



# DISASTER MANAGEMENT AND RECOVERY PLAN

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## Abstract

Every year life and livelihoods of Pakistan severely hit by flood caused by over-flowing of rivers. Rajanpur is situated on the Indus river bank and faces destruction of flood every year. Status of Dams and Barrages on Indus River clearly show the hazardous situation of flood as years of sedimentation has reduced their water storage capacity. From the past experience, it is quite evident that there is lack of coordination in relief activities due to absence of a central coordination body. This paper presents an idea of establishing of a Central Disaster Fund Bank to help collect, manage and utilize the funds for disaster management and recovery plans most effectively and efficiently. This will also facilitate decision making bodies and stakeholders in allocating funds for recovery and management plans.

*Keywords: Bank; Destruction; Hill Torrent; Disaster; N.G.O; Flood.*

## 1. Introduction

Rajanpur is one of geographically important District of Southern Punjab, situated on the right bank of Indus River where five rivers of Punjab meet. It provides water for irrigation and domestic usage e.g. as drinking water. The irrigation system depends upon canal irrigation system. Usually it hits by flash floods which every year made a huge destruction. The exceeding water flow in irrigation channels and canals may become the cause of flood. It washed out the communication lines, buildings, roads, bridges even town and villages very bitterly. Vulnerable people have a high risk of diseases. Absence of clean drinking water, sanitation system may become the cause of skin problems. Mostly a child up to 59 months old, disable, elder people, pregnant or lactating lady affect most. Provision of emergency livelihoods, health service, child care, maternal care, shelter has seen in critical situation.

## 2. Floods

Rajanpur triggered by flood every year due to flash flood and hill torrent. Flash Flood comes due to overflow of water. Rojhan, Kot Momin, Fazilpur, Hasilpur, Jampur are the cities situated on the bank of River Indus. Large number of life and livelihoods destroyed and damage. Villagers have to pay their Buffalos, cattle, lands, crops etc. Infrastructure also bitterly effect by this flood. Most of the flash flood is due to debilitating and heavy rain. It is exacerbate flood impact and hundreds of houses fully and partially damage within days. Stagnant water Affect for foreseeable future.

Residents of flood affected areas have to search shelter under open sky, in streets, along road sides, on bunds, river embankments and other public buildings. Due to damage infrastructure access to safe drinking water, health services cannot provide on time. It is big fear to have major disease outbreak such as viral infections. It is clearly evident of humanitarian need for victims while food and emergency shelter has critical situation. Flooded situation only hit agriculture land but also damage the cash crops.

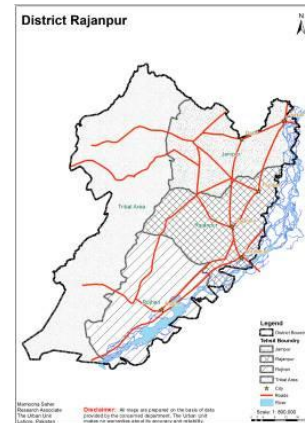


Figure 1: Shows District Rajanpur Vector layer

## 2.1 Buffer Analysis

Buffer analysis of 1 km shows that people living within this area lost their livelihoods like cattle's, infrastructure and even life. Road Network also affected by the flooded water sometimes road infrastructure destroyed. People disconnected with other world. Victim has no evacuation plan at that time. Basic necessities food, medicine, tents etc cannot provide at that moment. Where there is an urgent need for non food items (NFIs) including mattresses, mosquito nets, Kitchen utensils, fuel for daily cooking and hygiene kits. Victims have to spend these days with hunger under open sky.

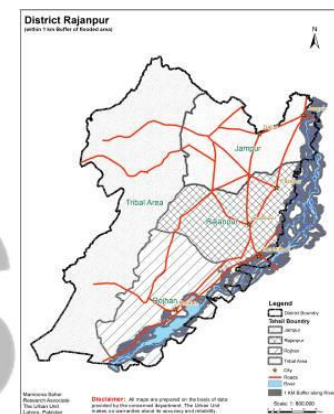


Figure 2: Shows Buffer Analysis 1 km along river.

