	Packages	1
18	Plastic Products	3
19	Poultry Feeds	2
20	Rice Mills	48
21	Seed Processing Mills	3
22	Soap & Detergent Factory	1
23	Surgical Cotton/Bandage Factory	2
24	Tanneries	13
25	Textile Spinning Mills	5
26	Textile Weaving Mills	3
27	Tobacco	1
28	Unani Medicine	1
29	Vegetable Ghee & Cooking Oil	6
	Total	341

LIST OF NGO WORKING IN THE DISTRICT

Sr. No.	NGO Name	NGO Type(Local National, International)	Location where they are working	Sector/Culuster of work(e.g WASH, Heealth Education)	Contact Person Name	Contact Person Mobile
1	Community Development Council	Local	Al-Falah Building, 180-Ghalla Mandi, Sahiwal	Women Welfare	Ch. Asif Nawaz	0300-6905505
2	Insan Dost Association	Provincial	House # 24, St # 1, Niaza Colony, Arif Road, Sahiwal	Child Education Bonded Labor Legal Aid	Anjum Raza Mattu	0300-9692790
3	Bahu Welfare Foundation Al-Sadiq Memorial Free Medical Complex	Local	Nai Abadi Near Madina Masjid, Sahiwal	Health	Muhammad Nadeem Sultani	0300-9692796 0301-6921842
4	Rahimia Welfare Society	Local	Link Fateh Sher Road, Sahiwal	Health Child Welfare Women Welfare	Dr.Sarfraz Ahmad	0345-2228999
5	Anjuman Islamia Nangal Ambia	Local	92-E-Scheme # 2, Farid Town, Sahiwal	Child Welfare	Haji Muhammad Bashir	0322-7061206 040-4277700
6	Association of Masses to act and lead	Local	Sarwat Medicare, Nai Abadi, Sahiwal	Child Welfare	Dr. Syed Mazhar Hussain	0321-6905151
7	Public Welfare Society	Local	Chak No.152/9-L Kot Hussan Abad 120/9-L Kameer, Sahiwal	Women Welfare	Jaffer Bhatti	0344-7302714
8	Al-Hamad Women Welfare Association,	Local	House # 67, Municipal Housing Society, Sahiwal.	Women Welfare	Irshad Ali Tabasum	0300-4628873
9	Al-Noor Welfare Organization	Local	Chak # 70/5-L, P.O same, Sahiwal	Women Welfare	Syed Sajjad Haider	0346-7480629
10	Aman Welfare Foundation	Local	Near HBL Bank, Jinah Educatinal	Child Welfare	Sabir Shehzad	0300-7241380

			Complex building Rana Town, 120/9-L, Sahiwal			
11	All Pakistan Women Association	Local	Goal Chakar, Sahiwal	Women Welfare	Mrs. Farhat Kamiana	0345- 4215761
12	Insaniyat Welfare Organization	Local	Sabir Colony, Old Harrapa Road, near TTC College, Sahiwal	Women Welfare	Shahid Imran	0300- 6922075
13	Noor Welfare Foundation	Local	House # 60, Abubakkar Block, Shadab Town, Sahiwal	Heath Education	Mushtaq Ali	300-6913686
14	Qutbia Women Welfare Foundation	Local	Chak # 97/9-L, Adda 8-KM, Pak Pattan Road, Sahiwal	Women Welfare	Malik Muhammad Sadiq Dhakku	0343- 7856811
15	Rah-e-Haq Welfare Foundation	Local	Nazim Town, GT Road, Sahiwal	Philanthropy	Ch. Sagheer Anjum	0321- 6919656
16	Social Welfare Society	Local	92/6-R Sahiwal	Women Welfare Youth Welfare	Malik Ahsan Munir	0321- 6902244
17	SWAB Welfare Society	Local	146-B-I Muslimabad, Sahiwa	Women Welfare	Ch. Sahid Nawaz	0321- 6925158
18	Anjuman-e- Behbood-e- Khawateen	Local	27-Y, Scheem No. 3, Farid Town, Sahiwal	Women Welfare	Zahida Mukhtar	040-4553541
19	Soech Welfare Organization	Local	786-A Canal View Opp. Tariq Bin Ziad Colony, Sahiwal	Health	Miss Nabila Khan (MPA)	0301- 6902912
20	Social Development Organization	Local	Ada Chak # 89/6- R, Sahiwal	Health Philanthropy	Ghulam Mujtaba	0300- 6923942
21	Women Welfare Association	Local	Chak # 91/6-R, Sahiwal	Women Welfare Child Welfare	Zarina Sattar Ramay	0302- 7453023
22	Ali Garh Welfare Society	Local	Chak No. 89/6-R, Sahiwal	Women Welfare	Haider Ali Saleemi	0300- 6936289

