

District Disaster Management Plan District Kech, Balochistan

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District Disaster Management Authority Kech

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Forward

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Message of the District Nazim

It is indeed an immense pleasure for me to record my cordial feelings on the development of the District Disaster Risk Management Plan in Kech District.

Natural or human induced disasters have struck and left horrendous impact on every part of the world irrespective of the level of development in that region. With the passage of time, the countries have improved and strengthened their disaster risk management systems in order to cope with the challenges posed by disasters more efficiently and effectively. Disasters, especially natural disasters can not be avoided but the risk and the level of destruction by these disasters can be avoided or minimized.



District Kech was hit by two devastating disasters in 1998 and 2007, which caused irreparable mayhem and destruction in the district. Heavy and torrential rains, induced by cyclone named Yemyin 3B played havoc in the district in 2007, washing away residential and agricultural land of the people and leaving thousand of people homeless.

The District Government of Kech, with limited resources and with the help of Army/FC, Police and NGOs reacted quickly, but it proved to be a futile exercise in the absence of any elaborate system to cope such disasters. Hopefully, setting-up of the District Disaster Management Authority will surely provide an institutionalized platform to minimize the impact of disasters on the society in future.

The District Government Kech shall mobilize all its resources and institutions in order to truncate the sufferings of general public while facing a disaster in future, and to make District Disaster Risk Management Plan of Kech, a success.

Mir Abdul Rauf Rind
District Nazim, Kech District

Message from District Coordination Officer

The Development of this District Disaster Risk Management Plan for district Kech with the support of United Nations Development Programme and National Disaster Management Authority is one of the remarkable achievements for the district administration Kech which supported it from pillar to post in the development process.

The District Disaster Risk Management Plan aims at building the capacities of the communities making them able to minimize vulnerabilities at their own ends. The plan illustrates the ongoing developments in disaster management through which the government, business community and civil society together taken joint ventures measures to reduce the impacts of disasters on the fabric of society. This will be more beneficial and replicable in establishing early warning systems, preparedness programmes and adaptation of practical measures for coping up in future risks.

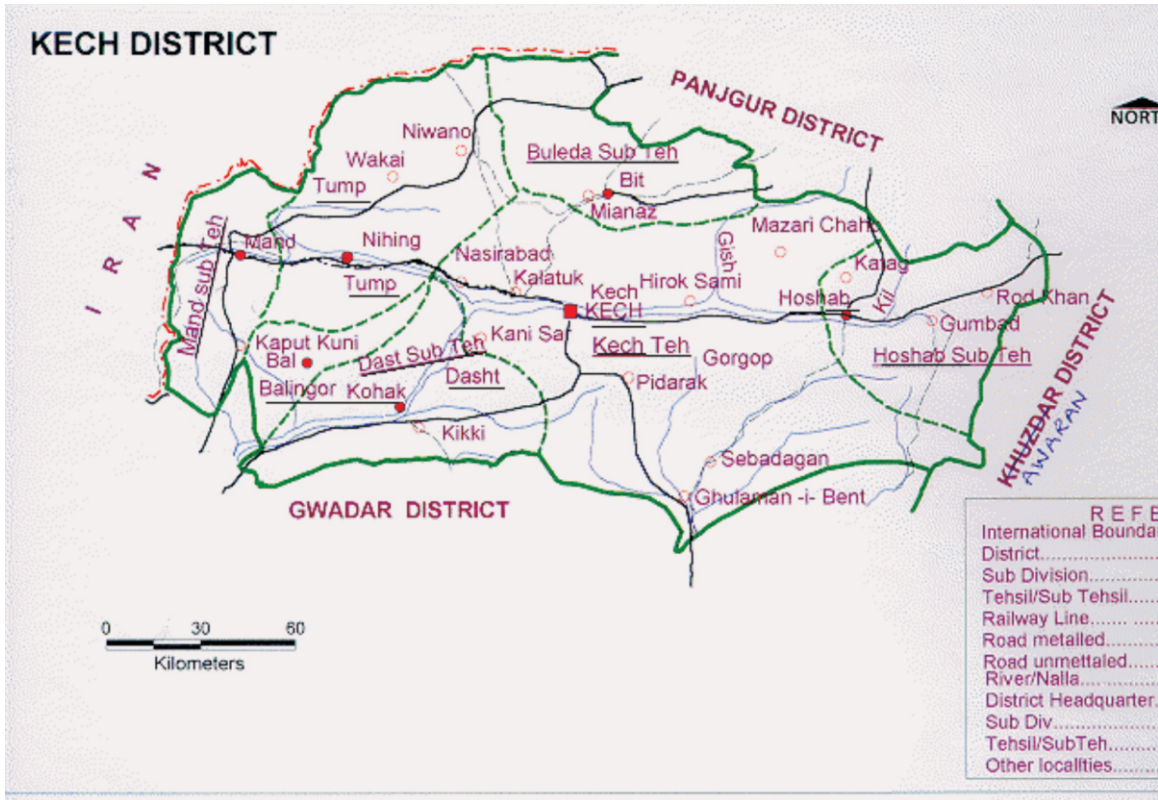
I congratulate United Nations Development Programme (UNDP) and National Disaster Management Authority (NDMA) and its teams for development of such a substantial and valuable document. I am hopeful and confident that the guidelines expounded in this plan will provide utmost benefit to the vulnerable communities of district Kech.

Agha Wasif Abbas
District Coordination Officer

Acronyms

BHU	Basic Health Unit
CBOs	Community Based Organizations
CCB	Citizen Community Board
CD	Civil Dispensary
CDD	Community Development Department
DCO	District Coordination Officer
DDC	District Disaster Cell
DDMA	District Disaster Management Authority
DEOC	District Emergency Operation Centre
DHQ	District Headquarter
DHQH	District Headquarters Hospital
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EDO	Executive District Officer
EOC	Emergency Operation Centre
EWS	Early Warning System
FFC	Federal Flood Commission
GSP	
HCVA	Hazard Capacity Vulnerability Assessment
MCH	Maternal Child Health
NDMO	National Disaster Management Ordinance
NGO	Non-Governmental Organization
PBC	Pakistan Broadcasting Corporation
PDMA	Provincial Disaster Management Authority
PMD	Pakistan Meteorological Department
PNRA	
PRCS	Pakistan Red Crescent Society
RHC	Rural Health Center
RHU	Rural Health Unit
SOP	Standard Operating Procedures
SPO	Strengthening Participatory Organization
TMA	Tehsil Municipal Administration
TNA	Training Needs Assessment
TRI	
UC	Union Council
UNICEF	United Nations International Children's Emergency Fund
W&S	Works and Services
WFP	World Food Program
WHO	World Health Organization

Kech District Map



Vision, Mission, Objectives and Strategies

Vision

The vision of the preparation of District Disaster Risk Management Plan is to support the operation system of DDRMP and also develop disaster risk management approaches involving all local resources and having departmental cooperation to reduce the life, property and infrastructure losses in the district.

Mission

Kech district government, with the support of federal and provincial governments, making all possible efforts to make secure and safe the district population from all types of human and material losses caused by the disasters. The district government works hard to make functional the infrastructure and restores the livelihood of the people in the areas where disasters hit. Kech district government ensures the incorporation of disaster risk reduction in its development programs.

Objectives

The following are the objectives set by the DDRMP

- To develop such policies and procedures in the district as to mobilize all the local means and resources to mitigate all possible disaster losses and develop sustainable livelihood resources.
- To develop skills and capacities of the local communities and departments to be capable to meet the disasters and helpfully contribute in the minimum losses of the local population.
- To develop effective coordination among all concerned institutions and stakeholders to facilitate the information sharing in supporting disaster risk management in the district and also developing participatory approaches in dealing with disaster risk reduction and sustainable development
- To support in the strengthening of early response to disaster hazard threats and disaster situation in the district
- To establish emergency funds and to motivate the philanthropists to contribute generously
- To chalk out program for strengthening of technical and institutional capacities in the district, specially at the community level, including scientific training about the mobilization of human and material resources
- To organize regular disaster preparedness exercises in order to ensure effective and prompt disaster response and access to essential food and non-food relief supplies, as needed to meet the local needs

Strategies for Disaster Risk Management

The district government would develop close liaison and effective coordination with all departments, organizations and agencies working in the district with a view to build the resilience of the district population against the disasters.

Overview of the District

Kech district is one of the largest districts in the province; it has the second largest population after Quetta, the capital city of Balochistan. When Makran district was given the status of a division and was divided into three districts, Kech was notified as a district, with its name as Turbat, on July 1, 1977. In 1994-95, the name of Turbat district was changed to its old name, i.e., Kech. The district is called Kech while Turbat town is its headquarters. The total area of Kech district is 22,539 square kilometers. The district comprises of four tehsils, Turbat, Buleda, Dasht and Tump.

1.1 Topography

Kech district is located from 25° -24' to 26° -39' north latitudes and from 61° -49' to 64° -31' east longitudes. Kech is one of the border districts of Balochistan. It is surrounded on the north by Panjgur district and on the east by Awaran district, on the south by Gwadar district, and on the west by Iran. The district is mountainous in its feature. Kech district lies between two important mountain ranges, i.e. the Makran Coast range, which separates it from Gwadar district in the south and the Central Makran range, which separates it from Panjgur district in the north. The elevation of the district ranges between 100 to 1400 meters above sea level. Most of the western part of the district is relatively at a low elevation compared to the eastern one. The Kech valley is famous for its hot weather. The major rivers and streams of Kech district include Dasht River, Nihing River, Basol River, Kech kaur, Gish kaur, and Kil kaur.

1.2. Climate

Kech district has a dry hot climate. It is categorized as "hot summer and mild winter" temperature region. According to the Pakistan Metrological Department data, Kech district annual mean maximum temperature remains at 36.1° C while the annual mean minimum temperature 20.3° C and mean temperature in winter is 11. 6° C.

Summer is not merely hot but also long. Summer continues from March to November; however winter begins from December and continues till February. June is the hottest while January is the coldest month. The overall monthly temperature in the hottest month remains above 32° C. However, the highest temperature at Turbat ever recorded is 44.8° C in 1982. In the coldest month, January, the monthly temperature remains in between 10° C to 21° C. sometimes it drops below 10° C. In winter a cold wind, locally called gorich, makes the environment as of a hill station. Although in rare comes, sometimes the temperature reaches at 0° C specially when there are strong gorich winds.

1.3 Annual Mean Rainfall

The only data available by the Pakistan Meteorological Department is of 1998 published in 1999 census report. In that year total annual rainfall was 109 millimeters at Turbat. This data confirms the "dry arid" climatic category of the area. Winter rainfall provides irrigation water for *Rabi* crops, i.e., wheat, barley, *bakla*, and *masoor*. Sometimes traffic across the streams discontinues due to floods resulting from rainfall.

1.4 Soils

The soil of Kech district is of two types. Western and central parts of the district consist of alluvial soil whereas the remaining mountainous land is made of rock outcrops, lithosols, and rigosols. However in the west, wide basins of Dasht and Nihing rivers surrounded by hills and mountains are covered with alluvial soils. The foothills are covered with talus cones and alluvial fans generally composed of gravel, pebbles, and sands. Beyond the foothills, the valley floors are covered with silt and loam. Kolwa and Dasht valleys are the largest un-irrigated tracts in Makran.

Such other tracts include Buleda, Balgattar, Nigwar, and Kech valleys. These are fertile soils of great agricultural value. In some areas, soil erosion through wind is a potent threat to agriculture. Because, the

¹ Kech District Census Report 1998, Population Census Organization, GOP, 1999

² Kech (Formerly Turbat): A District Profile, Bureau of Statistics, Planning Department GOB,[Undated]

³ District Census Report 1998

land is striped of soil impregnated with nutrients, as a result of erosion. Afforestation can help minimizing this problem.

1.5 Vegetation

Grass and fodder plants are fairly numerous in the Kech district. The important of these are the *barshonk*, *sorag*, *drug*, and *kandar*. Especially the banks of Dasht River, are featured with *kahur* (*prosopis spicigera*) and *gazz* (*tamarix galica*) or tamarisk trees. Some plants of pharmaceutical importance including *aishak*, *lantoo*, *danichk* (*Ispaghol*), and *shrish* are also found in the district. Frequently found plant is *pish* (*nannorhops ritchieana*), or dwarf palm, which is used for construction of huts in some areas of the district. It is also used for preparing local level *chatais*.

