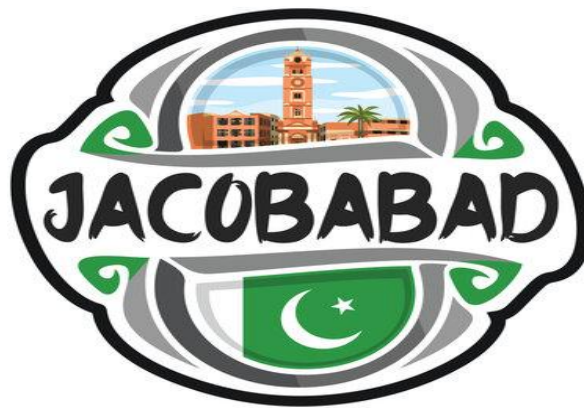


Disaster Management and Contingency Plan

March 2024



PREPARED BY

Iraj Consultants

205-J, Izmir Town, Canal Road, Lahore.

TABLE OF CONTENTS

1	LIST OF ABBREVIATIONS	4
2	DISASTER MANAGEMENT PLAN	5
2.1	Introduction	5
2.2	The Regional Setting	6
2.2.1	General	6
2.2.2	General	6
2.2.3	Purpose	6
2.2.4	Planning Assumptions	7
2.2.5	Effects of Disaster	7
2.2.6	Principles Of Disaster Management	8
2.2.7	Hazard and Risk Assessment	8
2.3	Response and Recovery	11
2.3.1	Response Partners	11
2.3.2	Recovery Measures	12
2.3.3	The district may utilise the following means of communication	12
2.4	Legislation	13
2.4.1	District Disaster Management Framework	13
2.4.2	Role of District Government:	13
2.4.3	Role of DDMA	14
2.4.4	Provincial Contribution	14
2.4.5	Funding Arrangements	14
2.4.6	Coordination	14
2.5	Disaster Notification	15
2.5.1	District Reporting Format:	15
2.5.2	Plan Verification and Review	15
3	DISTRICT CONTINGENCY PLAN	16
3.1	Introduction	16
3.2	Hazard	16
3.3	Chapter 1: Regional Setting	16
3.3.1	General	16
3.3.2	Background	17
3.3.3	Demographic Profile	17
3.4	Chapter 2: Operational	18
3.4.1	Strategic Objectives	18
3.4.2	Planning Committee, Structures and Stakeholders	18
3.4.3	Legal Framework	18
3.4.4	Procedure for Activating the Plan	18
3.5	Chapter 3: Roles and Responsibilities	18
3.5.1	The Role of Local Authority	18
3.5.2	The Role of Local Government	19
3.5.3	The Role of District Water Management Authority	19
3.5.4	The Role of Emergency Medical Services	19
3.5.5	The Role of Hospitals	19

3.5.6	Search and Rescue	20
3.5.7	The Role of Social Services	20
3.5.8	Community Participation/Volunteers	20
3.5.9	The Role of Private Sector	20
3.5.10	Infrastructure and Site Planning	20
3.5.11	Electricity	20
3.5.12	Role of CBOs and NGOs	20
3.5.13	Fire Brigades	20
3.5.14	Volunteers:	21
3.5.15	Staff Requirements	21
3.5.16	Staff Requirement	21
3.5.17	Financial System	21
3.5.18	Municipal Health Services	21
3.6	Chapter 4: Duration of Assistance	21
3.6.1	Duration of Assistance	21
3.6.2	Declaration Of Local State of Disaster	21
3.7	Chapter 5: Information	22
3.7.1	Feedback	22
3.7.2	Updating Plan	22
3.7.3	Disseminate Information	22
3.8	Chapter 6: Climate Change Vulnerability Assessment Plan	22
3.9	Contact Details of Responsible Institutions	23
3.9.1	Contingency Planning-A process and a plan	23
3.9.2	Purpose of Contingency planning:	24
4	REFERENCES	25
	Figure 2: District Jacobabad Map	6
	Figure 3: Hazard and Relevance	16
	Figure 4: Event and Relevance	16
	Figure 5: Map District Jacobabad	17
	Figure 6: Vulnerability Indicators	23
	Figure 7: Contact Details Of Responsible Institutions	23

1 LIST OF ABBREVIATIONS

CDF	Community Development Foundation
CI	Community Infrastructure
DDMA	District Disaster Management Authority
DRR	Disaster Risk Reduction
FGD	Focus Group Discussion
GFFO	German Federal Foreign Office
GIS	Geographic Information System
HCVA	Hazard Vulnerability and Capacity Assessment
HOIFA	Humanitarian Operation & Innovation Facility
IC	Iraj Consultants
ID	Identity
MHVRA	Multi-Hazard Vulnerability and Risk Assessment
NDMA	National Disaster Management Authority
NGO	Non-Government Organisation
SPSS	Statistical Package for Social Sciences
UC	Union Council
Hazard	Relevant tick

2 DISASTER MANAGEMENT PLAN

2.1 INTRODUCTION

District Jacobabad in Sindh province of Pakistan is susceptible to various disaster risks. The region has a multi-hazard risk profile, which includes both natural and man-made disaster.¹ The areas has experienced severe flooding, causing significant damage to agriculture, livestock, and infrastructure (Faisal Mueen Qamer, Bashir Ahmad, Sawaid Abbas). Additionally, Jacobabad is one of the hottest cities on the planet, and heatwaves pose a significant risk to human livability. (Tunio). Efforts are being made to identify and manage these risks at the Union Council level, with the development of a Disaster Management Plan. This plan aims to ensure the prioritization of disaster risk reduction measures¹.

Disasters in Jacobabad, Sindh, are primarily due to extreme weather conditions, which are exacerbated by climate change². The city experiences some of the highest temperatures in the world. This extreme heat can lead to heatstroke and other health issues. Moreover, Jacobabad is prone to heavy monsoon rains, which can cause severe flooding. The flood can result in loss of life, damage to homes and infrastructures, and issues with flood security. The rapid shift from extreme heat to heavy rains poses significant challenges for the residents of district. These natural factor, man-made issues such as inadequate urban planning and lack of effective disaster management strategies also contribute to the severity of these disasters. Therefore, the occurrence of disaster in Jacobabad is a complex issue involving both environmental factors and human activities.

From a development perspective, disasters can significantly impact the progress of a region. In the case of Jacobabad, Sindh, the recurring natural disasters such as extreme heatwaves and flooding pose a serious threat to the city's development. These disasters not only cause immediate damage to infrastructure and loss of life, but they also disrupt the local economy, leading to job losses and increased poverty. Moreover, the resources that could be used for development projects are often redirected towards disaster relief and reconstruction efforts. Therefore, it is crucial to incorporate disaster risk reduction strategies into the development planning process. This includes improving infrastructure to withstand extreme weather conditions, implementing early warning systems, and promoting sustainable practices that reduce environmental degradation. By doing so, the city can enhance its resilience to disasters and ensure the sustainability of its development efforts.