23	Abadat Welfare Society	Local	35-Umer Block, Shadab Town, Sahiwal	Education Health	Dr. Javed Nadeem Joyia	0301-6923564
24	Andaz Welfare Foundaion	Local	87/A, Garden Town, Sahiwal	Education Health	Ray M. Zafar	0344-2002752
25	Shareef Muhammad Welfare Society Kot Khadim Ali	Local	85/6-R Sahiwal	Health	Abdul Sattar Shareef	0300-6923942
26	Insan Dost Association	Local	Chak No. 90-9L, Aziz Bad Colony, Sahiwal	Women Welfare Child Welfare	Anjum Raza Mattu	0300-9692790
27	Al-Farooq Patients Welfare Society	Local	Block No.16, tehsil Chichawatni,	Health	Dr.Hassan Mehmood Awan (President)	0300-4608600
28	Al-Rahman Welfare Organization	Local	shaker colony Tehsil Chichawatni,.	Health	Attiqur Rehman (President)	03016925304
29	Al-Nawaz Welfare Society,	Local	Chichawatni	Health	Rai Hassan Nawaz (President)	03008844941
30	Anjuman Falah-e-Niswan,Public Central Model School,	Local	Block No.11 Chichawatni	Health	Nasreen Akther awan (President)	03006901107
31	Anmol Welfare Society, ,	Local	Chak No 113/12.LTehsil Chichawatni	Health	Mian Muhammad Rafique (President)	03335480900
32	Al-Hamdard Foundation,	Local	Block No.1 Shaheed-e-Millat Road Chichawatni	Health	Muhammad Nadeem	0300-5506019
33	Binat-e-Muslimeen Welfare Society,	Local	Chak No. 165/9.L, Tehsil Chichawatni	Awareness	Tariq Farooq (President)	0316903658
34	Care Welfare Foundation,	Local	street No 6, Hayatabad Chichawatni	Heath	Sultan Mehmood (President)	03006904931
35	Chichawatni Welfare Organization	Local	block No 6 Near Ghantaghar chowk Chichawatni	Women welfare	Haji Ehsan ullah (President)	03018695217

36	Firdous Welfare Society	Local	,Chak No. 45/12.L, Tehsil Chichawatni	Awareness	Shoukat Ali maan (President)	03077227645
37	Fatima Zanab Welfare Society	Local	,Chak No 57/12-L, Tehsil Chichawatni	Health	Haji Muhammad Aslam (President)	03004494994
38	Hawa Development Organization	Local	Chak # 103/12.L Tehsil Chichawatni	Women Welfare	Syeda Kouser Zahra (President)	03447585067
39	Human Services Welfare Foundation,	Local	Block. No.2, Str. No.1, Haji Wali Muhammad. Chowk, Chichawatni,	Health	Muhammad Khalid (President)	03153127631
40	Probe Development Organization,	Local	Housing colony 101/W (Chak No 39/12-.L) Chichawatni,	Awareness. (Dengue)	Mian Amir Hussain (President)	03006901059
41	Rural Area Development Organization for Women,	Local	Chak No 102/12.L Chichawartni	Women Welfare	Taiba Batool (President)	03030079230 2
42	Rank Welfare Society (Rehabilitation & Awareness of Neglected Kids),	Local	Block N0 11 House No 1480 Chichawatni(Block No 4) Street No 6, Chichawatni	Awareness. (Dengue)	Zahida Parveen (President)	03144661087
43	SubhanPur Welfare Society,	Local	Chak # 49/12.L(Chak No.31/11-L) Chichawatni	Health , Women welfare	Naveed Sardar (President)	03006909304
44	Social Welfare Society,	Local	Chak No. 55-12-L Rary, Tehsil Chichawatni District Sahiwal. (Chak no 86/12-L Rangji ram Chichawatni,	Awareness. (Dengue)	Muhammad Yousaf (President)	03136441986
45	Tahafuz-E-Insaniat Welfare Foundation,	Local	Babu town street No 1 Tehsil Chichawatni (Rehman City Banglaha Okwanwala Road Near University school System, Chichawatni.	Health, Legal Aid, Women welfare	Shahid Hameed Ch. (President)	03057405789
46	The Life Welfare Society,	Local	Block No. 8, Tehsil Chichawatni	Health	Sheikh Shahid saddique (President)	0405487908
47	Anjuman Rafah –e- Ama	Local	Main Bazar Harappa City	Women Welfare	Abdul Hadi	0300-9693480