1.6 Minerals

Mineral survey has never been conducted for Kech district. Therefore, there are no important sites identified site by the Geological Survey of Pakistan and the Inspectorate of Mines of minerals in the district. However, salt is found through private enterprise in some areas of close drainage, locally called *kaps*, in Balgattar and Kolwa.

1.7 Population and its Composition

Kech district population was 413.20 thousand in 1998 as compared to 379.47 thousands in 1981, showing an increase of 8.89 percent during 17 years i.e. 1981-98. According to 1998 census, the male population outnumbers the female population in the district; reason behind this population gap may be the local traditions of the people, which constrained enumerators in the total registration of the young female population during the census. It is evinced by a significant gap between numbers of males and females of young age group of age (1-15 years).

In 1998, more than one third (37.79%) of the total population was eligible to vote (21 years of age and above) while adult population (18 years of age and above) was 48.52 percent. Women of the child bearing age (15-49 years) were 47.82 percent of the female population. Married population constituted 71.56 percent of the population of 15 years and above while 25.3 percent of this population was never married. Divorcees and widowers constituted 0.21 and 2.93 percent respectively. Mean age at marriage for females in Kech district was 21.2 years.

Balochis constitute an overwhelming proportion (about 99%) of the population in the district while the remaining includes Brahvis, Pushtuns, Sindhis, Punjabis, and others. Balochi is the major spoken language in the district. Urdu is the second major language for communication in the area, mainly because of peoples' links to Karachi.

1.8 Religions

According to 1998 census, the Muslims constitute an overwhelming majority of population in Kech while the remaining population includes Christians, Ahmadis, Hindus, Parsis, and Sikhs. Zikri, a significant religious faith in Makran, is not mentioned in the 1998 census. The reason is that Zikris claim to be Muslims while the Sunni Muslims denounce their claim.

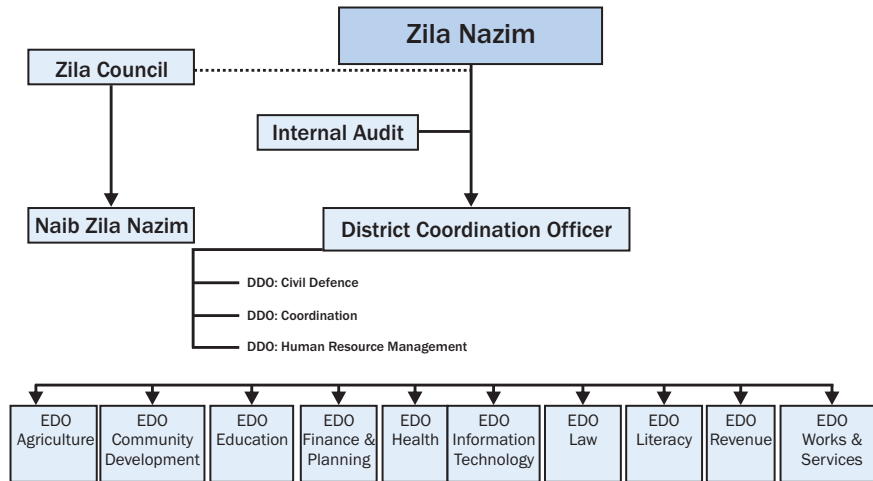
Most of the people belong to *Sunni* sect of Islam. They believe in *Hanfi* interpretation of *Shariah*. Generally, folks have religious attitudes and practice Islam according to its fundamental principles. There are only a few residents of other minorities, such as Hindus, Parsis and Ahmadis. The percentage of the followers of other religions is as under

■	Muslim	99.55
■	Christian	0.05
■	Hindu (Jati)	0.01
■	Qadaiani/Ahmadi	0.03
■	Schulded Caste	0.23
■	Other	0.13

Source: Kech District Report 1998

1.9 Administrative System

Kech district has its headquarter at Turbat and it has four tehsils, i.e. Turbat, Buleda, Dasht and Tump, with 38 union councils. According to the administrative set up of Kech district, District Nazim is the head of district, while District Coordination Officer is the administrative incharge of the district. District Council is the assembly of the district level elected representatives of the district. The set up is further elaborated in the chart.



Disaster Risks in Kech District

Besides long drought spells, Kech district has experienced two major flood disasters during the recent past, one in 1998 due to devastating rain induced flooding and second in 2007, which also occurred due to heavy rainfall, and followed by flash flooding. The most affected *tehsils* of the district were Turbat and Dasht, where almost total life of the community was paralyzed for days.

In 1998 from 3 March onwards rain falling in Iran and the foothills north of the Kech Valley in Baluchistan, Pakistan, swelled the Kech and Nihing rivers: where they combine to become the Dasht the flow became extremely violent. The torrent covered entire river valleys and washed away all houses, structures, irrigation systems and most crops in its path. The death toll could reach as high as 1,800 but due to the remoteness of the villages, damage to telecommunications systems and the extent of the flooding it may be some days before the full extent of the devastation is known. The affected area of Makran division is only accessible via flights to Turbat. Even under normal conditions, the region is 24 hours away from Karachi by road (and 800 km. from the nearest Red Crescent Branch in Quetta). The longer-term impact of this freak storm includes the destruction of agricultural land and water wells, as well as serious damage to irrigation systems for food crops in the region.

Unprecedented rains wreaked havoc in the area on Tuesday 3 March, when the Dasht river system was hit by flash floods that swept away more than 100 villages. This is a normally arid part of Pakistan where floods are extremely rare. As the water rushed across the sandy land it destroyed water irrigation systems, wells, farmland, houses, and food stores. Following the 1998 floods, a long drought spell prevailed in Balochistan. Majority of the districts of the province were severely hit by the slow onslaught drought disaster, including Kech district. The drought situation severely affected the human population and their livelihoods. A number of natural springs and Karezes dried in the district. Resultantly crops and livelihood was severely hit. Date tree orchards which are key sources of economy for the common people of the district also dried and the remaining date tree orchards faced different diseases. Besides, human, livestock and crop losses heavy migration was seen from the remote areas to the urban settlements due to the want of water and livelihoods as a result of continuous drought spell which came to an end as a result of 2007 floods giving birth to another disaster.

In year 2007, heavy rainfall due to cyclone 03B Yemyin resulted into massive flooding in local rivers and stream of district Kech. A large number of the population up to 2, 50,000 was severely affected and rendered homeless, which is approximately 50 percent of the total population. Turbat tehsil had received more than 190 mm of rains in just two days. Union council of Nasirabad, Nodez, Ginna and Kalatuk were the hardest hits by the back flow of water from the Mirani Dam Reservoir. A large number of villages in the above-mentioned UCs were marooned. The Sorap dam also breached and washed away many villages in UC Gokdan.

The rainfall and cyclone 03B Yemyin had badly affected eight UCs of Turbat tehsil, normally Khushkalat, Gokdan, Kalatuk, Nodez, Nasirabad, Ginna, Pidrak and Dasht, heavy damages to houses, orchards, livestock and water supply systems and all infrastructures was recorded. However, three Union councils were severely hit. Reports tell that the loss of houses in the two union councils was 100 per cent whereas in the third one lost about 75 per cent of the houses. The figures of completely demolished houses are 2742 in Nasirabad, 2949 in Nodiz and 996 in Kosh Kalat. Several thousand people were rendered homeless and passed difficult days in makeshift camps.

The heavy rainfall had also damaged the road network includes 200 km of the Gawadar to Turbat road and largely disrupting the electricity of the district. It is an area that crosses the junction of three major rivers Dasht, Nihing and Ketch. It also houses a major dam –the Mirani Dam/Reservoir.

¹ <http://www.dawn.com/2007/06/28/>

² Memon, Naseer , Disaster unleashed by Mirani Dam, <http://www.dawn.com/2007/08/20/abr>

2.1 Hazard, Capacity and Vulnerability

The two major natural disasters of the recent past, and also the human induced catastrophes have brought about heavy losses to human population, their private property and overall infrastructure of the district. The data collection and hazard mapping exercises conducted by government departments, non government organizations (NGOs) and other stakeholders identified the following hazards and scenarios the most likely to affect the people of Kech that would require a sound response from the government.

- High Priority _____ Flash flood and heavy rainfall
- Medium Priority _____ Infectious diseases and epidemic
- Low Priority _____ Earthquake, Drought

2.2 Flash Flood and Heavy Rainfall

Kech district is close to the coast of Makran and has experienced heavy rainfall and disastrous floods during the last decade, which resulted into heavy losses to a large number of human population, property and as well as infrastructure of the district. The agriculture and livestock of the district have also suffered heavy losses during the destructive flooding. Rain and flood season in the district occur from July to September. While there have been instances of heavy rainfall and flash floods occurring in June and October. Due to the heavy rains and storms in 26 June 2007 in certain areas of Kech district the flash flood water level rose to 8 meters and remained so for some days, resulting into destruction to almost all muddy houses, orchards, livestock and water supply systems and all infrastructure. Public buildings were badly hit and electricity and gas supplies were largely uprooted. The entire communication system of Kech district was disconnected from remaining parts of the country, as the land-links (coastal highways and railways). Various river and stream embankments collapsed resulting into devastating flooding in the whole area; especially Union Councils (UCs) of Gokdan and Kosh kalat were highly affected.

U/C Kosh kalat
U/C Gokdan
U/C Ginnah
U/C Kalatuk
U/C Nodiz
U/C Nasirabad
U/C Kumbail
U/C Zarinbug

Source: District Government Kech

With natural disaster, human induced disasters have also played their role in inflicting heavy losses to the district. As Mirani Dam breach during the heavy rainfall added insult to the injuries to large population of the area, washing away villages in the abutting UCs of Nasirabad, Kallat and Naudoz and also severely affecting Dasht UC. Contrary to the claims that the Mirani Dam will bring about socio-economic well being in the region and irrigate 32,000 acres, but ill-conceived design, poor planning and non-participatory decision-making have damaged 40,000 acres of land and deprived more than 50,000 poor agriculturists of their livelihood.

The pre-monsoon rains starting from June 24, 2007 in the catchments of around 12,000 kilometers increased pressure in the dam on June 28, 2007 and water levels crossed the dangerous mark of 264 feet in Mirani Dam. Resultantly, on the same day, the backflow of the dam reservoir created waves of 20 feet and these were large enough to hit areas up to an elevation of 271.44 feet ASL, devastating more than 40 villages in three union councils over 36,000 acres of land, rendering nearly 70,000 people homeless.

The dam's height in the original design was 80 feet contrary to the present height 127 feet. A survey had shown at least two Union Councils i.e., Nodiz and Nasirabad would be marooned as a result of the commissioning of the dam. Besides, a vast upstream area including villages, irrigated lands, and infrastructures including tube wells have been facing the threat of water logging and salinity following the commissioning the dam.

Scenario: The Rivers i.e. Dasht, Nihing and Ketch and Mirani Dam embankments collapsed causing disastrous flooding of all the houses in the Union Councils (UCs) of Gokdan and Koshilat. A large number of

³ Babbar, Mohsin: Balochistan uplift and Mirani Dam Disaster: <http://www.thepost.com.pk>

⁴ Brohi, Sikander: Designing Mirani Dam for Local Needs, www.dawn.com/2004/08/09/ebr12.htm

the population up to 2,50,000 is severely affected, which is approximately 50 percent of the total population and also more than 50 percent livestock affected. Mirani Dam was breached causing large waves and flash floods that washed away villages in the abutting UCs of Nasirabad, Kosh kalat and Naudoz and also caused flash floods in Dash.

Impacts and Secondary Hazards: Situation results in many deaths and injuries. Thousands of houses come under water with a large number of people being uprooted and displaced. Large scale livestock dies and agriculture crops are damaged. Public infrastructure including offices, schools and hospitals are damaged. Displaced people face food shortages and different diseases spread among the displaced and affected communities.

Capacity People know threat because of previous experience and rain is a seasonal occurrence; existing flood early warning system at provincial level but needs to be made available and adapted to village level and communities; local government structure and personnel are established but still need increased capacity; NGOs operate in the area **Vulnerability** lack of early warning infrastructure especially from district HQ to village level; difficult to predict but generally, communities living near dam are vulnerable. Poorer households have higher vulnerability; lack of knowledge/understanding of community based response and preparedness; lack of resources to prepare and respond to emergencies; people living and farming in flood prone areas; cultural practices sometimes increase vulnerability. Encroachment in vulnerable areas **Humanitarian needs:** *Immediate* - Rescue and evacuation, temporary shelter, food, clean water, sanitation, health, security. *Longer term* - Health issues, livelihood assistance (access to market opportunities), seeds, rehabilitation, assistance to rebuild and/or relocate, water and sanitation, better quality housing, setting-up of village level early warning teams. Land use zoning.