In Jacobabad, coping strategies for both natural and man-made disasters involve a combination of preparedness, response, and recovery measures. Preparedness includes the development of early warning systems and disaster risk reduction plans, as well as public education about potential hazards and appropriate responses. In the event of a disaster, emergency response measures are activated, including evacuation procedures, provision of emergency shelter and medical care, and coordination of relief efforts. Post-disaster recovery involves rebuilding damaged infrastructure, providing support to affected individuals and communities, and implementing measures to reduce the risk of future disasters. Importantly, these strategies should be inclusive and community-based, ensuring that the needs of all residents, including vulnerable groups, are taken into account. Furthermore, given the increasing threat of climate change, it is crucial to incorporate climate change adaptation strategies into disaster management plans. This could include measures such as improving water management to cope with droughts and heatwaves, and strengthening buildings to withstand extreme weather events.

¹ https://pdma.gos.pk/Documents/District_Management_Plans/DMP%20Jacobabad.pdf

² <https://time.com/longform/jacobabad-extreme-heat/>

2.2 THE REGIONAL SETTING

2.2.1 General

2.2.2 General

Jacobabad District is location in the Sind The district is part of the Larkana Division. The District is divided into three Tehsils or Talukas:

- Tehsil Jacobabad
- Tehsil Thul
- Tehsil Garhi Khairo

Jacobabad district is classified as a high-risk area for natural disasters according to the NDMA Disaster Management Plan 2010. The major hazards faced by the district include floods, torrential rains, and drought. Among the vulnerable areas, Baqa Pur, a union council situated at the border of Sindh and Baluchistan, stands out. Notably, in the 2022 floods, 28 out of 44 union councils were severely affected, with 'Baqa Pur' ranking at the top of the list. In this specific union council, 16,510 people were affected, with 1,926 houses being fully or partially damaged, and a loss of 20 livestock reported.

The district is known for its rich history and cultural heritage. It was named after a British general, John Jacob, in the year 1847. The language spoken in the district are primary Sindhi (93%) and Balochi (4%).

The floods in 2012 were comparatively less devastating, affecting a population of 301,335 individuals. Seventy-two villages/settlements in seven union councils were impacted, resulting in two casualties, one injury, 1,688 fully damaged houses, and 3,594 acres of damaged crop area.

In the most recent floods of 2022, Jacobabad district witnessed the displacement and suffering of approximately 54% of its population, with 545,230 people being affected. Out of these, 256,584 individuals were forced to leave their homes and sought refuge in camps set up by the district government. Moreover, 255,678 acres of standing crops and agricultural land were significantly impacted by the floods.

2.2.3 Purpose

The overall purpose of the Disaster Plan is:

To promote and integrated coordinated approach to Disaster management though all sphere of government

To identify key role-players and their responsibilities,

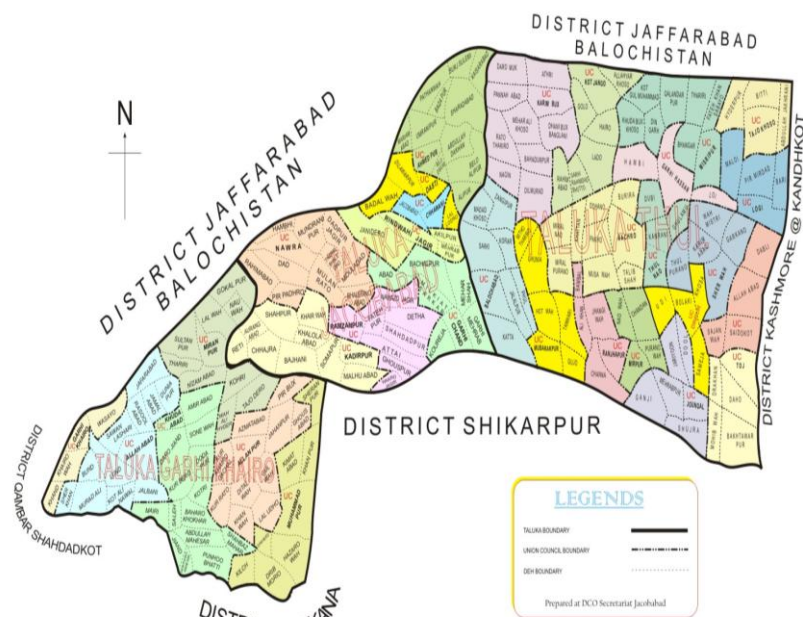


Figure 1: District Jacobabad Map

To identify communities that are at risk,

To put effective risk reduction, preventative and mitigation strategies in place,

To develop, improve and maintain disaster preparedness and response capabilities

To provide a foundation and the effective utilization of resources

To provide training and educational programs that are focus at the public, private sector, volunteers and government

To encourage community self-sufficiency

2.2.4 Planning Assumptions

Planning assumptions for a DDM are hypothetical conditions that are assumed to be true in the absence of real data. These assumptions provide a basis for planning and decision-making. Here are some examples:

The implementation of this plan will reduce disaster risk,

Comprehensive DM includes activities to mitigate, prepare for, respond to and recover from the effects of a disaster,

Officials must recognize their responsibilities with regard to the safety of communities and the implementation of this plan,

Policies regarding the utilization of private resources must be implemented accordingly,

There may be a delay in activating the DMP,

Initial response by the District Management will be to take action that have the greatest lifesaving potential under the circumstances,

Assets and systems may be overwhelmed, especially during the few days of a disaster. Accordingly, citizens will most likely to be on their own self-sufficient for 24-hours

In situation not specifically addressed in this plan, the DM will improve and carry out their responsibilities to the best of their abilities under any circumstances.

2.2.5 Effects of Disaster

Disasters in Jacobabad, Sind, have significant effects on the district's infrastructure, economy, and residents. Here are some of the impacts:

Infrastructure Damage: Disasters such as floods can cause severe damage to homes, schools, and other infrastructures. For instance, heavy monsoon rains in 2022 resulted in widespread flooding, leaving many residents homeless and schools flooded.

Loss of Life: Disasters can lead to loss of life. In the same flooding event in 2022, at least 19 people in Jacobabad were confirmed to have died.

Health Risks: The aftermath of disasters can pose serious health risks. Hospitals reported many people being sick or injured due to the 2022 floods.

Economic Impact: Disasters can have a devastating impact on the local economy. The 2022 floods resulted in an estimated loss of 1.9 million tons of rice, which is about 80% of the expected total rice production in Sind.

Displacement: Many residents are forced to leave their homes during disasters. About 95% of Jacobabad's residents had to flee the floods in 2023.

Education Disruption: Disasters can disrupt education. Many students in Jacobabad were unable to return to school for months due to the 2022 floods.