## 2.2 Hill Torrent

Most of the flash floods occur due to flash floods. It comes from catchment area of Sulaiman Ranges. It enters through various darra e.g. chachar, sori and kaha. It contains maximum one lac cusecs water and hit major towns i.e. Dajal, Lalgah, Hajipur in Tehsil Jampur and Asni in Tehsil Rajanpur. Rain water enters in settled area hit the crops, land, canal irrigation system and local population. Flood water reached within 12-24 hours. After occurrence the affected population search safe place for few hours so that they may go back to their damage houses. Some linked roads go under water. At that time Malaria, diarrhea, gastrointestinal and skin diseases spread. District Authorities assessed loss from earlier flash floods. District authorities indicate victims. In this situation victims need Food (cooked), Safe drinking water, Non-food items, Tents/shelter items, Health services, Vaccination for animals, Fodder for animals, Mosquito nets, Transitional shelters etc. In 2013 a large number of populations 165,000 have been affected by hill torrent in which 187,000 acres of farmland damaged.

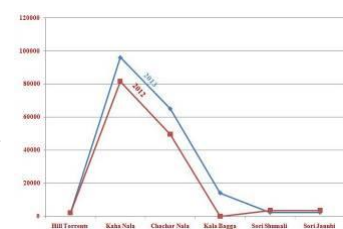


Figure 3: Shows Comparison of Flood water Volume (cusec).

### 3. Affected Areas

District contains 12,318 squares Km Area. Population density of the district is 90 persons per sq Km. There are 44 union councils some of these bitterly hit by flood. According to available data Allah Abad, Bokhra , Burray Wala Khu, Dajal, Fateh Pur, Harrand, Hajipur, Jahanpur Shahiwala, Jampur, Kotla, Kotla Nasir, Dilwan, Muhamad Pur, Mitha Kot, Noshara, Nurpur, Pazilpur, Rajanpur Garbi, Rajanpur Sharqi, Rakh Fazalpur, Shahanwala, Tibbi Lundan, Tul Shoniali, Wang, Noshara have been affected by the flood water 2013. It is affected almost every year by flood. It is assumed that the UC's situated on the river bank will triggered by flood but unfortunately it does not happen. The situation is different according to assumption. Some people break the river bunds for their personal benefits like changing the direction of water to safe their land or fields etc.



Figure 4: Shows Evacuation plan victim.

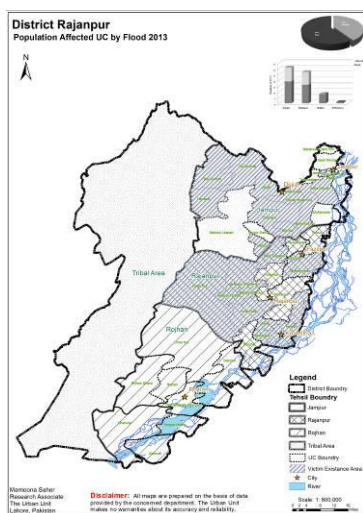


Figure 5: Shows vector layer of Areas affected Victims by flood

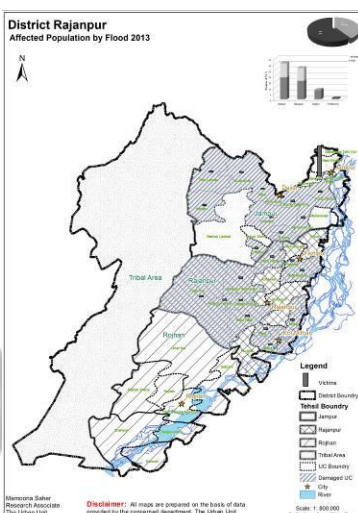


Figure 6: Shows vector layer of Affected Population by flood

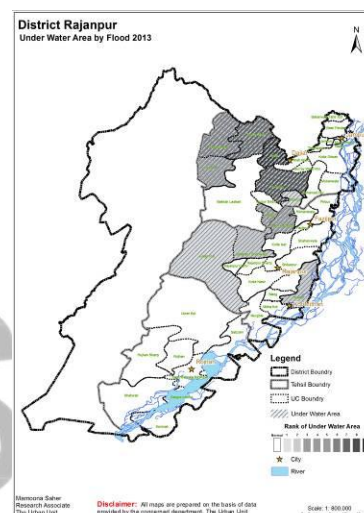


Figure 7: Shows 4-5 feet Under Water Area. Range 1-9 Shows High damage effects on Union Councils.