48	Alflah Association	Local	Nai Wala Road Harappa Station	Women Welfare	Ch Tariq Habib	0345- 7440563
49	Social Welfare Society	Local	Chak No.185/9-L Harappa	Women Welfare	Ch. Liaqat Ali	0301- 6912456
50	Public Welfare Society	Local	Jinnah Town Harappa Station	Women Welfare Health	Rana Muhammad Amjad	0303- 7530174
51	Jazba Chak	Local	No.5/11-L Harappa	Women Welfare Education	Major R.Gulbahar Kiyani	0300- 6893201
52	Social Welfare Society	Local	Chak No.5/11-L Harappa	Women Welfare	Mirza Abdul Rauf	0322- 7163557
53	Markaz Falah-o- Behbood	Local	Chak No.4/10-L Harappa	Women Welfare	Muhammad Boota	0302- 3143288
54	Al-Mehmood Welfare Foundation	Local	DHQ Hospital Sahiwal	Patient Welfare Specially CT Scan	Salamat Mehmood (Pr)	0300- 9470690
55	Hemo dialysis Welfare Society	Local	DHQ Hospital Sahiwal	Patient Welfare	Main M. Younis Sheik (Pr)	0300- 8691144
56	Patient Welfare society	Local	DHQ Hospital Sahiwal	Patient Welfare	Haji Ihsan-ul- Haq Adrees(Pr)	0300- 9690161
57	District Anti T.B Association	Local	Raiway Road Sahiwal	Patient Welfare	Haider Ali Saleemi (G.Sec)	0300- 6936289
58	Prisoner Welfare Association	Local	Central Jail Sahiwal	Prisoner Welfare	Superintendent Central Jail, Sahiwal	0301- 6900884

CONTACT LIST OF MAIN STAKEHOLDERS/ DEPARTMENTS

S#	Designation	Person Name	Telephone (Office)	Telephone (Residential)	Mobile
1	Focal Person for Disasters	Mr. Awais Mushtaq	040-9200078	---	0300-9439995
2	Commissioner	Mr. Nadar Chatta	9200491	9200499	0304-0920056
3	RPO	Mr. Arslan Malik	9200011	9200080	0333-9200443
4	DC	Mr. Babar Bashir	9200060-61	9200064	03040920086
5	DPO	Mr. Nadeem Yasin	9200051-52	9200052	0300-4429495
6	ADC(R)	Mr. Awais Mushtaq	040-9200078		0300-9439995
7	ADC(G), Sahiwal	Mr. Sher Afghan	040-9200019		0333-4514332
8	ADC(F&P), Sahiwal	Mr. Yasir Fareed	040-9200075		0322-4121000
9	DEO Rescue 1122	Dr. Khalid Abdullah	9200106		0335-1101122
10	DO Civil Defence	Fariha Jaffar	9200230	9200238	03077979677
11	SNA	Zeshan ul Haq	040-9600063		03016922733
12	AC - Sahiwal	Sarmad Hussain	040-9200110		0322-7368298
13	AC - Chichawatni	Shahid Nadeem	040-5480033		0302-7511969
14	Tehsildar - Sahiwal	Muhammad Rafique	--	--	0301-6335331
15	Tehsildar -Chichawatni	Rehmat Ullah Wirk	--	--	0300-8033777
16	CO, MC, Sahiwal	Farmaish Ali Ch.	9200157		0322-2008085
17	CO -Chichawatni	Payam Ghani	5486878		03347803001
18	CO Kameer	Saad-Uz-Zaman	040-4306032		03338478633
19	C.O District Council-	Shahid Iqbal	040-9200321		03004125173
20	CEO Education	Zulfiqar Ali	9200390-91	9200392	03334425042
21	XEN Irrigation	Malik. M. Aslam	9200222	9200221	0335-7617600
22	Flood Emergency Irrigation Cell Lahore	--	04299212147		
23	Asst. Dirct. Agri. Sahiwal	Mr. Liaqat Ali	0409200185		0300-8755457
24	Chief Executive officer Health	Dr. Azhar Abass Naqvi	9200382		03006930779
27	M.S DHQ Hospital	Dr. Waheed Ahmad	9200383		03009697885
28	Addl. Director Live Stock Officer	Dr. Wajid Arshad Khan	9200496		0342-3018900
29	Director Flood Irrigation Department Lahore		04299231614		