These effects highlight the importance of effective disaster management and contingency planning in mitigating the impacts of disasters in Jacobabad, Sind.

2.2.6 Principles Of Disaster Management

Disaster Risk Management (DRM) is a systematic approach to identifying, assessing, and reducing the risks of disaster. It encompasses a broad range of activities, including risk assessment, mitigation, preparedness, response, recovery, and rehabilitation. The principles of DRM include:

Comprehensive Approach: DRM should consider all potential hazards, vulnerabilities, and capacities, not just those that are significant or obvious.

Risk Reduction Focus: DRM should prioritize risk reduction measures to prevent disasters rather than merely responding to them.

Inclusive Participation: DRM should involve all stakeholders, including communities, government agencies, non-governmental organizations, and the private sector.

Multi-Sectoral Integration: DRM should be integrated into all sectors of development, including planning, budgeting, and implementation.

Sustainability: DRM should promote sustainable and long-term solutions to reduce disaster risk.

By adhering to these principles, DRM can effectively reduce the risk and impact of disasters, thereby protecting lives, livelihoods, and development gains.

2.2.7 Hazard and Risk Assessment

Likely Types Of Disasters ³	Flood Prevention and Mitigation Strategies for Jacobabad, Sindh
Floods	▪ Flood Forecasting and Warning Systems: Implement advanced flood forecasting and early warning systems to provide timely alerts to residents. This can help in evacuation and preparation measures. ▪ Infrastructure Improvement: Strengthen and elevate embankments, levees, and floodwalls to prevent floodwaters from entering residential areas. Construct spillways or outlets to control the water flow. ▪ Drainage System Enhancement: Improve the city's drainage system to prevent waterlogging. Regular cleaning and maintenance of drains can prevent blockages that lead to flooding. ▪ Floodplain Zoning: Implement floodplain zoning to restrict construction in areas prone to flooding. This can help minimize damage to property and loss of life. ▪ Afforestation: Plant trees and vegetation in and around the city to increase water absorption and reduce runoff. This can also help in stabilizing river banks and reducing soil erosion. ▪ Community Awareness Programs: Conduct regular community awareness programs to educate residents about flood risks and safety measures. This can include information on evacuation routes, emergency contact numbers, and first aid. ▪ Disaster Management Plans: Develop comprehensive disaster management plans that include strategies for evacuation, rescue, relief, and rehabilitation. Regular drills can help ensure the effectiveness of these plans.

³ As identified in presentation of Deputy Commissioner, Dr.Abdul Hafeez Sial, Jacobabad

Likely Types Of Disasters ³	Flood Prevention and Mitigation Strategies for Jacobabad, Sindh
Heavy Rain Falls	▪ Insurance: Encourage residents to get flood insurance to cover potential damages. This can provide financial support in the aftermath of a flood. - Rainwater Harvesting: Implement rainwater harvesting systems to collect and store rainwater for later use. This can help reduce runoff and prevent flooding. - Improved Drainage Systems: Enhance the city's drainage system to handle heavy rainfall. Regular maintenance can prevent blockages that lead to waterlogging and flooding. - Weather Forecasting and Warning Systems: Use advanced weather forecasting systems to provide early warnings about heavy rainfall. This can help residents prepare and take necessary precautions. - Infrastructure Resilience: Construct buildings and other structures that can withstand heavy rains. Use of waterproofing materials and techniques can prevent damage. - Flood Barriers: Install temporary or permanent flood barriers in areas prone to flooding. These can be activated or raised in anticipation of heavy rains. - Community Awareness and Preparedness: Conduct awareness programs to educate residents about the risks of heavy rains and how to prepare for them. This can include information on what to do before, during, and after heavy rains. - Emergency Response Plans: Develop comprehensive emergency response plans that include strategies for evacuation, rescue, and relief operations during heavy rains. - Green Roofs and Walls: Promote the use of green roofs and walls which can absorb rainwater, reduce runoff, and provide insulation.
Heat Waves	- Heatwave Early Warning Systems: Implement early warning systems to alert residents about upcoming heatwaves. This can help them take necessary precautions. - Public Awareness Campaigns: Conduct awareness programs to educate residents about the risks of heatwaves and how to stay safe. This can include information on staying hydrated, avoiding direct sunlight, and recognizing signs of heat-related illnesses. - Cooling Centers: Establish cooling centers in public places like community centers, libraries, and shopping malls where people can seek refuge from the heat. - Urban Greening: Increase green spaces in the city, such as parks and gardens, which can help reduce the urban heat island effect. - Building Design: Promote the use of heat-reflective materials and insulation in buildings to reduce indoor temperatures. Encourage the use of natural ventilation and shading devices. - Water Supply: Ensure a reliable supply of clean drinking water, particularly during heatwave periods, to prevent dehydration and heat stroke. - Healthcare Services: Strengthen healthcare services to effectively respond to an increase in heat-related illnesses during heatwaves. - Social Support: Provide special support for vulnerable groups such as the elderly, children, and those with chronic illnesses, who are more susceptible to heat-related illnesses.

Likely Types Of Disasters ³	Flood Prevention and Mitigation Strategies for Jacobabad, Sindh
Tribal Feuds	- Conflict Resolution Programs: Implement programs that promote dialogue and understanding between different tribes. This can help resolve existing conflicts and prevent new ones from arising. - Education: Promote education as a means to break the cycle of violence. Educated individuals are more likely to challenge harmful traditions and advocate for peace. - Economic Opportunities: Create economic opportunities for tribal members to reduce the appeal of engaging in feuds. This can include job creation programs, vocational training, and support for small businesses. - Legal Reforms: Strengthen the legal system to ensure that disputes are resolved fairly and promptly. This can deter individuals from resorting to violence to settle disputes. - Community Policing: Implement community policing strategies that involve tribal leaders in maintaining law and order. This can help build trust between the police and tribal communities. - Social Services: Provide social services such as counseling and support groups for individuals affected by tribal feuds. This can help them cope with their experiences and reduce the likelihood of retaliation. - Youth Engagement: Engage youth in peacebuilding activities to foster a culture of peace and non-violence among the next generation.
Fire	▪ Fire Safety Education: Conduct regular fire safety workshops and drills in schools, workplaces, and communities to educate people about the causes of fire and how to respond in case of a fire. ▪ Firefighting Infrastructure: Invest in modern firefighting equipment and ensure that local fire departments are adequately staffed and trained. Regular maintenance of this equipment is also crucial. ▪ Building Codes: Implement and enforce strict building codes that require the use of fire-resistant materials in construction. Regular inspections can ensure compliance with these codes. ▪ Smoke Detectors and Fire Extinguishers: Encourage the installation of smoke detectors and fire extinguishers in homes and businesses. These devices can detect fires early and help control them before they spread. ▪ Emergency Response Plan: Develop a comprehensive emergency response plan that outlines the steps to be taken in the event of a fire. This plan should include evacuation routes, communication strategies, and coordination with local authorities. ▪ Public Awareness Campaigns: Launch public awareness campaigns to inform people about the dangers of fire and the importance of fire safety measures. These campaigns can use various mediums such as television, radio, social media, and community events. ▪ Forest Management: In areas prone to wildfires, implement forest management practices such as controlled burns and the removal of dry vegetation to reduce the risk of fire.
Draught	- Water Conservation: Promote water-saving practices among residents and businesses. This can include using water-efficient appliances, fixing leaks promptly, and using less water for daily activities. - Rainwater Harvesting: Encourage the collection and storage of rainwater for use during dry periods. This can be done at a household