### 4. Organizations and Charities Roll in Flood Relief Donations

Every year District Bahawalpur bitterly hit by flood. Life and livelihoods badly affect. Most of the infrastructure damaged. Government of Pakistan, national and international organizations and N.G.O's provide their services and help to victims voluntarily. People are granted with aids for example cash, tents, food, medicine, hygienic kits, clean water and services.

#### 4.1 Roll of Government

Government of Pakistan announces grants for relief packages. People provide funds during and after flood for relief and rehabilitation such grants has been provided in millions almost every year. Government has Rapid Response Plan for relief interventions in which drinking water, sanitation and hygienic facility, emergency services, tents and shelters kits, cooking sets, mosquito nets, non food items etc provided.

The government has also launched rescue and relief operations initially by district later provincial government and then Federal Government. Government has provided rescue services and help victim in search and relocating victim during and after flood. Victims are providing shelters, mass communication system, food, essential medical supplies, vaccination camping etc. Government has established a framework for disaster affected priority area.

- Hazard and Vulnerable Assessment
- Provide awareness, training and education
- Institutional and Legal Work for disaster risk management

- Planning for DRM
- Early warning system for Hazards
- Work for Community and Local Level
- Emergency Response Service and System
- Post Disaster Recovery
- Development for Disaster Risk Reduction

#### 4.1.1 Humanitarian community Activities

Government also announces to help needy people voluntarily. General People provide food, clothes, blankets, tin foods, clean water, beans, daily belongings for people of vulnerable areas. But there is no check and balance for these belongings.

#### 4.2 National Organizations Roll

Eidhi Foundation is the largest and most organized N.G.O of Pakistan. It helps the needy round the clock without any discrimination. Pakistan Red Crescent Society trained volunteers for natural and man-made disasters.

#### 4.3 International Organizations Roll

Rural Support Programmes Network, Give A Home, British Red Cross, Oxfam, Muslim Hands, Abaseen Foundation, Concern Worldwide, Trócaire, American Red Cross, International Medical Corps, International Rescue Committee, United States Fund for UNICEF, Save the Children, U.S. Agency for International Development (USAID), Islamic Relief USA, Helping Hand for Relief and Development, World Vision, Disasters Emergency Committee, United Nations High Commissioner for Refugees, World Vision Canada provide their services for disaster affected people. Abaseen Social Welfare Organization is a Non-Governmental, Non-Profit organization it helps the victims.

#### 4.4 Roll of Organizations and N.G.O's

Organization emergency response has been claimed in 1958 Act. Provincial Level relief system has been established for emergency services. Emergency Relief Cell was responsible for organizing disaster response. Policy Makers, Civil Society, NGOs, UN agencies and other stake holders work for disaster risk management.

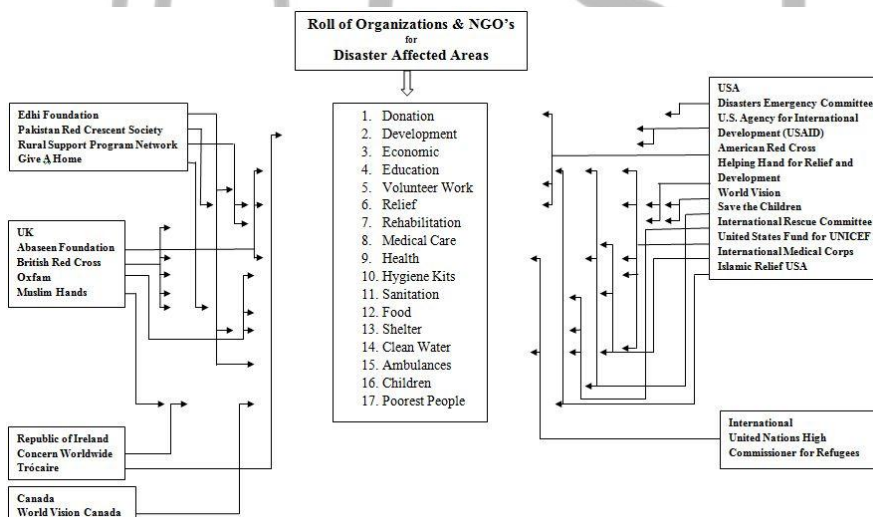


Figure 8: Shows Participation of Organization for Flood Victims.