2.3 Infectious Diseases and Epidemic

The torrential rains and simultaneously devastating flood of 2007 ultimately resulted into spreading deadly diseases in the district. As aftermath of floods, waterborne diseases like, cholera, diarrhea, malaria, dengue, skin disease and respiratory tract infections (RTI) become a challenge for the community in the flood-affected areas of district. The district health department figures of three months of 2007 reveal the alarming situation. The worst affected were the women and children.

The following is the list of eight Union Councils (UCs) of Turbat tehsil which were severely hit during heavy rainfall and cyclone O3B Yemyin, i.e Khushkalat, Gokdan, Kalatuk, Nodez, Nasirabad, Ginna, Pidrak and Dasht, resulting into total damages to houses, orchards, livestock and water supply systems and all infrastructures.

A large numbers of human population of these union councils suffered heavy losses and was rendered homeless for many days and also devastating flooding washed away their properties and also inflicted on them loss of their agriculture especially sweeping away standing dates and also causing their livestock deaths.

With other losses, agriculture of the district had also sustained heavy and huge losses; standing crops of dates, lemon, mango were severely affected during the flash flood of 2007. It is ultimately the poor masses who suffered colossal losses.

The following table shows agriculture losses to various crops, during the flash flood of 2007. As mentioned above the horrible flooding in 2007 in Kech has had multidimensional losses, the livestock of the district was also badly affected, following table shows the figures.

Scenario Occurs anywhere, anytime, large impact, can occur unexpectedly, difficult to control. e.g., Dengue, Malaria, Cholera, AHI, other unknown

Impacts and Secondary Hazards Human health, death and morbidity; death of livestock (disease and culling); economic loss; rising debt; loss of employment; health system is overwhelmed.

Capacity Available health department contingency plan existing Disease Early Warning System (DEWS), health services exist but lack specific surveillance for AHI, treatment and isolation capabilities, health volunteers involved in response.

Table: 2.2
Emergency of Different Diseases as a Result of 2007 Floods in Kech District

Name of Diseases	July	August	September
Diarrhea	10244	5251	776
Skin diseases/Scabies	5657	2757	570
Respiratory Tract Infection	7493	7949	1760
Clinical Malaria	7752	6802	1550
Other	29526	21441	4236
Total	60672	44200	8892

Sources: Health Department, Kech District, 2007

Vulnerability Disease carriers (e.g. mosquitoes) and some diseases (malaria) endemic in the district; Lack of awareness, lack of immediate medical services and medicines, pre-existing medical conditions (e.g. HIV/AIDs) and poor nutrition, late recognition and declaration of an emergency, high-density population; for AHI, poultry farms; communities with high-density chicken, duck and migratory birds and fowl.

Humanitarian needs Urgent medical services, sufficient food and water; disinfection; containment; quarantine/specialized medical services

Disaster Risk Management Plan for the District

The key objective of developing this plan is to minimize the sufferings of the local communities from disaster occurrence in the district through developing and enhancing managerial skills, communication, coordination and technical expertise in order to properly utilize the local resources and institutions and to possibly reduce losses.

3.1 Scope of the Plan

The main focus of the plan would be to collect and categorize the available resources of the district for the purpose of vulnerability reduction and capacity building of the people living in the disaster prone areas, and also develop the efficiency of other stakeholders and main institutions of the district. The plan would also chalk out comprehensive guidelines for the development of strategies and execution of policies for three phases of disaster risk management, which are pre-disaster, during disaster and post disaster activities in the disaster affected areas of the district.

The plan would also help all the district officers, officials and the local key stakeholders to have timely action for district risk management. The plan has clearly outlined the roles and responsibilities of all departments and institutions in the district. The plan would also be helpful for national and provincial government, CBOs, NGOs, donors and also philanthropists to understand how they can perform their services in the disaster preparedness, response and mitigation for the district.

3.1.1 Major Guiding Principles of the Plan

- Adopt to multi prone and multidimensional approach taking on board all stakeholders of the district
- Vulnerable communities such as women, children, and senior citizens to be focused
- All local level development policies will be incorporated with disaster risk reduction
- The local communities of the disaster prone areas should be sensitized to adopt sustainable livelihood methods
- Motivate the local communities to adopt preparedness trends from impending disaster/calamities

3.2 Process

The District Disaster Risk Management Plan has been developed after a comprehensive survey of the district, holding detailed meetings and extensive consultations with concerned departments of the district, institutional heads, local NGOs, CBOs, concerned stakeholders and local communities, especially those living in the disaster prone areas of district.

3.3 Distribution of Copies

The copies of district disaster risk management plan would be distributed among the following concerned district departments, experts, elected representatives, institutional heads, NGOs, and other relevant persons and offices of the district:

- District Nazim
- District Naib Nazim
- District Coordination Officer (DCO)
- District assembly members
- District Police officers
- Commander,
- All EDs
- Tehsil Nazims
- Union Council Nazims
- Tehsil Municipal Administration
- NDMA
- PDMA
- NGOs

- CBOs
- Media Persons
- Press Club Kech
- Radio Pakistan, Turbat
- UN and Donors
- All concerned organization

3.4 Plan Preparation Date and Updating Notes

The plan has been developed keeping in view the current disaster trends in Kech district, but it is hoped that all concerned stakeholders and experts of the field would have their due contribution in executing this plan. With the passage of time and changes of seasons and climate, the DDRMP would be reviewed and would be brought out in it necessary changes according to the need of the time and local demands and disaster-oriented developments in the area.

3.5 Priority Areas for Disaster Risk Reduction and Response in Kech

The National Disaster Risk Framework of Pakistan has outlined six priority areas to reduce disaster risks and develop skills at core level of the government. The priority areas would focus on main strategies to meet the overall goal of reducing both, disaster risk and disaster vulnerability. District Disaster Risk Management Plan of Kech district would remain in National Framework and focus in developing own capacities at district level. These components outlined into detailed activities and work plans to build disaster risk management capacities in the district.

3.6 Priority Area: 1 Institutional and Legal Arrangement

The National Disaster Management Ordinance (NDMO) of 2006 intended to establish the National, Provincial and District level authorities in order to undertake effective implementation of disaster risk management strategies at all tiers.

However, disasters occurring in past in Kech District including two major disasters of the recent past in 1998, and 2007 have been handled on adhoc and temporary basis by the district administration authorities. Presently, DCO office and EDO revenue happen to be focal persons/units respectively to deliver response to any possible disaster in the district.

In District Kech, the DCO & EDO (Revenue) offices were focal units that delivered government response during the 2007 flood. Other, district line units/departments of the government carried out initial survey and needs assessment for damage and later emergency assistance.

In order to effectively deal with any disaster in the Kech District, it is essential to establish the District Disaster Management Authority (DDMA), with clear roles, responsibilities and functions for all district level departments and stakeholders as to develop and implement effective disaster risk management strategies in the district. The roles and functions of local government from the Tehsil, Union Council (UC), village council and citizen community boards (CCBs) will also have to be further clarified and contingency plans with effective operating system should be developed to facilitate and coordination within the DDMA and with other stakeholders. The DDMA will have to organize appropriate funds and resources to chalk out guidelines, standards and procedures.

3.6.1 Lead Agency

The District Nazim, District Coordination Officer (DCO) and the Planning Department will have a leading role in planning of this priority area. While developing systems and procedures, all relevant government departments/agencies, organizations, local government and communities will have extensive consultations in order to ensure their ownership of the plan.

However, the Planning Department will be the lead agency that will facilitate the district authorities to design effective planning and coordination procedure and to ensure that all emergency responses before, during and after a disaster are well coordinated and organized. The Planning Department would facilitate

the District Disaster Management Authority (DDMA) in designing pre-planned and concrete responses and activities to undertake during response to the disaster.

3.6.2 Key Activities to be undertaken within 6 Months

- Notification and establishment of District Disaster Management Authority (DDMA) by the provincial government
- All DDMA members identified and appointed
- Organize first DDMA meeting to aware the members about the DDMA set-up and its functions
- Hold separate orientation sitting of DDMA for each district line department and offices
- Organize seminars to familiarize district assembly about the DDMA functioning
- Conduct orientation workshops at tehsils level to clarify district risk management structure, roles and responsibilities
- Conduct seminars to familiarize *tehsil* authorities about the DDMA
- Conduct seminars to familiarize union councils and villages
- Organize orientation workshops at union councils and village levels to clarify district risk management structure, roles and responsibilities

3.6.3 Activities to be undertaken Within the First Year

- Establish District Emergency Operations Centre (DEOC) to support the DDMA in effective and timely response and communications during emergencies in the district
- Develop contingency plans with standard operating procedures (SOP) covering the various district risk management activities to be carried out in Kech district
- Hold series of workshops to prepare contingency plan as per line department based on worst-case scenarios for specific disasters affecting the district, incorporating all aspects and phases of disaster risk management based on the district disaster risk management plan purpose and activities
- Support the tehsils in designing their own Disaster Risk Management plans based on the district policies and procedures
- Facilitate union council and village administration in designing their own disaster risk management plans based on the district policies and procedures

3.6.4 Anticipated Supply and Equipment Requirements

- Developing planning and coordination manuals
- Having copies of national, provincial and local ordinances as reference
- Organizing funds for planning workshops and meetings
- Organizing various materials and equipment for training sessions
- Equipping District Emergency Operations Center (DEOC) with:
- Telephone and fax facility in District Emergency Operations Center
- Computer with printer
- Tables, bulletin and monitoring boards
- 1 VHF base station / 1 VHF repeater / one VHF handheld for every key staff
- Means of transport and heavy equipment like bulldozers during emergency operations

Table: 3.1 Institutional and Legal Arrangement Work Plan

Activities	Lead Agency /Responsibility	Cooperating Agency /Department	Period of Completion	Verifiable Indicators
Notification and establishment of District Disaster Management Authority (DDMA) by Provincial government	District Nazim DCO Kech	Balochistan Government	Within 6 months	Minutes of meeting, Notification

All DDMA members identified and appointed	District Nazim, DCO Kech	Planning and Development Department	Within 6 months	Minutes of meeting, List of members
Organize first DDMA meeting to make aware members about the DDMA set-up and its functions	District Nazim, DCO Kech	PDMA	Within 6 months	Minutes of meeting
Hold separate orientation meeting of DDMA for each District Line Department and offices	Planning and Finance Department	DCO, EDO of concerned department	Within 6 months	Minutes of meeting, participants list
Organize seminars to familiarize district assembly about the DDMA functioning	District Nazim, District Naib Nazim	DCO	Within 6 months	Minutes of meeting, participants list
Conduct orientation workshops at <i>tehsil</i> level , to clarify DRM structure, roles and responsibilities	Planning and Finance Department	TMOs and UC officials, NGOs	Within 6 months	Minutes of meeting, Participants list, terms of reference
Seminars at <i>tehsil</i> level about the DDMA	Planning and Finance Department	TMA,	Within 6 months	Minutes of meeting, participants list
Conduct orientation workshops at union council and village level to clarify DRM structure, roles and responsibilities	Planning and Finance Department	UC officials	Within 6 months	Terms of Reference developed and clarified; List of members
Establishment of District Emergency Operations Centre (EOC) to facilitate the DDMA in effective and organised response and communications during emergencies in the district	Planning and Finance Department	District Nazim, DCO, concerned line departments	Within the 1 st year	Terms of reference, appointment letters;
Develop Contingency Plans with Standard Operating Procedures (SOP) covering the various DRM activities to be carried out by the district	Planning and Finance Department	District Nazim, DCO, concerned line departments	Within the 1 st year	Minutes of meeting Participants list; contingency plans
Support the tehsil, union council and village administration in designing their own Disaster Risk Management plans based on the district policies and procedures	Planning and Finance Department	District Nazim, DCO, TMAs, UC council and Village Council	Within the 1 st year	Minutes of meeting, participants list; DRM plans

3.7 Priority Area: 2 Hazards and Vulnerability Assessment

The existence of hazards and vulnerability are risks that lead to disaster, ultimately affecting humans, property and infrastructure. However, it has been observed that local government authorities have always

focused on post-disaster developments rather than dealing with pre-disaster hazards and vulnerability in their respective areas. However, there is also dearth of hazards risk facts; specific to vulnerable areas at all levels i.e. tehsils, union council, and village.