Likely Types Of Disasters ³	Flood Prevention and Mitigation Strategies for Jacobabad, Sindh
	level with simple equipment like barrels, or at a community level with larger infrastructure. - Drought-Resistant Crops: Promote the use of drought-resistant crops in agriculture. These crops require less water and are more resilient to dry conditions. - Irrigation Efficiency: Improve the efficiency of irrigation systems to reduce water waste. This can be achieved through the use of drip irrigation systems, which deliver water directly to the plant roots. - Groundwater Management: Implement policies to prevent over-extraction of groundwater. This can include regulations on well drilling and incentives for water conservation. - Public Awareness Campaigns: Conduct campaigns to raise awareness about the importance of water conservation and the impacts of drought. - Climate-Adaptive Planning: Incorporate climate change and drought risk into city planning and development. This can include measures like creating green spaces that can absorb rainwater and reduce runoff. - Emergency Preparedness: Develop a drought response plan that outlines actions to be taken in the event of a severe drought. This can include measures like water rationing, emergency water supply sources, and support for affected farmers.

2.3 RESPONSE AND RECOVERY

Response consists of activities designed to address the short and long-term effects of a disaster. This includes departmental response, resource coordination, organisational structure, warning system and communication.

2.3.1 Response Partners

A number of partners may be involved in responding to a disaster. The first respondents to any disaster situation in the district will be DM, DDMA, local NGOs and the necessary stakeholders depending on the situation and the affected areas of the district. Disaster management Teams must work closely with these partners to determine the type of response required for each hazard identified to measure the capacity and resources needed by respondents.

2.3.1.1 Emergency Response Plan

This should include evacuation procedures, emergency contact numbers, and locations of emergency shelters. Develop a comprehensive emergency response plan that outlines the steps to be taken in the event of a disaster.

2.3.1.2 Early Warning Systems

A warning system is needed in case of a disaster. Based on the hazard analysis, the district has already implemented warning system, which is linked to the communication system. This can include weather forecasts, flood warnings, and earthquake alerts. Implement early warning systems to alert residents of impending disasters. Emergency Services: Strengthen emergency services such as fire, police, and medical services to respond quickly and effectively to disasters. The district already used following ERS:

FM 98, Cable network, social media & news paper

Announcement through employees of Revenue & Police Department

Sirens of Civil Defense in main towns

Announcement through mosques⁴

2.3.1.3 Community Training:

This can include first aid training, fire safety, and evacuation procedures. Provide training to community members on how to respond to different types of disasters.

2.3.2 Recovery Measures

Recovery from a disaster consists of a whole range of activities designed to restore life and services to normal levels. Recovery also reduces the future vulnerability of the community and improve planning for future events.

The short-term recovery plan in Jacobabad, Sindh, following a flood disaster, would primarily focus on immediate relief and stabilization. This includes providing temporary shelter for those displaced by the flood, ensuring the availability of food and clean water, and addressing immediate health concerns such as injuries and the prevention of disease outbreaks. The plan would also involve restoring critical infrastructure like electricity, water supply, and communication networks. Additionally, it would include the initiation of damage assessments to understand the extent of the impact, which would inform the rebuilding and rehabilitation process. This short-term recovery plan would require the coordinated efforts of local authorities, national disaster management agencies, and humanitarian organizations.

Following few recovery measures may be taken into consideration:

Reconstruction: After a disaster, prioritize the reconstruction of critical infrastructure such as roads, bridges, hospitals, and schools.

Financial Assistance: Provide financial assistance to individuals and businesses affected by the disaster to help them recover and rebuild.

Psychosocial Support: Offer psychosocial support to individuals affected by the disaster to help them cope with the trauma and stress.

Resilience Building: Implement measures to increase the community's resilience to future disasters. This can include improving building standards, implementing land use planning, and promoting sustainable agricultural practices.

2.3.3 The district may utilise the following means of communication

Mobile Alerts: Mobile alerts can be sent to residents' phones, providing real-time updates about the flood situation.

Social Media: Platforms like Facebook, Twitter, and Instagram can be used to share information quickly and efficiently.

Radio Broadcasts: Local radio stations can broadcast important information and updates about the flood situation.

Television News: Local news channels can provide live coverage of the flood situation and relay important information from authorities.

Community Loudspeakers: Loudspeakers installed in public places can be used to broadcast important announcements and instructions.

Emergency Hotlines: Emergency hotlines can provide residents with a direct line of communication to authorities for reporting emergencies and seeking assistance.

⁴ Presentation of Deputy Commissioner

Public Meetings: Authorities can hold public meetings to disseminate information and instructions to the community.

Leaflets and Posters: Printed materials can be distributed in the community to provide important information and instructions.

2.4 LEGISLATION

2.4.1 District Disaster Management Framework

The district disaster management framework in Jacobabad, Sindh, is a comprehensive plan designed to mitigate and manage disasters effectively. It involves the collaboration of various stakeholders, including local government bodies, non-governmental organizations, and community members. The framework focuses on identifying potential risks and vulnerabilities in the district and developing strategies to address them. This includes implementing early warning systems, conducting regular risk assessments, and ensuring the availability of resources for emergency response. The framework also emphasizes the importance of community participation in disaster management, promoting awareness and preparedness at the grassroots level. Furthermore, it includes plans for post-disaster recovery and rehabilitation, aiming to build back better and reduce future risks.

Key Performance Area 1: Focuses on establishing the necessary institutional arrangement for implementing Disaster Risk Management within the District sphere of government.

It specifically addresses the application of the principles of cooperative governance for the purpose of DRM. It also emphasizes the involvement of all stakeholders in strengthening the capabilities of District organs of state to reduce the likelihood and severity of disasters.

Key Performance Area 2: Addresses the need for DRM and monitoring to set priorities, guide risk reduction action and monitor the effectiveness of our efforts.

Although the District Jacobabad administration faces many different types of risks, disaster risk specifically refers to the likelihood of harm or loss due to the action of hazards or other external threats on vulnerable structures, services, areas, communities and households.

Key Performance Areas 3; Introduces Disaster Management Planning and Implementation to inform developmentally-oriented approaches, plans, programs that reduce disaster risks.