In Pakistan more than 22 national, International organizations and people voluntarily work for flood relief and recovery. Most of the organization Pakistan Red Crescent Society, Rural Support Programmes Network, American Red Cross, United States Fund for UNICEF, Helping Hand for Relief and Development, World Vision works for relief activities. Health is the second big factor British Red Cross, Abaseen Foundation, United States Fund for UNICEF, Save the Children and United Nations High Commissioner for Refugees work for it. Except relief and health it is also focused on education, rehabilitation, clean water and poorest people. Abaseen Foundation, United States Fund for UNICEF, Save the Children, Islamic Relief USA works for education. Rural Support



Programmes Network, British Red Cross, Helping Hand for Relief and Development, World Vision effort for Rehabilitation activities. International Medical Corps, International Rescue Committee, United States Fund for UNICEF, United Nations High Commissioner for Refugees provide clean water to victims. Muslim Hands, Concern Worldwide, Islamic Relief USA and World Vision Canada work for poorest people of affected areas. Food, Shelter, sanitation and hygienic kits are the big question of time during flood. Give a Home, British Red Cross, Oxfam provide food. Edhi Foundation, Oxfam, International Rescue Committee offer shelter belongings. British Red Cross, International Medical Corps and International Rescue Committee help to tackle sanitation issues. British Red Cross, Oxfam and UNICEF facilitate with Hygienic Kits. At that time donation and volunteer facilitate victims. Edhi Foundation and American Red Cross voluntarily work. American Red Cross provide donation to affected people. Development of affected areas is a big question which is not support as much as it should be. Some of them Trócaire and USAID work for development. Children safety and help, Ambulances and Economy are also supported. USAID work for economy, International Medical Corps provide Medical facility, Edhi Foundation provides Ambulances and Save the Children works for children.

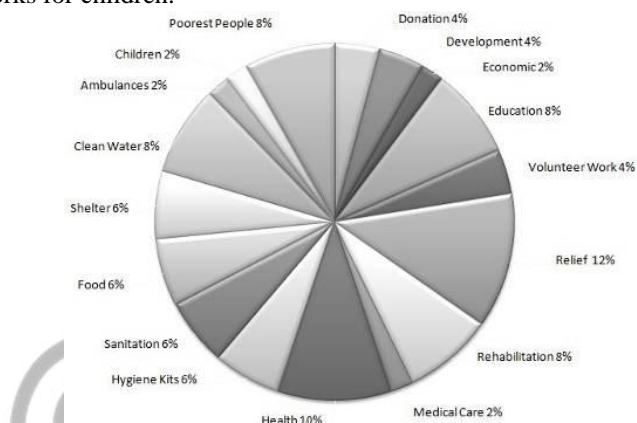


Figure 9: Analysis of Volunteer work by different N.G.O's and Organization.

Internationally UNICEF and British Red Cross participate for relief and recovery activities in Pakistan. They participate in five different activities regarding disaster. While in Pakistan Edhi Foundation is the biggest and well organized organization work for victims voluntarily. By using graphical analysis it can be shown that Save the Children, International Rescue Committee, International Medical Corps, American Red Cross and Oxfam works for three different activities. United Nations High Commissioner for Refugee, World Vision, Helping hand for Relief and Development, Islamic Relief USA, USAID, Abaseen Foundation, Rural Support Program Network participate in two different activities. World Vision Canada, Disaster Emergency Committee, Trócaire, Concern Worldwide, Muslims Hands, Give a Home, Pakistan Red Crescent Society serve for single activity out of forty nine.

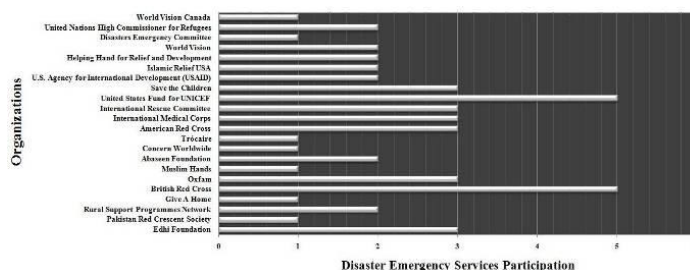


Figure 10: Shows Analysis of Organizations work for Flood Victims.