Hazard capacity vulnerability assessment (HCVA) is required to be carried out at Village, union council, tehsil and district levels. In this regard, a strong and participatory mechanism and system should be developed for gathering all information and facts for effective monitoring of hazards, vulnerabilities and risks.

The locations of hazard-prone villages, union councils, tehsils and also key settlements in these areas should be identified on maps and analysed for vulnerability of settlements, housing, stock, important infrastructure and environmental resources.

The analysis should focus the houses in hazard-prone areas, and the potential of losses to many housing categories. The vulnerability analysis should also identify key infrastructure and environmental resources in each local area that are prone to damage and loss from prevalent hazards. Vulnerabilities of various social groups in hazard prone areas should also be analyzed.

Technical expertises could be requested from specialized government agencies such as NESPAK, Pakistan Meteorological Department, Flood Forecasting Centre, WAPDA, etc. to ensure scientific analysis of the geology and past history of hazards. They would also review secondary data from the 1998 census and other sources. Consultations with selected communities and stakeholders would be conducted to assess hazard exposure, disaster impact and vulnerabilities.

The HCVA would keep abreast of Damages, Needs, Capacity Assessment (DNCA) during disasters. A central database should be developed and located at the District Emergency Operations Center (DEOC).

3.7.1 Lead Agency

The district revenue department would be the leading agency for this action and would map out comprehensive assessment methodologies identify the means and as well as ensure that correct baseline data is available in order to facilitate a timely and efficient assessment of emergency situations.

Hazard capacity vulnerability assessment (HCVA) of villages should also be undertaken. However, the revenue department would have the leading role in shaping out the methodology to be used. Consultation with NGOs and other relevant agencies is also proposed.

3.7.2 Key Activities to be undertaken within 6 Months

- Analysis and verification of available data through consulting various organisations
- Identify and select HCVA facilitators from the district personnel
- Map out HCVA tools and assessment methodologies and procedures
- Identify and select HCVA facilitators from tehsil, union councils and villages as well as from NGOs /CBOs
- Hold 1st facilitator's training of HCVA facilitators
- Identify HCVA of villages and union councils included in high priority hazard zones specifically generating hazard specific maps indicating the location of various hazards with zonation of risk levels; e.g. low, moderate and severe
- Collation of HCVA's
- Develop damage needs, capacity assessment forms
- Establish database of district

3.7.3 Activities to be accomplished within the First Year

- Update, contextualize and standardize assessment formats
- Identify HCVA facilitators other from *tehsils*, union councils, villages and NGOs/CBOs
- Conduct 2nd facilitator's Training of HCVA facilitators

- Carry out HCVA of other villages and union councils
- Collation of HCVA
- Update district database

3.7.4 Anticipated Supply and Equipment Requirement

- Develop assessment format and protocols,
- Manage and maintain photocopy machine, computer sets and cameras (digital, still and video)
- Organize transport and communication facilities during field operations
- Organize funds for training sessions
- Organize various materials and equipment for training sessions

Table: 3.2 Hazards and Vulnerability Assessment Work Plan

Activities	Lead Agency	Cooperating Agency / Department	Period of Completion	Verifiable Indicators
Analysis and review of available data through involving various departments to include disaster risk analysis	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within 6 months	Minutes of meetings, TORs developed appointment letters; list of assessment tools
Map out HCVA tools and assessment methodologies	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within 6 months	Minutes of meeting; draft reports; draft tools
Identify and select HCVA facilitators from the district personnel	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within 6 months	List of facilitators
Hold 1st Facilitator's Training of HCVA facilitators	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within 6 months	Training report, participants list
Identify HCVA of villages and union councils included in high priority hazard zones	Revenue Department / HCVA Facilitators	Community Development, TMAs, NGOs, CBOs	Within 6 months	Draft HCVA report per village
Collation of HCVA's	HCVA Facilitators	Revenue Dept, Community Development, TMAs, NGOs, CBOs	Within 6 months	HCVA report per village
Establish database of district	Revenue Department / HCVA Facilitators	Community Development, TMAs, NGOs, CBOs, DEOC	Within 6 months	HCVA report per village, UC and Tehsil, HCVA database at DEOC
Update, contextualize and standardize assessment formats	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within the 1 st year	List of facilitators

Identify HCVA facilitators other Tehsils, UCs, villages and NGOs/CBOs	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within the 1 st year	List of facilitators
Conduct 2 nd Facilitator's Training of HCVA facilitators	Revenue Department	DCO Kech, Community Development, TMAs, NGOs, CBOs	Within the 1 st year	Training report, participants list
HCVA of other villages and union councils	Revenue Department / HCVA Facilitators	Community Development, TMAs, NGOs, CBOs	Within the 1 st year	Draft HCVA report per village
Collation of HCVA	HCVA Facilitators	Revenue Dept, Community Development, TMAs, NGOs, CBOs	Within the 1 st year	HCVA report per village
Update district database	Revenue Department / HCVA Facilitators	Community Development, TMAs, NGOs, CBOs, DEOC	Within the 1 st year	HCVA report per village, UC and Tehsil, HCVA database at DEOC

3.8 Priority Action 3: Training, Education and Awareness

It has been observed that due to dearth of knowledge and skills to understand the severity of hazards, vulnerability and risks by common people and also the local office in their respective, areas have played havoc with the local affected population especially during the disasters and its fallout. In order to have less possible losses, it is imperative to understand existing hazards and vulnerabilities and to take all possible precaution measures to mitigate the losses. It is also essential to have collective efforts by government and public at large with a view to take effective steps to reduce possible damages during an emergency or disaster.

On other side, the government has no any public awareness program as to help the community to understand the severity of natural and manmade disasters. Therefore, it is necessary that DDMA should identify and plan a medium term disaster awareness strategy and be equipped with financial and technical capacity to implement the strategy.

It is the need of hour that the government should chalk out a comprehensive plan to promote and enhance knowledge and skills of local decision makers and communities through training, education and awareness raising activities in order to analyze all risks, and develop and carry out disaster risk management activities. District Disaster Management Authority (DDMA) training, education and awareness program can reduce losses of life, injury, suffering and property damage in a community by:

- Developing and increasing knowledge about the severity of disasters of natural causes and also human induced disasters among the common people
- Sensitizing the communities regarding hazards, their nature, and the consequences of their impact
- Establishing warning system to make the public aware of impending disasters
- Spreading public knowledge about practical preparedness measures
- Developing practical skills among the general public with a view to improving their response
- Support for disaster plans, organizations and measures

3.8.1 Lead Agency

The Executive District Officer Community Development Department (CDD) would have the leading role in

this priority area. It will create awareness, and have training and skills development programmes for government officials to properly design, execute and evaluate awareness, skills training and drill programs. Training Needs Assessment (TNA) would be based on specific roles. The EDO (CDD) will have close coordination and work with other technical agencies, NGOs to support training of personnel.

3.8.2 Key Activities to be undertaken within 6 months

- Identify and select trainers for the district government officials, NGO and technical agencies
- Assess and collect available resources equipment, trainers, service providers, programs,
- Develop training needs assessment tool and methodology procedure
- Conduct Training Need Assessment (TNA) of government officers and officials

3.8.3 Activities to be undertaken within the First Year

- Conduct training for different government officers and officials from the district, tehsil, to make them aware on NDMO and DDMA
- Conduct training to different government personnel from union council and village levels making them awareness on NDMO and DDMA
- Introduce and conduct the awareness-raising campaigns in at villages level
- Organize disaster risk management awareness training at district, tehsil, union council and village level
- Designing of a training program with the following likely components:
 - First aid
 - Collapse structure search and rescue
 - Emergency response
 - Radio operations
 - Early warning
 - Damage needs assessment
 - Community based disaster management
 - Medical first responders training
 - Mass casualty event management
 - Evacuation camp management

3.8.4 Anticipated Supply and Equipment Requirements:

- Transport facilities
- Funds for training activities
- Various materials and equipment for training sessions
- Trainers and experts

Table: 3.3 Training, Education and Awareness Work Plan

Activities	Lead Agency /Responsibility	Cooperating Agency /Department	Period of Completion	Verifiable Indicators
Assessment and collection of available resources, equipment, trainers, service providers, materials	EDO (CD), trainers pool	As appropriate: line departments, NGOs; technical agencies	Within 6 months	Assessment report; minutes of meetings
Develop Training Needs Assessment tool and methodology procedure	EDO (CD), trainers pool	As appropriate: line departments, NGOs; technical agencies	Within 6 months	Draft TNA tool/s
Conduct NDMO and DDMA familiarization training to various	EDO (CD), trainers pool	DCO, EDOs, DOs, TMAs, UCs, Village leaders,	Within the first year	Minutes of meeting; District Nazim/DCO approval

Government officers and officials from the District, Tehsil, Union Council and Village		NGOs, technical agencies		
Introducing and conducting of the Awareness-Raising Campaigns in Villages	EDO (CD), trainers pool	DCO, EDOs, Dos, TMAs, UCs, Village leaders, NGOs, technical agencies	Within the first year	Activity reports, participants list

3.9 Priority Action: 4 Communities and Local Risk Reduction Program

Community and local level risk reduction programming is basic requirement to effectively deal with disasters and reduce their risks and losses at minimum level. Because, if the local community is fully aware of all possible risks and also equipped with all knowledge and skills, it would give sound response to any emergency and disaster occurring in that specific area.

While considering disaster risks at local level, it is an inevitable that risk reduction programmes should be carried out at community level for capacity building of local officials, communities, and civil society organizations. The local level capacity building of the communities at large and other local stakeholders would have far reaching impact at local level. The District Disaster Management Authority (DDMA) will support local government at tehsil, union council and village levels in adopting District Disaster Risk Management Plan (DDRMP) in their own disaster risk management plans.

3.9.1 Lead Agency

The Planning Department will have a lead role to carry out *tehsil*, union council and villages level disaster risk management plans, while, it would have a support from the tehsil administration. The *Tehsil* Planning Officer will be the focal person for District Risk Management within the tehsil administration. He/She will ensure that disaster risk management planning is carried out at tehsil level under the guidance of the Tehsil Nazim. At union council level, it will be the Secretary for Community Development, who is responsible for District Risk Management.

3.9.2 Key Activities to be undertaken within 6 months

- Identify and appoint focal persons at *tehsil*, union council and village levels
- Prepare local planning framework and methodology
- Conduct training need assessment (TNA) of focal persons at tehsil, UC and village level as well as of community based NGOs/CBOs
- Generate funds/ resources for trainers from within and outside government

3.9.3 Activities to be undertaken within the First Year

- Holding focal persons training regarding the understanding of policy requirements and operational aspects of District Risk Management at tehsil level
- Holding focal persons training regarding the understanding of policy requirements and operational aspects of District Risk Management at UC and village level
- Conducting specialized skills training such as:
 - Conducting of facilitator's training on District Risk Management
 - Exercising and training on early warning
 - Conducting training on Community based Disaster Management
 - Holding training on basic search and rescue
 - Conducting training on camp management
 - Conducting disaster preparedness training
 - Developing school-based disaster awareness and preparedness training modules and materials
 - Holding community awareness activities at local level to increase the awareness on hazards as well as preparedness and response.
 - Preparing small preparedness and mitigation schemes

- Assessing/evaluating/ lessons learned

3.9.4 Anticipated Supply and Equipment Requirements

- Ensure emergency supplies
- Arrange transport facilities
- Ensure availability of equipments and trained search and rescue unit
- Arrange communication facilities to the health care providers.
- Develop various materials and equipment for training sessions
- Provide warehousing facilities and arrangements
- Ensure funds for purchase of relief items
- Provide warehousing facilities and arrangements
- Provide trainers and experts

Table: 3.4 Communities and Local Risk Reduction Program Work plan

Activities	Lead Agency /Responsibility	Cooperating Agency /Department	Period of Completion	Verifiable Indicators
Identifying and appointment of focal persons at tehsil, union council and village levels	DCO, Tehsil Nazim, UC Nazim	TMA, UCs, NGOs,	Within 6 months	Focal persons list, appointment letters, terms of reference
Prepare Local Planning Framework	Planning Department, focal persons,	Selected line agencies, NGOs, TMA, UCs, DCO	Within 6 months	Planning Framework/Guide
Conducts Training Needs Assessment of focal persons at Tehsil, UC and Village level as well as community based NGOs/CBOs	Focal persons	TMA, UCs, NGOs	Within 6 months	TNA reports
Generate Funds/ Resources trainers from within and outside government	Planning & Finance EDO	District Nazim, DCO	Within 6 months	Funds available or appropriated
Development of Public Awareness Campaigns and materials	Focal persons,	Media, IT department, education department, NGOs,	Within the first year	Public Awareness materials and kits
Develop school-based disaster awareness and preparedness training modules and materials	Focal persons, local teachers	Media, IT department, education department, NGOs,	Within the first year	School based awareness materials such as posters, billboards, comics, etc.
Conduct public awareness activities in villages and communities	Focal persons and NGOs	Media, IT department, education department, NGOs,	Within the first year	Activity reports, participants list, photo documentation
Conduct school based disaster awareness and preparedness seminars and activities	Focal persons, local teachers and NGOs	Media, IT department, education department, NGOs,	Within the first year	Activity reports, participants list, photo documentation

Identification and development of small preparedness and mitigation schemes	Focal persons	TMA, UC, Village leaders and communities	Within the first year	Activity reports, implementation plans
Assessment/ Evaluation/ lessons learned	Focal persons, Planning Department,	DCO, Nazims, TMA, UC, Village leaders and communities	Within the first year	Assessment report, participants list, implementation reports

3.10 Priority Action: 5 Multi-hazard Early Warning System

The main purpose of developing multi-hazard early warning system (EWS) is to establish advance warning system with a view to develop better skills and capacities of local communities and local government officials to take all possible necessary measures prior to occurring of any hazard. Through developing EWS, losses of major disasters could be reduced at great extent, with timely collection, consolidation, analysis and dissemination of risk information.