Key Performance Area 4: Presents implementing priorities concerned with disasters response, recovery and rehabilitation.

When a significant event or disaster occurs or is threatening to occur, it is imperative that there must be no confusion as to the roles and responsibilities and the procedures must be followed.

2.4.2 Role of District Government:

- Coordination
- Support damage assessment
- Advise and liaise with role-players
- Collate and expedite the development of a business
- Facilitate funding arrangements
- Assess criteria in compliance with emergency protocols and mobilize resources accordingly
- Assess resources in order to avail temporary shelters
- Coordinate preparedness and response programs in area of jurisdiction
- Develop and implement disaster management plans
- Act as first responders in any state of disaster
- Ensure that programs and project fit into development programs
- Brief UC and community on issues pertaining to DRM
- Submit disaster management reports to PDMA

- Liaise with provincial government
- Put systems in place to improve local capacity and response

2.4.3 Role of DDMA

- Promotes an integrated and coordinated approach,
- Act as a source for information
- Make recommendation regarding the funding
- Promote the recruitment, training and participation of volunteers
- Promote capacity building, training and education
- Promote research
- Implement legislation
- Coordinate district disasters
- Monitor the establishment and implementation plans by PDMA & NDMA

2.4.4 Provincial Contribution

In the event of a district disaster, the district will request the Provincial Government to contribute financially to post disaster recovery and rehabilitation.

- The following factors may be taken into account:
- The prevention and mitigation measures implemented or initiated by the districts
- The reasons or motivation for the absence of such prevention and mitigation measures,
- The possibility of avoiding or minimizing the disaster impact had prevention and mitigation measures been implemented
- Whether it is reasonable to expect districts to implement or initiate prevention and mitigation measures under the circumstances,
- The existence and non-existence of adequate insurance coverage as well as the motivation for the status
- The magnitude and severity of the disaster
- Relevant sphere of government and the optimal utilization of applicable resources at the level of occurrence

2.4.5 Funding Arrangements

In the post disaster phase, the affected community usually bear the initial financial burden until relief program or disaster management intervention occurs. Communities are vulnerable and poor, particularly in the rural areas, and significant contributions are necessary to alleviate the suffering, discomfort and risk of the community.

District resources should be used in the event of inadequate capacity of local government. The provisioning of resources should not replace nor discourage self-help or community support during the disaster. It should not discourage the use of insurance schemes.

Response to disaster should be encouraged on a local level. Local NGOs and donors should be encouraged to contribute for funding arrangements of districts for early recovery and response programs.

2.4.6 Coordination

Effective disaster risk management during floods in the district of Jacobabad, Sindh, necessitates robust coordination among various stakeholders. This includes local government agencies, non-governmental organizations, community leaders, and international aid agencies. The local government plays a pivotal role in orchestrating efforts, from issuing timely warnings based on weather forecasts to coordinating rescue and relief operations. Non-governmental organizations and international aid agencies bring in necessary resources, expertise, and support, supplementing local efforts. Community leaders, with their understanding of local dynamics, aid in effective dissemination of information and mobilization of community resources. This

collaborative approach ensures a comprehensive and efficient response, minimizing the impact of floods on the community.

2.5 DISASTER NOTIFICATION

Notification of a disaster might reach key role players via the following modes:

- Word of mouth,
- Radio
- Social Media
- Electronic Media
- Mobile/Telephone

Other communication channels.

The report will be forwarded to the disaster center and then to the PDMA Sind. The report might also come through the PDMA but must be forwarded to the relevant canterers and role players.

The following Information will be conveyed:

- Date and time of event,
- Location
- Number of people affected
- Organization/department who responded
- Immediate needs
- Other relevant information

2.5.1 District Reporting Format:

DRM will reflect receipt of notification of all role players. Follow up call will be made to parties from the relevant Centre to ensure receipt of information.

2.5.1.1 *Declare State of Disaster*

DRM will declare a state of disaster in order to do this. The following systems must be considered:

- Current legislation
- Contingency arrangements
- Ability/capacity to deal with disaster
- Special circumstances that warrant declaration
- After the Declaration of District Disaster, regulations must be issued with the regard to:
 - Mobilization of available resources
 - Evacuation to temporary shelters
 - Regulations of traffic and movement property
 - Communication systems
 - Information management

2.5.1.2 *Facilitation of response and post disaster recovery*

The above powers must be exercised in order to protect property, lives of people, prevention of destruction and minimize the effects of the disaster.

The declared state of disaster will lapse after three months after declaration. DRM has the power to terminate or extend the period of the disaster depending on development initiatives.

2.5.2 Plan Verification and Review

The plan shall be reviewed and amended as necessary by the Deputy Commissioner in consultation with the DRM and other stakeholders. The review and amendment process will address compliance of policy and legal framework. The review process will be conducted quarterly.

3 DISTRICT CONTINGENCY PLAN

3.1 INTRODUCTION

3.2 HAZARD

The following list will help DDMA for which hazard and disaster contingency plan will be used:

Hazard	Tick Relevant
Flood	√
Drought	√
Road Accidents	√
Disease Outbreak	√
Climate Change Vulnerability	√
Heat Wave	√
Tribal Feuds	√
Political Protests	√

Figure 2: Hazard and Relevance

Event	Tick Relevant
National Election	√
Local Election	√
Special Gatherings	√
Special Events	√

Figure 3: Event and Relevance

3.3 CHAPTER 1: REGIONAL SETTING

3.3.1 General

Jacobabad District is location in the Sind The district is part of the Larkana Division. The District is divided into three Tehsils or Talukas:

- Tehsil Jacobabad
- Tehsil Thul
- Tehsil Garhi Khairo

3.3.2 Background

Jacobabad district is classified as a high-risk area for natural disasters according to the NDMA Disaster Management Plan 2010. The major hazards faced by the district include floods, torrential rains, and drought. Among the vulnerable areas, Baqa Pur, a union council situated at the border of Sindh and Baluchistan, stands out. Notably, in the 2022 floods, 28 out of 44 union councils were severely affected, with 'Baqa Pur' ranking at the top of the list. In this specific union council, 16,510 people were affected, with 1,926 houses being fully or partially damaged, and a loss of 20 livestock reported.

The district is known for its rich history and cultural heritage. It was named after a British general, John Jacob, in the year 1847. The language spoken in the district are primary Sindhi (93%) and Balochi (4%).

The floods in 2012 were comparatively less devastating, affecting a population of 301,335 individuals. Seventy-two villages/settlements in seven union councils were impacted, resulting in two casualties, one injury, 1,688 fully damaged houses, and 3,594 acres of damaged crop area.

In the most recent floods of 2022, Jacobabad district witnessed the displacement and suffering of approximately 54% of its population, with 545,230 people being affected. Out of these, 256,584 individuals were forced to leave their homes and sought refuge in camps set up by the district government. Moreover, 255,678 acres of standing crops and agricultural land were significantly impacted by the floods.