## 5. How to Manage Disaster Issues

### Central Disaster Fund Bank

#### 5.1 Need of Bank

Every year a large amount of donation has been collected. But unfortunately this amount has been utilized without any planning. To avoid such system a new centralized system has been introduced. With the passage of time a model city can be establish with centralized system. The purpose of Central Disaster Fund Bank is to provide

planning for population of vulnerable areas before early warnings. Bank will decide the factor “Who, What, Where and When” through proper planning. System will make a final decision by applying the process of different committee sequential steps.

#### 5.1.1 Budget Allocation Committee

The Purpose of a central bank is to make a centralized system so that aid can spend in useful and proper manner. Most of the money waste every year due to non-availability of proper system. Different committee will manage the setup and decide about the safe buildings which will keep safe life and livelihoods. This committee will decide the budget.

#### 5.1.2 GIS Committee

GIS Committee will decide the location which is best to safe. New buildings will construct on suitable place where flooded water cannot harm the livelihoods and life.

#### 5.1.3 Planning Committee

GIS Committee will provide its suggestion to Planning Committee, Planning committee will examine the whole criteria and available budget provided by Budget Allocation Committee. This Summary will precede Analysis Committee.

#### 5.1.4 Analysis Committee

Analysis Committee will analyze the whole criteria after finalizing, it will provide to Decision Committee.

#### 5.1.5 Decision Committee

Decision Committee will check and give the final decision. So that by using a centralized system will transparent the whole system and sources will use in good manner.

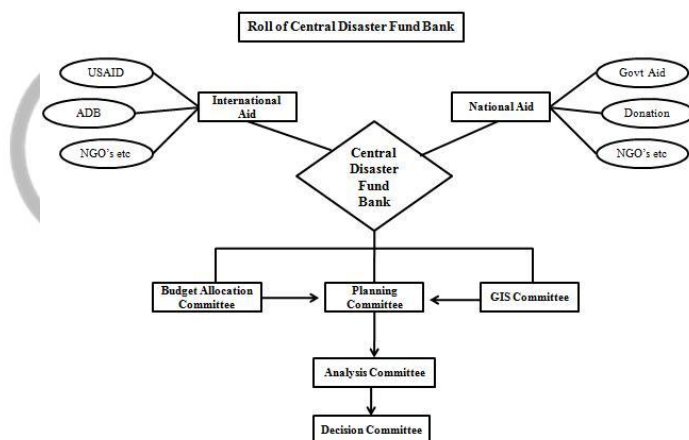


Figure 11: Shows Roll of Central Disaster Fund Bank (CDFB)

## 6. Disaster Management

Disaster Management can best apply if it has planned safety plans before early warnings and provide shelter as heard early warnings. Bank will approve Budget for temporarily Time Period and permanent basis development plans. For such purpose a Model building can construct for disaster safety plan.

### 6.1 Model Building

A Model Building will construct in such areas. Livelihoods will provide the space inside the building. Cattles, crops, godown, containers, parking etc will manage there. It will fully cover and provide the space for godown. It will contain no ventilator or window. Only mugs will work for ventilation. Roof side of the building will work as camping area for victims. Social activities and professional skills will give to the victims. It will help them and change disaster environment into an active environment. Management will provide all facilities like food, medical and daily usage grocery. Management Team will stay in the centre of the building. Mobile hospitals, training centre, education centre will be arrange there to build a centralized system so that it can be manage systematically. Hall A, B, C and D will be reserve for victims. People will keep them and their belongings there after early warnings of flood.

### 6.1.1 Mobile Hospitals

Mobile hospitals will work for physical and mental health of victims. Some people got injured, some need regular medication, child birth, children initial medication etc required but because lack of management. It ruins life and health of victims. Animal vaccinations will also provide there to safe from viral infections. When people lost their dear ones they lost their mental health. Such psychological issues will handle there.

### 6.1.2 Training Centre

Educational and professional trainings will provide there. People will trained for technical learning like computer courses, mobile courses, development courses, embroidery, stitching, cooking, management etc.