However, it is important to install a set up of Early Warning System, to keep aware local communities especially the communities belonging to disaster prone areas of seasonal and flash flooding.

In this regard, the local media could play a important role in early and timely information dissemination linking communities with warning agencies. However, technical support could be sought from the expert agencies such as the PMD, FFC, WAPDA, GSP, PNRA, etc to assist the district.

3.10.1 Lead Agency

The Works and Services Department will be the leading agency in this priority area.

3.10.2 Key Activities to be undertaken within 6 months

- Identify and appoint focal persons at tehsil level for early warning
- Identify and appoint focal persons at union council and village levels for early warning
- Develop Standard Operating Procedures (SOPs) for the use and maintenance of communication equipment.
- Prepare resource inventory of available communications equipment with user location/addresses based on individual agency inventories

3.10.3 Activities to be undertaken within the First Year

- Develop EWS at village, union council, tehsil and district level,
- Develop public awareness plans and schemes to make aware the common people about the importance of EWS
- Establish community EW teams in priority flood-prone villages
- Hold community workshops to install the system at local level
- Conduct community trainings specific to EWS
- Hold media sessions to develop coordination mechanisms regarding EW
- Conduct media training on EWS

3.10.4 Anticipated Supply and Equipment Requirements

- Provide transport facilities
- Ensure emergency supplies
- Provide equipped and trained Search and rescue unit
- Ensure availability of funds for purchase of EW equipment
- Maintain proper communication facilities during field operations
- Develop and provide various materials and equipment for training sessions
- Trainers and EW experts
- Ensure functional Emergency Operations Center

Table: 3.5 Multi-hazard Early Warning System Work plan

Activities	Lead Agency	Cooperating Agency /Department	Period of Completion	Verifiable Indicators
Identifying and appointment of focal persons at Tehsil, union council and village levels for early warning	W & S Dept., DCO, District Nazim, Tehsil Nazim, UC Nazim	Line Agencies, NGOs, technical agencies, DPO	Within 6 months	Terms of reference, appointment letters, focal persons list
Resource inventory of available communications equipment	W & S Dept focal persons	Line agencies, NGOs, UN, other private groups, DPO	Within 6 months	Inventory list that includes location and type of facility
Develop Standard Operating Procedures (SOPs) on the use and maintenance of communication equipment.	W & S Dept focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within 6 months	SOPs, minutes of meetings
Develop Early Warning System at village, union council, Tehsil and district level	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Draft Community EWS
Develop public awareness schemes, activities and IEC materials	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Public awareness materials related to EWS
Establish Community EW teams in priority flood-prone villages	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	EW Teams list
Conduct Community workshops to install the system	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Community meetings report, approved CB EWS
Community Trainings specific to EWS	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Training module, training reports, participants list
Hold media meetings to develop coordination mechanisms regarding EW	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Minutes of meeting, participants list
Conduct Media Training on EWS	W & S Dept, focal persons	Line agencies, NGOs, UN, other private groups, DCO, TMA, UCs, DPO	Within the first year	Training report, participants list

3.11 Priority Action: 6 Mainstreaming Disaster Risk Reduction into Development

It is now need of the time and conditions that risk sensitive approaches should be effectively integrated in all government local, provincial and national level planning and programs in the country. The key objective of integrating risk sensitive approaches into planning is to ensure all development infrastructures in hazard-prone areas e.g. schools, hospitals, roads, bridges, dams and telecommunications infrastructure etc. are built to higher standards of hazard resilience.

District Disaster Management Authority (DDMA) has to review and analyse the concerned district ordinances and procedures to incorporate risk assessment into project planning and implementation.

Technical agencies would support other local organizations and DDMA will hold workshops for selected line departments to orient them on integrating risk assessment in programme planning and design, and to include vulnerability reduction in programme implementation.

3.11.1 Lead Agency

The Planning Department will be the lead agency to ensure that the disaster risk management (DRM) is integrated within existing development planning framework of the district.

3.11.2 Key Activities to be undertaken within 6 months

- None

3.11.3 Activities to be undertaken within the First Year

- None

3.11.4 Activities to be undertaken on the second year (FY2008-2009)

- Conduct workshops to develop mechanism to integrate District Risk Reduction (DRR) in Annual Development Planning
- Conduct training on DRR integration planning
- Conduct workshops actual integration planning

3.11.5 Anticipated Supply and Equipment Requirements

- Provide transport facilities
- Ensure availability of funds for DRR activities and projects
- Develop various materials and also provide equipments for training sessions
- Arrange trainers and planning experts

Table: 3.6 Mainstreaming Disaster Risk Reduction into Development Work plan

Activities	Lead Agency	Cooperating Agency / Department	Period of Completion	Verifiable Indicators
Conduct workshops to develop mechanism to integrate DRR in ADP planning	Planning Dept.	DCO; Planning Department	FY2008-2009	Workshop minutes; draft mechanism
Conduct training on DRR Integration Planning	EDO (Planning & Finance)	District Nazim; DCO	FY2008-2009	Training module; minutes of meetings
Conduct Workshops on Actual Integration Planning	EDOs of concerned departments	DDMA members, TMAs, relevant agencies	FY2008-2009	ADP with DRR

3.12 Activities immediately follow after DDMA is established

- District government will select and allot a suitable location for the offices of District Disaster Risk Management Authority (DDRMA)

- Provincial government will notify and establish District Disaster Risk Management Authority (DDMA) Kech District
- District Disaster Risk Management Authority (DDMA) members will be identified and appointed
- The local media will be briefed in detail regarding the scope and objectives of District Disaster Risk Management Authority (DDMA)
- Key stakeholders and concerned departments would be briefed on the District Disaster Risk Management Authority (DDMA)
- District, tehsil, union and village level seminars will be held to familiarize the local community on District Disaster Risk Management Authority (DDMA) setup

3.13 Activities to be undertaken within the Five year of the establishment of DDMA

- District emergency operation Centre would be established for helping District Disaster Risk Management Authority (DDMA) in coordinating swift response and effective communication during any emergency in the district.
- Technical support to tehsil, union and village administration for mapping out their DRMPs as per procedure mentioned by the District Disaster Risk Management Authority (DDMA)

Disaster Trends in Kech District

Kech district location and its past disaster history, especially two natural disasters in one decade i.e. heavy floods in 1998 and ruinous rainfall followed by devastating flooding in 2007 and also the prevailing hazards indicate towards impending disasters in the district. The human induced disasters have also played havoc with the lives of the local communities and inflicted heavy losses on them. Mirani Dam Reservoir and Sorap dam are some potential threats in coming years to the local population of the district. Mirani Dam have destroyed 40,000 acres of land and deprived more than 50,000 poor agriculturists of their livelihood and rendering nearly 70,000 people homeless. According to estimates, the majority of the population of Nasirabad, Nodiz and Kalatuk union councils would be inundated once the water is stored in the dam to its full capacity. Besides, a vast upstream area including villages, irrigated lands, and infrastructures including tube wells would face the menace of water logging and salinity. Besides, the flood irrigated lands; the downstream areas are also characterized with forests, which too, are the resources of livelihoods for millions. With the decrease in river flows these forests would be degraded and degenerated, which would result in the deprivation of livelihoods of a large number of woodcutters.



As it was witnessed during the flash flooding in 2007, that Union Council (UCs) of Nasirabad, Nodez, Ginna and Kalatuk were the hardest hits by the back flow of water from the Mirani Dam Reservoir, a large number of villages in the above-mentioned UCs were inundated. The Sorap dam breached and washed away many villages in UC Gokdan. On the one hand, the local communities are lacking all required skills and capacities, while on other hand, dearth of effective coordination among all government departments and government departments with non- governmental organizations, and also poor preparedness and required wherewithal are posing additional threats of increase in the frequency, intensity and severity of burgeoning disasters in the area.

The chronic diseases followed by gashing floods and heavy rainfall largely affected not only the disaster prone areas of the district but also spread in nook and corner of the district. During the flash flooding period in 2007, and torrential rains and simultaneously devastating floods ultimately resulted in spreading of deadly diseases in the area. Aftermath of flash floods water-borne diseases like, Cholera, Diarrhea, Malaria, Dengue, Skin disease and Respiratory Tract Infection (RTI) are endemic diseases frequently visiting the flood-affected areas of district.

Name of Diseases	July	August	September
Diarrhea	10244	5251	776
Skin diseases/Scabies	5657	2757	570
Respiratory Tract Infection	7493	7949	1760
Clinical Malaria	7752	6802	1550
Other	29526	21441	4236
Total	60672	44200	8892

Sources: Health Department District Kech

District Capacity for Disaster Risk Management (DRM)

The immediate and swift response for any natural or manmade calamity requires a full-fledged institution equipped with all required disaster related equipment, with fully trained human power which could cope with any disaster/incident with its capacity in order to reduce as much as losses in the areas. Simultaneously, it is also essential to work out for the capacity building of other related government departments, as they would have their related assignments properly. However, the district Kech having experienced two major disasters during the one-decade, but still lacking any sustainable disaster risk reduction mechanism, which could meet any disaster-oriented emergency. On the other, district government Kech has still not prepared a District Disaster Risk Management Plan (DDRM) as per extension to PDMA from the provincial government and NDMA being established at all tiers.

However, Civil Defense Office (CDO) is yet to be established in the district. A reactive response to any emergency has remained the predominant way of dealing with disasters. The district, tehsil, union council and village representatives as well as media, civil society and other stakeholder still have to be aware on DRM. The table below describes the current disaster risk management capacity in Kech.

District Capacity: Currents Gaps and Requirements for Effective DDMA

Current Level	Requirement for Effective DDMA
District Disaster Management Authority (DDMA) yet to be established in the district	<ul style="list-style-type: none"> District Disaster Management Authority (DDMA) established in the district to effectively handle the disasters in the district The roles and functions of DDMA should be clear to ensure the effective coordination among all stakeholders of the district.
Establishment of Civil Defence Organization (CDO)	<ul style="list-style-type: none"> Civil Defence Organization is necessary to be put in place and have trained volunteers and as well as required equipments to meet any emergency in the district.
Defective relief and rehabilitation system	<ul style="list-style-type: none"> It has been observed that there is always a defective relief and rehabilitation mechanism during the disaster periods, as it was witnessed during the disasters of 1998 and 2007 in the district. The majority of the affected social groups were not helped out in provision of food and medicines.
Lack of effective and strong coordination mechanism during the all relief and rehabilitation and pre-disaster conditions.	<ul style="list-style-type: none"> It is a sine quo non have a effective coordination among all district departments and other stakeholders to ensure the timely and proper relief and rehabilitation mechanism during the disaster time but also during pre-disaster situations.
Lack of disaster management mechanism and effective operational guidelines for Disaster Risk Management	<ul style="list-style-type: none"> Capacity to conduct disaster preparedness and mitigation related trainings and public awareness programs for local officials, stakeholders and for local communities
Lack of Operational Guidelines (OGs) for Disaster Risk Reduction	<ul style="list-style-type: none"> Capacity to prepare guidelines and standards for local government and district level stakeholders on Disaster Risk Reduction
Risk assessment availability form as per the District Disaster Risk Management Plan	<ul style="list-style-type: none"> Capability to continuously monitor hazards, risks and vulnerable locations/conditions within the district, tehsil, union council and village level.