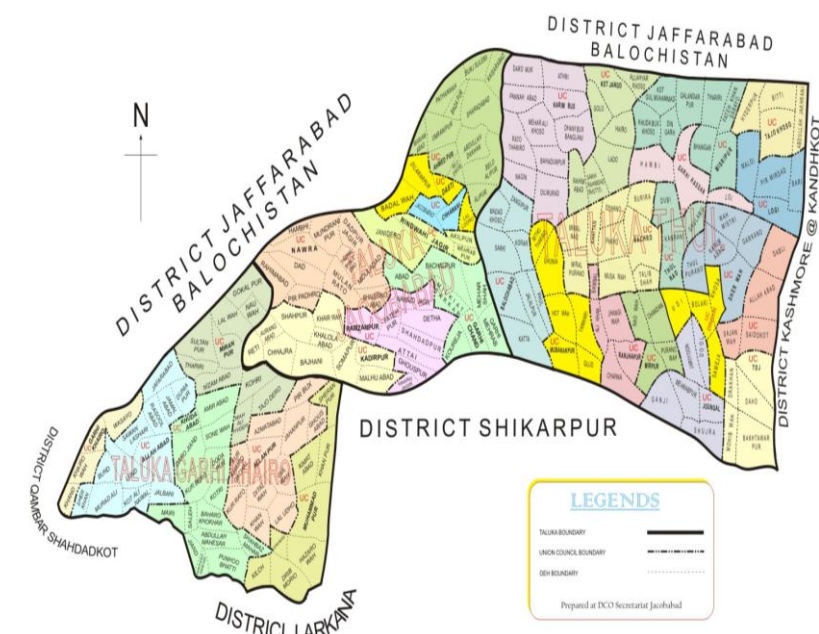


Figure 4: Map District Jacobabad

Contingency planning is the preparatory process of identification of and planning for these situations. A contingency plan may never be to be activated. However, if the anticipated situation does not arise, the plan will provide a basis for rapid and appropriate action.

3.3.3 Demographic Profile

Population: 1115504

Area: 659269 Acre

Union Councils: 44

Households: 177687

Altitude: 200 feet

Livelihood: Agricultural and pastoral economy; Rice and Wheat are major crops

Crops (Acre): 374000

Irrigation: Slope land from 'Kashmore-Kandhkot' district to Jacobabad. Main Canal-'Begari, Khirthar', B.S. Feeder 7 Desert

Literacy Rate: 34% (Sial)

3.4 CHAPTER 2: OPERATIONAL

3.4.1 Strategic Objectives

- To ensure minimum disruption of services;
- To prevent loss of lives, property and damage to infrastructure;
- To promote the effective utilization of resources;
- To indicate clear evacuation procedures;
- Attendance of site and coordination meetings;
- Providing advice on legal framework and processes;
- Management of NGOs and volunteer involvements;
- Monitoring response and reconstruction efforts;
- Procurement and financial matters

3.4.2 Planning Committee, Structures and Stakeholders

DDMA forum serves as a starting point representation from the different departments, NGOs and other key stakeholders;

Stakeholder mobilization will depend on the type and extent of the event;

3.4.3 Legal Framework

The following policies and legalization will have an impact on the planning framework:

- The National Disaster Act 2010
- The Disaster Management Framework
- Policies that relate to financial management and mobilization of resources;
- District Integrated Development Plan
- Sind Flood Emergency Rehabilitation Project
- Firefighting programs

3.4.4 Procedure for Activating the Plan

Activation of the plan will be initiated by DDMA through a consultative process, which includes political leaders, local government and Disaster management officials.

- Communication will be forwarded to NDMA, PDMA, DDMA;
- Reports will be submitted to the different centers for perusal and possible action;
- A rapid assessment will be conducted by local authorities and collated into Disaster Management;
- Commitment of resources will be based on assessment of reports;

3.5 CHAPTER 3: ROLES AND RESPONSIBILITIES

3.5.1 The Role of Local Authority

- Coordinate preparedness and response programs in area of jurisdiction
- Develop and maintain plans
- Act as first responders in terms of food relief aid, temporary shelter and mobilization of resources.
- Media coverage of relevant area

- Ensure that programs and projects fit into development programs (IDP)
- Brief council and community on issues pertaining to Disaster Management
- Submit reports and business plans to provincial departments.
- Liaise with district and provincial government
- Put system in place to improve local capacity

3.5.2 The Role of Local Government

- Support damage assessment
- Advise and liaise with stakeholders
- Collate and expediate the development of a business plan
- Facilitate funding arrangements
- Assess criteria in compliance with the Emergency and Recovery program

3.5.3 The Role of District Water Management Authority

- Construction of small dams
- Enforcement of land use practices on flood plains
- Ensure compliance with regard to legislation
- Implement flood-warning system
- Disseminate rainfall information
- Issue warning re-dam capacity/failure
- Assist and support water related projects to prevent drought and floods

3.5.4 The Role of Emergency Medical Services

The purpose of medical services is to provide triage, first aid and medical care in order to:

- Save as many live as possible by locating and stabilizing the most serious injured, whose lives may be in danger without immediate treatment;
- Provide comfort to the less seriously injured and to administer first aid; and
- Transport casualties to the proper medical facility and keep record thereof.

It is essential that provision of medical services such as triage, stabilization, first aid, medical care, and the transporting of the injured to hospital (s0 be carried out in the most expeditious manner possible. To this end, well organized medical resources (personnel, equipment and medical supplies) should be available at disaster or accident scene in the shortest time possible. The medical aspects of the emergency plan should be integrated with local community emergency plans.

- A medical coordinator must be assigned to assume control of the emergence medical operations at the disaster or accident scene.
- The medical transport officer's responsibilities would include:
- Alert hospitals and medical personnel of the emergency;
- Directing transportation of causalities to appropriate hospitals suitable for treatment of the particular injury;
- Accounting for casualties by recording the route of transportation, destination hospital, and casualty's name and extent of injuries;
- Advising hospitals when causalities are on route; and
- Maintaining contacts with hospitals, medica transportation, on scene command post

3.5.5 The Role of Hospitals

- Hospitals must have disaster contingency plans in place.
- Emergency Medical Services will transport patients to nearest hospital.
- Depending on the severity of injuries and the capacity of the service a decision will be made with regard to transfer of patients.
- Notification of a disaster will be done through the Department of Health who will be responsible for mobilization of resources

3.5.6 Search and Rescue

The search and rescue team from Sind Emergency Rescue Service (SERS) will perform this function. Special skills are required in order to perform this function.

3.5.7 The Role of Social Services

This department has a major role in the reduction of gross poverty in order to reduce vulnerability.