### 6.1.3 Education Centre

Children will facilitate to learn paintings, drawing, short learning courses as camping courses. Illiterate people will trained for learning and arise their desires for literacy and learning.

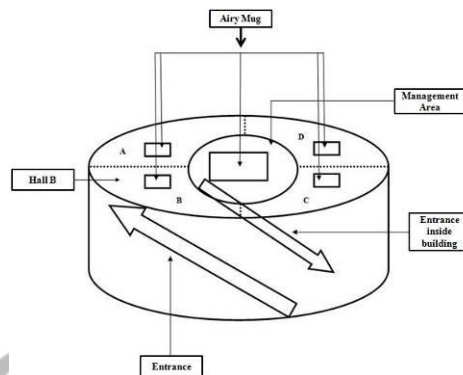


Figure 12: Shows Design of Model Building for Vulnerable Areas

## 7. Solar System Facilities

At that time Solar system will erect. It will help to maintain the routine life activities. It will also help in homemade production. Solar System will work in the absence of electricity. During flood it is impossible to arrange electricity. Electricity may also become cause of any bad incident.

## 8. Effects

### 8.1 Psychological Effect

Victims, who lost their assets and dear ones bitterly, got mentally disturb by such situation. They got some psycho social problems, trauma and stress. It's a good strategy to engage them in different activities will positively effect on their physical and mental health. A pregnant or lactic lady will have a tension free environment. A little innocent kid becomes safe to face such vulnerable condition and able to enjoy childhood.

### 8.2 Health Effect

It will keep a healthy environment as people of vulnerable areas has already provide a neat and clean shelter, hygienic environment free from sanitation issues. Mostly disable people have to face very critical situation during flood. They lost helping hand at the time of disaster. To having the safe relocation of house will make the person safe and confident.

### 8.3 Economical Effect

People will engage in different activities, learning educational and professional skills will help them to increase social status. A man has a single hunger but he has two hands with a strong mind. It will change the society if every single use it wisely. The cash crop can safe in model building. It will help to minimize the loss of economy. Most of the veteran issues can be avoid. Animals and cattle can avoid sinking in flooded water. It will also help to keep the environment healthy and clean so the expense and danger of disease can also be avoided which will safe budget.

### 8.4 Festival

This all environment will alter the whole situation. Instead of beware people will feel bless if a proper system will introduce and apply. Time can be cash and enjoy.

## CONCLUSIONS

Rajanpur has geographical importance. It is amid of all five rivers. It keeps irrigation channel of canals. By applying proper planning and management it's geographical importance can be cash. Regular flood affect on its economy and population. Living style of population and their assets badly affect by flood.

- A Central Funded Bank is the need of hour it will help to manage the whole sources. Donation from different national and international sources will collect. GIS committee will identify the suitable location for safety and development plans in hazardous areas. Budget Allocation Committee will provide budget. Planning committee will analyze and make the decision with the help GIS Committee and Budget Allocation Committee.
- CDFB will provide services for management and recovery plans. Allocation of budget on Model Buildings will provide shelter and safety to victims. It will keep the life and livelihoods like crops, daily use belongings, important documents and assets, Animals, cattle's etc.
- CDFB provide a plan of healthy environment. Time can be safe and utilize here by providing professional, educational and healthy activities.

## Recommendations

Living style of population and geographical importance of this area can be raise by owning few steps. Provision of healthy and protective environment will increase the security of social status. People of this area will become the important part of nation instead of victim or dependent. Literacy rate, professional skills are the need of hour for developing country. It will also play an important part in the economy of nation. But the issue is the missing system to face such hazardous situation. Every year financial aid has been provided by different national and international organizations and N.G.Os.

- Rajanpur is a geographically and socially a densely populated District of Southern Punjab. Central Disaster Fund Bank is the need of hour to avoid hazardous issues. It will manage financial aid from different national and international sources. CDFB have a decision support system which will make a right decision where to spend, how to spend and what to spend. Its purpose is to work for recovery, resettlement and development of hazardous areas.
- Model Buildings should construct where professional education should given like TEVTA courses. These professional learning's will also help to raise the life standard of hazardous areas people. People will also provide shelter at a safe place. It will minimize the loss of life and livelihoods, viral diseases can be avoided.

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