Meanwhile, the district government has taken initiatives as the establishment of district disaster cell (DDC) is a temporary body, and also NGOs have been supporting the local communities in their capacity building. However, there is need to have a sustainable mechanism for better community mobilization,

capacity building, effective coordination, Fact based analysis, and pre -disaster preparedness are the effective tools to meet any disaster incidents.

There are many organizations currently working in the district providing relief and rehabilitation to the affected communities in 2007, in cooperation with different district departments. Following international and national organizations working in the areas for the relief and rehabilitation purposes:

- Oxfam
- Save the Children-UK
- CRS
- SPO
- MRC
- NCHD
- FPAP
- PRCS
- NRSP
- TVO
- AL-Khubaib

The Kech District Disaster Management Authority

As per decided that the National Disaster Risk Management Framework and the National Disaster Management Ordinance 2006, the District Disaster Management Authority (DDMA) will be established in all districts of Pakistan. So Kech District Disaster Management Authority will be established as a part of this programme. The tasks of the District Disaster Management Authority are under:

- Develop district disaster risk management plan, comply with local risk assessment
- Effective monitoring of hazards and vulnerable situations in the district
- Integrate annual government development plans with disaster risk reduction measures in the district
- Chalk out guidelines and standards for local stakeholders on disaster risk reduction
- Organise capacity building and public awareness trainings for local officials, stakeholders and vulnerable communities
- Motivate and encourage local community group involvement in disaster risk reduction and response by providing them financial and technical assistance for undertaking community level initiatives
- Undertake appropriate preparedness measures at district level; e.g. maintain an early warning system, identify buildings to be used as evacuation sites, stockpile relief and rescue materials and identify alternative means for emergency communications
- Mobilise emergency response through the District Emergency Operations Centre (DEOC) on the occurrence of disaster

6.1 Organizational Structure and Members

The District Disaster Management Authority consists of the:

- District Nazim
- District Coordination Officer (DCO)
- District Police Officer (DPO)
- EDO Health

However, the District Nazim can appoint other officers as members of the District Disaster Management Authority (DDMA). They may include EDOs from the education and agriculture departments, Army/FC, Pakistan Red Crescent Society, NGOs, media, private sector, fire services, or any other local stakeholders.

The District Nazim is the head of the DDMA. The head will take overall responsibility of Disaster Risk Management activities in the district. District Coordination Officer (DCO), being coordinating officer of the district administration will perform following responsibilities:

- Coordinate with all District Risk Management (DRM) activities in the district for systematic planning, synergistic development, proper and effective functioning of the district administration
- Supervise over DRM programs, projects, services, and activities of the district administration
- Help out the District Nazim in accomplishment of administrative and financial discipline and efficiency in the discharge of functions and activities

6.2 The DDMA Secretariat

A Secretariat would be established to help out the DDMA in its day-to-day functions. In district Kech, the DCO Office will be assigned to carry out task of secretariat for the District Disaster Management Authority (DDMA). The Secretariat shall consist of the District Coordination Officer, who shall serve as the Chairperson, EDO Revenue as Executive Officer and a minimum of three staff who will be in-charge of three functions as Technical Support (training and education), Operations Group and Finance and Administrative Support. The number of staff, procedures and terms of reference of the Secretariat will be further developed by the District Disaster Management Authority (DDMA).

6.3 The District Emergency Operations Center (DEOC)

On occurrence of any disaster, the District Disaster Management Authority (DDMA) shall transform itself into the District Emergency Operations Center (DEOC) and take operational lead for all government district

departments. The DCO manages the DEOC and is responsible for ensuring that the following activities are undertaken:

- Advise the District Disaster Management Authority (DDMA) and District Nazim on the current disaster situation in the district
- Coordinate with all district institution/agencies regarding Damage and Needs Assessment
- Collect all disaster related reports from all institutions/agencies such as police, tehsils, union councils, villages and NGOs
- Consolidates reports into a District Disaster Situation Report and dispatch it to all concerned agencies including the media personals
- Coordinate and collaboration with the army
- Supervise and monitor disaster management and relief activities
- Coordinate the activities of Police, Fire Brigade, Works and Services Department, Health Department, NGOs, Volunteers, Army and others
- Ensure the services of expert institutions and laboratories in time of disaster through the health department
- Operate a public information centre to update regarding an emergency or disaster situation
- Make sure the timely and properly clearance of debris
- An effective monitoring on disaster warning or disaster occurrence and communicate the same to the tehsils, union councils and the wards for better preparedness and effective response.

Functions of DDMA Members

In order to ensure unified and holistic approach to Disaster Risk Management in the district, the members and DDMA Kech and their functions have been outlined as under:

7.1 Finance and Planning Department

- Allocation of financial resources, as per the need of the District Disaster Management Authority (DDMA) and other relevant district departments for effectively undertaking all disaster risk management activities
- Effective coordination with District Disaster Management Authority (DDMA) regarding allocation of financial resources to undertake disaster risk management programmes in hazard-prone areas
- Effective monitoring of all government departments/institutions in proper utilization of district disaster oriented funds
- Design and introduce micro-finance schemes for affected communities to support the vulnerable community their rehabilitation efforts

7.2 Health Department

- Ensure emergency diagnosis/treatment to all injured and affected communities in the all affected areas of the district
- Provide emergency supplies of all required medicines and first-aid
- Ensure timely supply of timely food and potable water, and also ensure sanitation and disposal of waste properly
- Manage the availability of ambulances for the affected population
- Make proper arrangements for the affected communities in government hospitals
- Provide special information regarding precautions for infectious/epidemics
- Close coordination with DEOC, releasing all details of the above activities

7.3 Agriculture Department

- Develop close coordination with District Disaster Management Authority (DDMA) in order to take possible measures to reduce vulnerability of agriculture
- Plan disaster preparedness and response strategy/plan to cope with impending hazards
- Coordinate with food department to make sure the availability of food stocks in the disaster
- Undertake vulnerability and risk analysis for agriculture sector, particularly in relation to floods, droughts and locust in the district
- Provide immediate assistance in saving crops, agricultural land in disaster situation
- Ensure availability of required inputs like seed, plant, fertilizers and agricultural equipment to affected of disasters on credit basis in the district
- Conduct survey to extent of damages to crops and land

7.4 Forest and Wildlife Department

- Publish awareness materials for communities and other stakeholders about seasonality of hazards and risks in areas of grazing for pasture and water in the district
- Provide technical advice for rangeland planting and raising of tree nurseries for afforestation and reforestation programmes in the district
- Create awareness through biennial tree planting and reforestation programmes
- Supply of drought resistant seeds of tree species to farmers and communities.
- Control grazing of animal to rangeland areas that have endangered tree species.
- Supply of timber, firewood, grazing grass and other minor forest produce through open public sales.
- Give advice for marketing and industrialization of forestry products.
- Develop recreational facilities in a sustainable manner in the rangeland areas.
- Offer forestry educations to institutions and schools highlighting the role of forests in disaster reduction

7.5 Community Development Department (CDD)

- Organize and conduct public awareness and capacity building trainings for local communities on disaster
- Facilitate Citizen Community Boards (CCBs) to launch schemes as per requirements of the disaster risk management (DRM)
- Develop confidence of the people through effective measures for disaster risk management at grass root level
- Provide vocational training to most vulnerable and underprivileged and disabled community
- Prepare the list of NGOs registered with it according to the specialized field and functions
- Organize communities for disaster management reduction through seminars, media and other available means

7.6 Education Department

- Hold orientation programmes in order to raise awareness of education staff on Disaster Risks Management (DRM)
- Encourage local educational authorities and teachers to prepare school disaster response plans and their proper and effective execution
- Identify vulnerable educational institutions and infrastructure of the department in hazard-prone areas
- Execute plans to reduce vulnerability of built infrastructure in education sector in hazard-prone areas, e.g. retrofitting, renovation, rebuilding etc
- Develop curriculum for schools on disaster risk management (DRM)
- Build up capacities in schools of the District to cater for additional water, sanitation and other administrative chores to house affected population in the event of disaster
- Ensure that all new education buildings in the district are to the higher standards of hazard resilience
- Undertake schools level activities to enhance awareness of students and to promote overall preparedness in educational institutions through conducting drills reducing vulnerability etc

7.7 Revenue Department

- Mobilize and collect funds to support in disaster risk management activities
- Undertake rescue and evacuation operation during the disaster or an emergency
- Organize relief, food and medicine distribution centers in the disaster areas of the district
- Seek assistance from the DEOC as required in the area
- Develop effective coordination with district EOC
- Ensure easy accessibility of rescue and relief personnel/vehicles in the disaster areas
- Coordinate with health department for corpse disposal
- Provide required facilities of the rescued/affected people to nearby hospitals and other rehabilitation centers
- Maintain law and order in the area
- Request WSD for providing access through roads during emergencies for specific time duration and monitor the requirement of such access

7.8 Works and Services Department

- Supervise flood conditions on passing out safe routes and co-ordinate with DEOC for mass transport requirements and advisory on rerouting of traffic, if needed.
- Establish public information centers updating the community on disaster situation in the local area
- Send advisories to the DEOC on road conditions especially with regard to blocked or impassable roads
- Ensure flood waters draining from roads

7.9 Livestock Department

- Organize capacity building and awareness programs for the authorities and staff of the Livestock Department on disaster preparedness and risk management

- Develop contingency plan to look after the livestock after occurrence of a disaster and facilitate the breeders in the treatment of their animals
- Chalk out disaster risk management plan to cope with hazards and disaster with relation to livestock in the District
- Help the breeders in terms of soft loaning to raise their herds after a hazard

7.10 Food Department

- Organize capacity building and awareness programs for departmental authorities/staff on disaster preparedness and risk management
- Map out disaster risk management plan to cope with hazards and disaster with relation to food in the District
- Closely coordinate with flour mills in order to ensure food requirements in the district during a disaster
- Ensure adequate availability of wheat and flour stocks in disaster situation
- Develop contingency plan to ensure the food after the occurrence of a disaster and facilitate the public in getting of food
- Submit reports to the DEOC of the activities and expenses

7.11 Irrigation Department

- Develop a scientific plan for rain water harvesting in the district
- Help the farmers in harvesting from flood rivers water
- Develop the existing capacities of the Irrigation Department and modernize them scientifically to mitigate floods and droughts
- Reserve and allocate appropriate funds in its annual budget for the implementation of disaster risk management activities in flood and drought prone areas
- Ensure timely repair of flood protection works in the season followed by flood
- Carry out vulnerability and risk analysis for flood prone areas and irrigation systems
- Develop a close liaison with DDMA and jointly identify suitable actions for reducing vulnerability to flood, drought and other such risks which might disrupt livelihood in the irrigation areas
- organize awareness creating programmes for the villagers or rain water harvesting farmers to increase their working capacity and update their knowledge
- Encourage afforestation as one of the greater sources of rain falling
- Increase the number of protection dykes to secure the local population, standing crops and other livelihood resources

7.12 Public Health Engineering Department

- Prepare disaster risk management plan (DRMP) with regards to the mandate of the department
- Arrange annual inspection of all the water supply schemes in the district and regularly monitor their functions
- Develop contingency plan of ensuring that the functioning of water supply schemes are restored immediately after a disaster
- Ensure that in case of failure of water supply, contingency plan is made for distribution of clean drinking water through buzzers and tankers
- In case of failure of electricity alternate arrangements for the functioning of water supply schemes in the disaster prone areas

7.13 Army

- Rescue and evacuation of affected communities from the disaster hit places to safer areas before and after the disaster
- Provide assistance in relief and rehabilitation especially in areas difficult to reach
- Establish a set up of communication system in disaster hit areas
- Provision of logistic back up (aircraft, helicopter, boats, etc) and vehicles for transportation of relief material to the affected areas
- Repair and construction of roads and bridges damaged during disaster conditions