- To provide assistance for victims of natural and human made disaster
- To conduct assessment to ascertain the magnitude and the extent of the disaster
- Release food relief and blankets to assist victims

3.5.8 Community Participation/Volunteers

To prevent duplication of efforts and improve coordination, community volunteers must be organized and clearly identified. The involvement of existing structures such as NGOs and CBOs are vital.

3.5.9 The Role of Private Sector

- Private business can be accessed during the post-disease phase.
- The private sector must be part of the DDMA
- Develop and maintain plans of their organization

3.5.10 Infrastructure and Site Planning

This is the responsibility of the DDMA, in the case where they lack capacity, the district will investigate alternative and assist with mobilization of those resources in collaboration with DDMA.

3.5.11 Electricity

District Government and power supply company must have written understanding that stipulates the cooperation between two parties in case of any emergency that might arise.

Utilization of generators is advisable as an alternative source of energy that each district must have.

3.5.12 Role of CBOs and NGOs

Play an important role when it comes to disaster relief. CBOs and NGOs have supportive/complementary functions they assist government, and in most cases implement response programs. CBOs and NGOs have local knowledge and expertise that are utilized to the advantage of the victims.

3.5.13 Fire Brigades

The available equipment in the relevant area will be utilized. The district will facilitate/coordinate cross negotiations to mobilize additional equipment such as the following:

- Fire engines and firemen
- Skill units
- Advance firefighting unit
- Trained volunteers and municipal officials
- Fire air assistance (Fire Fighting and Evacuation)

3.5.14 Volunteers:

In case of any emergency, Local volunteers must be activated as well as those from NGOs and CBOs to assist with the response and rehabilitation processes.

3.5.15 Staff Requirements

In case of any emergency, Local volunteers must be activated as well as those from NGOs and CBOs to assist with the response and rehabilitation processes.

3.5.16 Staff Requirement

The staff will be mobilized to perform specific tasks such as:

- Communication to media
- Reports to PDMA and NDMA
- Assessment of disaster area
- Liaising with different municipalities
- Attendance of stie and coordination meetings
- Providing advice on legal framework processes
- Management of volunteer involvement
- Monitoring response and reconstruction efforts
- Procurement and financial matters

3.5.17 Financial System

The existing internal policies, guidelines from Department of Finance, Fund Raising Act and the Disaster Management Act will apply.

3.5.18 Municipal Health Services

- Conduct environmental assessment and management of risk factors predisposing individuals to epidemic-prone infectious disease
- Distribute and share the environmental health assessment information with other outbreak response team members
- Collect environmental samples for laboratory testing in order to confirm sources of outbreaks

3.6 CHAPTER 4: DURATION OF ASSISTANCE

3.6.1 Duration of Assistance

It is linked to certain phases:

- Pre-phase (planning)
- Implementation phase (duration of the event or disease)
- Post-phase (evaluation and debriefing)

3.6.2 Declaration Of Local State of Disaster

In term of Disaster Management Act 2010, the district government may declare a disaster.

The DDMA may consult with the local government and politicians

The council may consider legislation and capacity before declaring a state of disaster

3.7 CHAPTER 5: INFORMATION

3.7.1 Feedback

Continuous briefing is necessary to ensure smooth running of the operation. A debriefing session must be arranged to identify gaps and to acknowledge successes and best practices that are achieved.

3.7.2 Updating Plan

DDMA will update Contingency plans after each event to address the gaps.

3.7.3 Disseminate Information

The following methods will be used to disseminate information:

- Media
- Written and verbal communication
- Meetings
- Information to community should be done by means of the radio and loud speakers
- Information dissemination/public awareness is important prior to the event, during and after the event. The communication section will advise role players on protocols and policies.

3.8 CHAPTER 6: CLIMATE CHANGE VULNERABILITY ASSESSMENT PLAN

DDMA Jacobabad acknowledges that climate change poses a great threat to the environment, its residents and future development. Actions are required to reduce carbon emissions (mitigation) and prepare for changes that are projected to take place (adaptation) in the district. District Government has therefore prioritized the development of a Climate Change Vulnerability Assessment and Climate Change Response Plan.

The plan is developed through funding of “Towards Greater Effectiveness and Timeliness in Humanitarian Response ToGETHER” with partnership of Welthungerhilfe and support of German Federal Foreign Office GFFO in Sindh. Humanitarian Operation & Innovation Facility HOIFA is one of the main components of ToGETHER program, where LHPs can utilize funds for anticipatory Humanitarian actions. Under the (HOIFA), component CDF is preparing and developing management capacities of DDMA and communities on DRR in District Jacobabad, Sindh, Pakistan. (CDF). This plan is prepared under this section of the project. There are indicators where DDMA may be at risk to the impact of climate change.

A summary of the key vulnerability indicators is provided in the table below:

Sector	Indicator Title	Exposure Answer:	Sensitivity Answer	Adaptive Capacity Answer
Agriculture	Change in grain (wheat) production	Yes	High	Low
	Increase risk on livestock	Yes	High	Low
Biodiversity and Environment	Increase impact on environment due to land use change	Yes	High	Low
Biodiversity and Environment	Loss of priority wetlands and river ecosystem	Yes	High	Low
Human health	Health impact from increased storm events	Yes	High	Low

Sector	Indicator Title	Exposure Answer:	Sensitivity Answer	Adaptive Capacity Answer
Human health	Increased vector borne disease from spread of mosquitoes, ticks, sand flies and blackflies	Yes	High	Low
Human Health	Increased water borne communicable disease (e.g., Typhoid fever, cholera and hepatitis)	Yes	High	Low
Human health	Increased occupational health problems	Yes	High	Low
Health Settlements	Increased impact on strategic infrastructure	Yes	High	Low
Human Settlement	Decreased income	Yes	High	Low
Water	Decreased quality of drinking water	Yes	High	Low
Water	Less available water for irrigation and drinking	Yes	High	Low

Figure 5: Vulnerability Indicators

3.9 CONTACT DETAILS OF RESPONSIBLE INSTITUTIONS

Name and Surname	Institutions	Telephone	Cell phone

Figure 6: Contact Details Of Responsible Institutions

3.9.1 Contingency Planning-A process and a plan

Contingency planning is a process in which individual within the organization and from different organization work together to establish shared perspective of potential crises scenarios and likely humanitarian needs upon common objectives, define how they work together, and how they would make decisions in the event of a disaster.

The plan is a record of what has been envisaged and agreed upon at a particular moment, it is not an end in itself. The understanding and relationships between during the contingency planning process are as important as the plan itself. A written plan is also essential to preserving the thinking and decisions over time and over staff changes. The plan must be updated as needed, by those who would be responsible for responding in the event of a crises.