Major Embankments/Bunds

Name of Embankment	Length (km)	Starting Point (Mouza/Tehsil Name)	Ending Point (Mouza/Tehsil Name)	Name of Critical/vulnerable Points	GPS Location of Critical/Vulnerable Points
J-head Spur Ara Tulla	2.06	Ara Tulla/Sahiwal	Ara Tulla /Sahiwal	-	Latitude: 30.67882 Longitude: 73.090275
J-head Spur Dadra Bala	0.81	Dadra Bala/Sahiwal	Dadra Bala/Sahiwal	-	-
Guide spur 1 st Dulla Zareen	0.24	Daula Zareen/Sahiwal	Daula Zareen /Sahiwal	-	
Guide spur 2 nd Dulla Zareen	0.32	Daula Zareen/Sahiwal	Daula Zareen/Sahiwal		
Guide spur Kaureshah Zareen	0.58	Kaureshah Zareen/Sahiwal	Kaureshah Zareen/Sahiwal		
Guide spur	0.30	Nathus Wasli/Sahiwal	Nathus Wasli/Sahiwal		
Guide spur	0.15	Dad Baloch/Sahiwal	Dad Baloch/Sahiwal		
6 No. solid stone studs	0.18	New Daden Mochiwala/SWL	New Daden Mochiwala/SWL		
Gunda Bund	2.06	Aurangabad/Sahiwal	Aurangabad/Sahiwal		

LIST OF VULNERABLE EDUCATIONAL INSTITUTIONS DISTRICT EDUCATION AUTHORITY SAHIWAL

Sr.No	School Name	Primary/Middle/High	GPS Coordinate	Functional/Non Functional	Enrollment	In-charge Name	Contact No.
1	GHS DADRA BALA	High		Functional	448	GHULAM MUSTAFA	0300-3007908
2	GHS MURAD KE KATHIA	High		Functional	328	MUHAMMAD AMIN	0334-0033637
3	GPS AHMAD BAGHELA CCI	Primary		Functional	95	MUHAMMAD ALTAF	0301-7320530
4	GPS DADRA ZAREEN	Primary		Functional	49	ABDUL GHAFUOR	0303-7800835
5	GES TULLA BHULLA	Elementary		Functional	155	ASIF MAHMOOD RAZA	0301-6901597
6	GPS NOORAN SANPAL	Primary		Functional	51	GHULAM HUSSAIN	0321-6921569
7	GGPS NOORAN SANPAL	Primary		Functional	69	AYESHA IQBAL	0334-7818534
8	GPS 26/1 TUKRA	Primary		Functional	140	MANZOOR AHMAD	0300-5049910
9	GPS NATHU DAD WASLI	Primary		Functional	52	MUHAMMAD SHAHID	0301-4454836
10	GPS KORAY SHAH ZAREEN	Primary		Functional	153	RANA ARFAN ARSHAD	0300-6936831
11	GGPS KORAY SHAH ZAREEN	Primary		Functional	196	FIZZA SHAKEEL	0333-9693187
12	GPS QUTAB SHAHANA	Primary		Functional	96	SHAFQAT ALI	0300-7997097
13	GPS DOLA ZAREEN	Primary		Functional	49	IMRAN HADIER	0300-6990119

LIST OF VOLUNTEERS

S#	Volunteer Name	CNIC	Address	Contact Number and Email	Blood Group	Time Required to be on-board
1						
2						
3						
4						
5						
6						
7						
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9						
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ANNEX IX: POLITICAL CONSTITUENCIES

<u>National Constituencies</u>				<u>Provincial Constituencies</u>			
Name of Constituency	Name of Sitting Parliamentarian	Portfolio	Contact Number	Name of Constituency	Name of Sitting Parliamentarian	Portfolio	Contact Number
NA-160	Pirzada Syed Imran Ahmad Shah	Nil	0321-8290127	PP-220	Peer Khizar Hayat Shah Ghagha	Nil	0300-9697800
NA-161	Ch. Muhammad Ashraf	Nil	0300-6920028	PP-221	Malik Nadeem Kamran	Nil	0300-8691234
NA-162	Ch. Muhammad Taufil	Nil	0321-7210786	PP-222	Malik Muhammad Arshad	Nil	0321-8691888
NA-163	Ch. Muhammad Munir Azhar	Nil	0302-3148231	PP-223	Naveed Ahmad Khan Lodhi	Nil	0300-9452037
-	-	-	-	PP-224	Pir Samsam Ali Bukhari	Nil	0300-8110412
-	-	-	-	PP-225			
-	-	-	-	PP-226			

ANNEX XII: CAMP MANAGEMENT SOPS

- Camps would be established in areas accessible by metalled 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
PMO BARRAGES			
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	Punjnad 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
Total in Miles.			10.42
MULTAN ZONE.			
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
D.G.KHAN ZONE			
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	86,000
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-	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	Flood Limits in Lac Cs.				Exp. High
			Low	Med:	High	Very High	
		(lac Cs)					
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
CHENAB	Mangla	10.6	0.75	1.1	1.5	2.25	3
	Rasul	8.5	0.75	1.1	1.5	2.25	3
	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
RAVI	Punjnad	7	1.5	2	3	4.5	6
	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
SUTLEJ	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
	G.S.Wala	10 ft.	19.5	21.5	23.3	25.3	
	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