7.14 Frontier Constabulary [FC]

- Use their communication system in providing information about the disaster risk, early warning as well as post disaster rescue and evaluation operations
- Support rescue and evacuation operation of the district government in the severely disaster affected areas
- Support in the relief and rehabilitation activities in the remote disaster affected areas in the district
- Provision of logistic back up (helicopter, boats, etc) and vehicles for transportation of relief material to the affected areas

7.15 Civil Defense

- Develop confidence by undertaking more effective measures for protection and adoption of requisite preventive measures by the community
- Organise rescue and evacuation operation in affected areas of the district
- Support disaster response wherewithal of the armed forces
- Coordinate and share with DEOC any additional resources required to perform the above tasks

7.16 Pakistan Red Crescent Society

- prepare disaster preparedness and response teams in order to meet any emergency and disaster situations
- Prepare and develop disaster risk management plan (DRMP) for branch offices
- Develop volunteers capacity/skills through trainings for any emergency response (e.g., evacuation, first aid, fire fighting, early warning etc)
- Coordinate very closely with local authorities/departments in conducting joint assessment of damages and losses and needs of disaster survivors

7.17 Police Department

- Maintain easy accessibility of rescue and relief personnel/vehicle
- Shift the rescued/affected people to safer places and hospitals
- Cordon off area to restrict movement of vehicular and pedestrian traffic and divert traffic on alternate safe and secure routs as and when necessary in coordination with Works and Services Department (WSD)
- Coordinate with Health Department for corpse disposal
- Ensure and maintain law and order
- Maintain close coordination with DEOC
- Request WSD for providing access through roads during emergencies for specific time duration and monitor the requirement of such an access
- Providing information about the disaster situation, affectees etc during the disaster situation
- Using wireless and other communication systems for issuing early warning

7.18 Municipal Tehsil Administration (TMA)

- Monitor relief and rehabilitation operations progress in their respective tehsil areas
- Preparation of plans and procedures for disaster management programs in their respective locations
- Collect and provide information on the disaster situation of the tehsil and as well as for union council (UCs)
- Facilitate teams for damage and needs assessment from the district and develop disaster preparedness and response plans
- Undertake community level programmes on vulnerability reduction and disaster preparedness including the organization of drills and simulations
- Close coordination with local authorities in conducting joint assessments of damages and losses and needs of disaster survivors

- Identification and mapping of all hazards in their respective location and conduct risk and vulnerability analysis; and
- Establishment of civic groups for disaster reduction and relief operations
- The appropriate structure of the Disaster Risk Management organization at Tehsil and Union Council level will be determined by the DDMA within the first 6 months of this plan

7.19 Union Council

- Conduct orientation programs in their respective local areas/villages illuminating disaster oriented awareness
- Keep abreast to the district Disaster Management Authority (DDMA) regarding needs and requirements of the local masses
- Preparation of plans and procedures for disaster management programs in their respective locations
- Take operational control in the event of a disaster or emergency so as to make sure that timely and required support is ensured to the affected households
- Mobilization of required finance and material resources for disaster management
- Identification and mapping of all hazards in their respective locations and conduct risk and vulnerability analysis
- Establishment of civic groups for disaster reduction and relief operations
- The appropriate structure of the Disaster Risk Management organization at Tehsil and Union Council level will be determined by the DDMA within the first 6 months of this plan

7.20 Media

- Provide analysis on sources and process of risk generation and patterns of risk and vulnerabilities;
- Disseminate warning messages to at risk communities in an easy to understand language through multiple channels, while being sensitive to people's access and timing issues;
- Provide information to communities about precautionary measures they can take to avoid loss of life and property from hazards;
- Advocate to decision-makers to take appropriate actions for disaster risk management;
- Highlight the need for involvement of communities in disaster preparedness;
- Inform the public with timely and factual information about the extent of disaster, losses caused and the current situation of hazard;
- Advise public about actions to be taken during the emergency period in order to avoid further losses; e.g. evacuation, unsafe areas, water purification techniques
- Inform about actions being taken by authorities/aid groups to save lives and property;
- Relay messages concerning welfare of isolated or trapped groups for the benefit of families, relatives, friends and rescue teams;
- Facilitate communication among affected people and their relatives, friends, families in other parts of the country or world;
- Highlight needs of survivors to make sure that all groups of people affected by the disaster receive appropriate aid, irrespective of their social, ethnic, political status;
- Highlight the need for application of minimum standards to ensure that minimum needs of disaster survivors in terms of water, sanitation, shelter, food and health are met;
- Communicate about potential secondary risks to minimize further loss or damage;
- Appeal for assistance from all parties to meet the needs of survivors;

Lead Agency and Support Organizations for Various Hazards

SECTION 8

Hazard threat	Lead Agency/Department	Supporting Organizations
Floods	Irrigation Department	Irrigation Department, Civil Defense, Agriculture Department, Livestock Department Metrological Department, C&W Department, Pakistan Army, NGOs, Community, District Government
Drought	Food Department	Livestock Department, Department Planning & Development, District Government, Irrigation Department, NGOs, Pakistan Red Crescent Society, Health Department, Community Development Department, Metrological Department
Earthquake	Civil Defense	District Government, Civil Defense, Pakistan Red Crescent Society, Pakistan Army, NGOs, Community & CBOs
Communicable diseases	Health Department	Pakistan Red Crescent Society, Water and Sanitation Department, Health Department, Pakistan Army (Medical Corps), Community, NGOs
Locust/pest infestation	Locust Department	Livestock Department, Pakistan Red Crescent Society, Metrological Department, NGOs Agriculture Department, Community, Forest Department
Major Road Accidents	Police Department	Civil Defense, Pakistan Red Crescent Society, Health Department, Blood Donor Associations and other NGOs
Pollution Crisis (Bomb Explosion, Stampede, Demonstrations)	Environmental Protection Agency Police	Tehsil Municipal Administration, Mines and Industry, Forest and Wildlife, Water and Sanitation Department, NGOs, Community

Many Federal and Provincial departments are working in the Kech district, having different areas of competence and mandate. They can discharge their responsibilities indicated in the table, as a part of their primary and secondary responsibilities.

The hazards highlighted in the above table, can hit any part of the district at any time. The respective agencies in response to the various identified potential hazards will come forward to develop contingency plan and disaster response plans to the respective hazards.

Thematic Working Group on Disaster Risk and Emergency Management

The thematic working groups consist of various institutions/organization and stakeholders, working on disaster risk management, development and humanitarian response. Thematic working groups will be organized at both district and community levels. These thematic groups will be formed within the framework of proposed District Disaster Management Authority (DDMA). On this platform all development professionals and organizations such as NGOs, CBOs, government departments, and other private organizations would collectively work on disaster risk management (DRM) in Kech district to deal with disasters through information sharing joint activities for disaster risk management.

The key objective of these group's activities is to bolster and support the preparedness and mitigation technical skills for swift and effective response to disasters in the district. This would determine clearly the roles and responsibilities with a sense of clear accountability, strengthened leadership and quick result. This group will play its role to ensure the effective participation of all local stakeholders and organizations by utilizing the all-available means through a close coordination. The following would be its added values:

- Promote and ensure active involvement of all concerned stakeholders engaged in disaster risk management plans
- Establish effective coordination among government organizations/departments, NGOs, CBOs, and concerned institutions involved in the same field.
- Ensure effective cooperation and coordination in pre-field and on-field activities
- Stockpiles of all required tools.
- Effective and full accountability of all operational partners to the government, stakeholders and community.

9.1 Functions of the Thematic Lead

- Accurate and timely assessment of overall needs for human, financial and organizational capacity in DRM in the province
- Ensure and follow up of the commitments from the thematic areas to contribute for balancing the gaps and needs in the DRM in the district
- Disseminate information and knowledge at the district, Tehsil and community level
- Conduct advocacy to find ways and means and gather resources for disaster risk management programmes
- Watch vigilantly the activities within the specific area are undertaken
- Update all data concerned to disaster risk management
- Explore the detail, effectiveness, type, size and number of the available capacities and find effective means for their utilization according to the needs of the district
- Build up capacity of the local experts with strengthening and modernizing the available material

All the thematic working groups working in district would be chaired by respective government departments with a leading role. The Thematic Group may be co-chaired by another organization with competence in the lead area e.g. the lead department and chair of food related issues in the district is the Food Department and, for example, if WFP has representation in the district in which it works with close collaboration with the Food Department, it may co-chair in thematic group in food. In order to make this concept more depictive, the following table this drawn:

Thematic Group	Thematic Lead	Co-Chair
Overall Disaster Risk Management	DDMA	UNDP
Food and Nutrition	Food and Agriculture Department	UNICEF & WFP
Water and Sanitation	Water and Sanitation Department	UNICEF
Health	Health Department	WHO
Logistics	DDMA	Relief Commissioner

Search and Rescue	Civil Defense	Fire Brigade
Rehabilitation	DDMA	UNDP
Education	Education Department	UNICEF
Early Recovery	Planning and Development/DDMA	UNDP
Emergency Telecommunications	Information Technology Department	WFP
Rapid Assessment	DDMA	DDMA
Environmental Degradation	DDMA, Environmental Protection Agency and Forest Department	UNDP
Immediate Shelter	DDMA	Pakistan Red Crescent Society
Security and Public Safety	Police Department	Civil Defense

The clarification of the lines of accountability to the government, community and among other stakeholders is possible mainly by a strong coordination which thematic approach ensures to a large extent. It is here that the approach and actions of all thematic groups are watched closely that either they address properly all identified key gaps in disaster risk management or otherwise. Sometimes, important actions are not undertaken, as no group owns them because of the ambiguities in determining the area of action of various groups. The principle of the thematic groups will also be applied in case of all such cases, which prove hazardous for the people and demand the disaster tackling approach in the implementation that leads to long-term recovery.

The Thematic Groups have a vital role in helping the District Government in its designing, preparing and implementing the phased wise coordination arrangements from emergency to long-term recovery, development and rehabilitation. A well-designed policy would be chalked out to support the thematic groups to pave the way for better strategies and procedures for entry and phase out and understanding different activities.

Simulation and Drills

10.1 Responsibility for Organizing the Drills

The new formed agency look after at other sister organizations to get it firmly established and learn what these institutions and other stakeholders have done or have been doing. The district Disaster Management Authority Kech will plan and undertake a number of exercises and drills with other stakeholders on various conditions to assess the procedures. The organizations and departments carrying out different functions in the district are also expected to have effective coordination and holding the exercises. The certain type of exercise should be undertaken in such a way that these should be open for all stakeholders and volunteers. The certain exercises, which can be carried out in the drills, are following

- A disastrous flood affecting the major portion of the Kech district resulting in human population and livestock casualties
- A rainfall in the district leading to innumerable casualties in the district and have also destroyed the communication system
- The drought has put the entire district in disastrous conditions

10.2 Schedule for holding the drills

As the Kech district is exposed to various types of disasters, therefore, the drills need to be held while realizing the burgeoning disaster threats. The frequency of the drills is recommended to be six-monthly. The nature of drills should be the same what the drill holding-place faces as the threat of disaster vulnerability. The drill results should be combined with the past experiences and to be incorporated in the District Disaster Risk Management Plan accordingly.