Contingency Planning is a process of:

- Analyzing potential hazards and anticipating-foreseeing-the nature and scale of crises that could seriously affect people's food and require a response for the programming; and

- Defining the kind of response that could be required and how DRM, in collaboration with collaborates, would organize such response

3.9.2 Purpose of Contingency planning:

The aim of Updating District Contingency Planning is to help to ensure that, when a crisis occurs, response will be rapid, appropriate and effective. The DDMA will ensure this by establishing an advance understanding of the kind of responses (s) that might be in need, including the roles and responsibilities of other parties.

The process of contingency planning should identify operational and other difficulties that can be encountered in responding to potential crises and enable the DDMA and partners to think ahead and find ways in which such problems can be avoided or overcome before a crisis actually occurs.

Contingency planning should be undertaking:

- In all sectors not presenting experiencing a disaster, in anticipation of foreseeable crises; and
- In an ongoing emergency or disaster relief and recovery operation in anticipation of significant changes that would occur in the situation

Contingency planning is a vital element of the district preparedness, other complementary elements include:

- Up to date baseline data on the areas and population desegregated by gender, age, ethnicity and other relevant variables likely to be affected, and on logistics and other resources, capacities and constraints;
- Links with relevant early warning systems at provincial, district and local levels;
- Clear policies, procedures and guidelines for action in response to early warnings;
- Clear definitions of responsibilities and authorities for action in response to early warning;
- Clear policies and procedures, agreed upon with potential partners, for the provision and distributions of emergency assistance;
- Arrangements and capacity to undertake rapid assessment of the food security situation and possible food needs and update logistic capacity assessments, when a crisis occurs;
- Access to and or mechanisms to rapidly mobilize and deliver the relieved other material and human resources;
- Appropriately trained staff in all functions and ideally, joint training among staff from different agencies and government entities, who will be required to work together on an event of an emergency.

Contingency planning provides a basis for assessing the adequacy of these other aspects of preparedness in relation to specific, potential disaster response requirements. Measures can be taken to strengthen particular preparedness capacity as needed. The identification of these preparedness measures is an integral part of the contingency planning process.

4 REFERENCES

- Ali, A., Bajracharya, R. M. (2016). A Review of Flood Risk Assessment. ResearchGate [1](https://www.researchgate.net/publication/312251202_A_Review_of_Flood_Risk_Assessment)(https://www.researchgate.net/publication/312251202_A_Review_of_Flood_Risk_Assessment)
- Bernstein, L., Bosch, P., Canziani, O., Chen, Z., Christ, R., Davidson, O., ... Kattsov, V. (2007). Climate Change 2007: Synthesis Report. Intergovernmental Panel on Climate Change (IPCC).
- Federal Emergency Management Agency (FEMA). (2021). [Flood Risk Assessment Technical Assistance Worksheet2](https://www.fema.gov/sites/default/files/documents/fema_flood-risk_assessment-technical-assistance_worksheet_region-three_06-2021.pdf) (https://www.fema.gov/sites/default/files/documents/fema_flood-risk_assessment-technical-assistance_worksheet_region-three_06-2021.pdf)
- Nimbarte, N., Masram, B., Tiwari, A., Balamwar, S. (2023). Machine Learning Approach for Catastrophe Risk Assessment and Management Using Remote Sensing Data. Journal of Natural Hazards.
- Various Authors. (2018). Flood Risk Assessment, Future Trend Modeling, and Risk Communication: A Multidisciplinary Approach. Journal of Hydrologic Engineering.
- Various Authors. (2023). GIS-based risk assessment of flood disaster in the Lijiang River Basin, China. Scientific Reports [3](https://www.nature.com/articles/s41598-023-32829-5)(https://www.nature.com/articles/s41598-023-32829-5)
- <https://pakistan.un.org/en/197498-pakistan-2022-floods-response-plan>
- <https://ndrmf.pk/wp-content/uploads/2023/02/Pakistan-PDNA-Supplemental-Report-Final-min.pdf>
- <https://www.unocha.org/publications/report/pakistan/pakistan-2022-monsoon-floods-situation-report-no-19-12-august-2023>
- <https://www.unocha.org/publications/report/pakistan/revised-pakistan-2022-floods-response-plan-final-report-issued-15-dec-2023>
- PDMA Sind, SUPARCO. "MHVRA Informed Disaster Management Plan 2023-2032." PDMA Sind, 2023.
- MMP. Technical Proposal: Third Party Validation of Annual Environmental and Social Monitoring / Assessment (Sixth Phase). TPV. PPAF. Islamabad, 2017.
- PPAF. "Environmental and Social Management Framework." Pakistan Poverty Alleviation Fund, 2014.
- Gitlley, J. M., Hampson, G. P., Wheeler, L, Bered-Samuel, E. "Social Inclusion: Context, Theory and Practice." the Australasian Journal of University-Community Engagement 5.1 (2010): 6-36.
- Brink, H.I.L. "VALIDITY AND RELIABILITY IN QUALITATIVE RESEARCH ." 1993.
- Vaus, D.A. DE. Survey in Social Research. 4th. Routledge, London and New York, 1995.
- methodology, Research design and. <http://ais.utm.my/researchportal/files/2015/02/Example3-Res-Design.pdf>. 2017.
- ibid. n.d.
- Irum Ehsan, Saima Amin Khawaj. Development of Environmental Laws and Jurisprudence in Pakistan. Electronic. ADB. 14, 2013.
- CDF. Terms Of Reference-Consultant- Update Contingency Plan. Jacobabad, 2024.
- UNISDR. https://www.preventionweb.net/files/45270_unisdr-cnws3wg1standardsandprotocols.pdf. n.d.

Glago, Frank Jerome. Natural Hazards - Impacts, Adjustments and Resilience. June 2021.

—. Natural Hazards - Impacts, Adjustments and Resilience. June 2021.

https://en.wikipedia.org/wiki/Jacobabad_District. n.d.

Al-Jazeera. <https://www.aljazeera.com/news/2022/8/31/furnace-to-flood-worlds-hottest-city-in-pakistan-under-water>. 8 2022.

<https://www.aljazeera.com/news/2022/8/31/furnace-to-flood-worlds-hottest-city-in-pakistan-under-water>. August 2022.

CDF. CDF-HOIFA Project Proposal. Jacobabad: CDF, 2023.

<https://pdma.gos.pk/ddma/>. n.d.

<https://pdma.gos.pk/ddma/>. n.d.

<https://pdma.gos.pk/ddma/>. n.d.

Nianthi, Rekha. "GAPS AND SHORTCOMINGS OF THE EARLY WARNING SYSTEM AND RESPONSES: IN MEERIYABEDDA LANDSLIDE (2014) IN SRI LANKA." 2016.

https://pdma.gos.pk/Documents/District_Management_Plans/DMP%20Jacobabad.pdf. n.d.

https://pdma.gos.pk/Documents/District_Management_Plans/DMP%20Jacobabad.pdf. n.d.

Sial, Dr. Abdul Hafeez. "District Emergency Plan 2022." Presentations. Deputy Commissioner, District Jacobabad, 2022.