While conducting drills and simulation, the traditional methods should also be incorporated in the modern methods. Keeping in view the disaster vulnerability of the different place of the district, drills and simulations are recommended as under:

Name of Area	Nature of Drill	Frequency	Time Schedule	Thematic Group
Kosh kalat	Flood Devastations	Six monthly	Last week of April & 1st week of May	DDMA, Livestock, Agriculture, Irrigation Metrological Department & NGOs,
Gokdan	Flood Devastations	Annually	March	DDMA, Livestock and Agriculture Departments & NGOs
Ginnah	Flood Devastations	Six monthly	June and September every year	DDMA, Agriculture, Irrigation, Meteorological Departments & NGOs
Kalatuk	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Nodiz	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Nasirabad	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Kumbail	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Zarinbug	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Balochabad	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Danchop Dan	Flood Devastations	Six monthly	June and September every year	DDMA, Agriculture, livestock, Departments & NGOs

Pathan-e-Kahoor	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Gokdan West	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Solband	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Warisabad Shahrak	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Shay Kahn	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs
Kumbi Herronk	Flood Devastations	Six monthly	June and September Every year	DDMA, Agriculture, livestock, Departments & NGOs
Hoshab	Flood Devastations	Annually	March	DDMA, Agriculture, Livestock Departments & NGOs

All the organizations, stakeholders and related communities will keep a close coordination with the local as well as provincial media correspondents and other authorities. In order to facilitate this, the important telephone numbers of all such agencies, institutions and media men is given below:

Contacts of Important Concerned Departments and NGOs

11.1 Provincial Departments

Department/ Organization/ Agency	Office Tel	Home Tel	Fax
Chief Secretary Balochistan	081-9201254	081-9201964	9202132 9202753
Principal Secretary – Governor, Balochistan	081-9202176	081-9201449	081-9202178
	081-9201045	081-920934	
Balochistan Civil Defense Quetta	081-9203514	081-92011504	
Irrigation and Power Department	081-9201074	081-826754	081-9202157
C & W Department	081-9202374	081-9203193	081-9202662
PHE Department	081-9201160	081-2440282	081-9201566
Health Department	081-9201954	081-920155	081-9201149
Agriculture Department	081-9201261	081-833199	081-9201805
Education Department	018-9201622	081-667533	081-9202727
Home Department	081-9202400	081-9202759	081-9201835
Forest & Wild Life	081-9202275	081-9202435	081-9202835
Livestock and Dairy	081-9202243	081-850740	081-9201113
Mines and Mineral	081-9201062	081-9202859	081-9201113
Environmental Support	081-9202421	081-9203187	
Radio Pakistan, Quetta			
Local Government	081-9201277	081-841055	081-9201710

11.2 District Government and other Departments in the District

S.No.	Designation	Office	Res	Fax
1.	District Nazim	413201	411467	414012
2.	DCO Kech	413244	413399	412593
3.	DPO Kech	413333	413304	412638
4.	EDO (Health)	413332	412549	413359
5.	EDO (Livestock)	412387	412115	412387
6.	EDO (Forest)	413564	413564	413564
7.	EDO (Education)	413732	413899	413732
8.	EDO (B&R)	413322		413322
9.	EDO (Agriculture)	413340	412027	413340
10.	EDO (CD)	412930	414098	412930
11.	EDO (P&F)	413232	412494	413232
12.	EDO (Revenue)	411446	413092	413092
13.	EDO (PHED)	413092	413393	413092
14.	Commandant Mekran Scouts Turbat	413288	412177	413288
15.	XEN QESCO Turbat	412228	412326	412228
16.	D.E, T&T Turbat	412444	413337	411111
17.	PTV Station Turbat	411650		
18.	Information Department Kech	413570	411662	413570
19.	Degree College Turbat	412039		412039
20.	Boys Model School Turbat	412250		
21.	Girls Model School Turbat	412344		
22.	BRC Turbat	411265		
23.	XEN B&R (Provincial) Turbat	412011	412011	

24.	Civil Hospital Turbat	412175	412593	
25.	PD Mirani Dam Turbat	0852-619057		0852-619057
26.	XEN Irrigation Turbat	413327		
27.	TMO (Turbat, Buleda, Tump, Dasht)	412336		412336
28.	NRSP Turbat	412830		
29.	SPO Turbat	412333		
30.	Marie Stops Turbat	411612		
31.	NCHD Turbat	414167		
32.	Radio Pakistan Turbat	412618	412330	
33.	Deputy Director Food	412134		
34.	Agricultural Eng: Department	413976		

11.3 NGOs Working in Kech District

S#	Organization	Contact Person	Contact	Work Area
1	SPO	Tanvir Ahmed	0852412333	Advocacy, Capacity Building and Disaster
2	Makran Resource Center	Nasir Ali Sajjad	0852413031	Advocacy, agriculture, Disaster Emergency Response
3	NRSP	Dr. Lal Jan	0852412830	Rural Development/Micro Credit
4	NCHD	Munir Ahmed Gichki	0852414167	Education & Literacy
5	FPAP	Abdul Rashid Baloch	0321 8130947	Health, Family planning and Productive Health
6	SAF-Kech	Nazeer Ahmed	03218936690	Education, Health and Sanitation
7	Action Committee Turbat	Akbar Ali, Ikhtlaq Baloch	03218091071	Education and Health
8	Kech Educational Society Ginna	Abdul Salam, Zubair Baloch,		Education, Health and Disaster Emergency Response
9	EIDLINK	Abdul Wahab Project Manager	0321-6871186	Education
10	Action Committee Turbat	Ikhtlaq Ahmed	0322 2201343	Advocacy, Disaster Risk Management, Relief and Rehabilitation
11	KDFK	Waris Hasan	0321 3090435	
12	MDAC	Dr. Tariq Baloch	0321 3532875	Disaster Rehabilitation/Settlement and Health
13	BAAM Development Organization	Muhammad Ali	0322 2570554	Education and Computer literacy
14	Falah (MC)	Dr Abdul Raheed Baloch	0321 8130947	Family advancement for life and health
15	PRCS Kech	Bilal Bizanjo	0343 8225435	Disaster, Health and Education
16	TVO Kech	Muhammad Abdul	0321 8123413	Capacity Building, Education and Safe Drinking Water
17	A.C.D	Tahseen Ahmed	0321 8091446	Disaster, Health and Education

Emergency Response Machinery and Equipment Available in the District

Kech district is one of the largest districts of the province and has the second largest population after Quetta, capital city of Balochistan. The district is spread on the area of 22,539 square kilometers. The district is comprised of four tehsils, Turbat, Buleda, Dasht and Tump. The population of the district is scattered and emergency equipments for swift and timely response as the machinery and equipments presently available in the district is either mostly not in working conditions or not enough to respond effectively against any disaster. The detail of machinery and equipment available in the district is given below:

Contingency Details of Machinery and Equipment for Disaster Management available in the District

S#	Name of Deptt: /office	Type of Machinery	Type of Vehicle
1	DCO Office	Generator-1	<ul style="list-style-type: none"> ▪ Nissan four door –TT-1
2	Planning & Finance Office	Nil	<ul style="list-style-type: none"> ▪ Toyota double cabin ▪ Potohar
3	Education Department	Nil	<ul style="list-style-type: none"> ▪ S/Door Pickup ▪ D/Door Pickup ▪ Suzuki Jeep ▪ Potohar Jeep ▪ S/Door Pickup ▪ Datsu
4	Health Department	-5KVGenerator- 1 -7.5KV Generator-1 -X-Ray Plant – 06 Dental unit-04	<ul style="list-style-type: none"> ▪ Toyota Hilux ▪ Pajero 3 Door ▪ Toyota P/up ▪ Mitsubishi P/up ▪ Suzuki Potohar ▪ Suzuki Potohar ▪ Land over ▪ Nissan Ambulance ▪ Toyota Hiac Ambulance Nissan Ambulance
5	PHE Department	Nil	<ul style="list-style-type: none"> ▪ D/Door P/up ▪ Suzuki jeep ▪ S/Door P/up ▪ P/up ▪ Land Rover
6	Agriculture (Extension) Department	Nil	<ul style="list-style-type: none"> ▪ P/up D/Door ▪ S/Door P/up ▪ D/Door P/up
7	Forest Department	-Tractor –KC-762	<ul style="list-style-type: none"> ▪ Toyota P/up
8	Agricultural Eng: Department	<u>Dozers</u> a. D6D- CAT-46 b. D6D- CAT-126 c. D6D- CAT-214 d. D6D- CAT-252 e. D6D- CAT-41 (repairable) f. D6D- CAT-47 g. D6D- CAT-51 (Repairable) h. D6D- CAT-63 i. D6D- CAT-202 j. D6D- CAT-215 k. D6D- CAT-217 l. D6D- CAT-44 (Repairable)	<ul style="list-style-type: none"> ▪ D/Door P/up ▪ S/Door P/up ▪ Mitsubishi truck ▪ Nissan transporter ▪ Isuzu tanker-QAD ▪ FTR tanker

		<p>m. D6D- CAT-45 n. D6D- CAT-48 o. D6D- CAT-170 p. D6D- CAT-191 q. D6D- CAT-253 r. D6D- CAT-42 s. D6D- CAT-43 t. D6D- CAT-52 U D6D- CAT-57 v. D6D- CAT-49 w. D6D- CAT-67 x. D6D- CAT-108 y. D6D- CAT-117 z. D6D- CAT-170 Ab. D6D- CAT-216</p>	
9	Provincial B&R	<p><u>a. Graders</u> -Komatsu Motor-5 (Repairable) <u>b. Dozers</u> -Catter Pillar-4 (All above dozers are repairable) <u>c. Rollers</u> Rollers- 5 (Repairable) <u>Mobil Workshop</u> Mitsubishi (Repairable) Mitsubishi</p>	<p><u>Truck</u></p> <ul style="list-style-type: none"> ▪ Dump truck ▪ Bed Ford truck ▪ Hino Dump truck <p><u>Tanker</u></p> <ul style="list-style-type: none"> ▪ Water bouzer- Vehicles ▪ Toyota SSR P/up ▪ Toyota P/up D/Door ▪ Suzuki Potohar jeep- ▪ Suzuki Potohar jeep ▪ Suzuki jeep
10	Works & Services Department	Nil	<ul style="list-style-type: none"> ▪ Land cruiser ▪ Photohar Suzuki jeep ▪ Photohar Suzuki jeep ▪ Nissan P/up. ▪ Photohar Suzuki jeep
11	Forest Department	Tractor KC-762	<ul style="list-style-type: none"> ▪ Toyota P/up
12	Revenue Department	Nil	<ul style="list-style-type: none"> ▪ D/Door P/up
13	Community Development Department	Nil	<ul style="list-style-type: none"> ▪ Land crosier ▪ Suzuki jeep
14	TMO Dasht	Tractor Rossi Belarus No.300199	<ul style="list-style-type: none"> ▪ Toyota P/up
15	TMO Buleda	Nil	<ul style="list-style-type: none"> ▪ Suzuki Jeep
16	BRC (Turbat)	<p>-Generator- Big Size- -Generator Small-1 -Water Pump-1</p>	<ul style="list-style-type: none"> ▪ Coach/Bus ▪ Pajero ▪ Tractor ▪ Suzuki-Bolan ▪ P/up D/Door
17	Irrigation Department	<p>-Catter Pill D6D -Catter Pill D6D (Working condition) -Fiat Allis -Fiat Allis Fiat Allis (Un-serviceable)</p>	<ul style="list-style-type: none"> ▪ Toyota Land cruiser ▪ Toyota Hilux D/Door ▪ Toyota Hilux D/door ▪ Suzuki Jeep-QAE-
18	G/D/College Turbat	Nil	<ul style="list-style-type: none"> ▪ Isuzu Bus ▪ Coaster ▪ Toyota Van
19	G/Girls/D/ College Turbat	Nil	<ul style="list-style-type: none"> ▪ Coaster -KC-1018
20	Livestock Department	Nil	<ul style="list-style-type: none"> ▪ D/Door P/up ▪ S/Door P/up

Suggested Measures for DRMPs

It has been observed that the available local resources and conventional methods always have a pivotal role in reduction of repercussions of the disasters. Kech district possesses these characteristics, which can be supportive if, these are explored, improved and applied scientifically. Following are the areas, which can prove considerably helpful to reduce the intensity of the losses of disasters:

13.1 Agriculture

The land use statistics indicate that only one fourth of the area in Kech district is reported and 5.2 percent of the total geographical area is potentially available for agriculture. However, due to the shortage of water for irrigation, the agricultural resources are difficult to be exploited. While, most of the people having employment in the Gulf States are reluctant to work as agriculture workers.

After reviewing the district resources/means it is observed that the district has potential for agriculture if irrigation water and agricultural machinery or labor is available. There is a need of irrigation system as well as water supply schemes and also availability of agricultural inputs, like fertilizers, seeds, and pesticides, on affordable prices.

However, if efforts are to be directed towards mechanization, introduction of modern agricultural technology, provision of irrigation sources and development of infrastructure like roads and electricity, the agricultural potential can be fully exploited in Kech. Consequently, the agriculture-based economy of the district can sustain and flourish.

The detail of damages to agriculture sector during the floods 2007 in Kech District

Tehsil	Agricultural losses			
	Dates	Lemon	Mango	Agricultural Land (Acres)
Turbat	62838	6836	2491	10989
Dasht	1612	15	53	648
Buleda	1440	90	27	844
Tump	1828	8	135	11903
Total	67718	6949	2706	24384

Sources: District Government Kech

13.2 Irrigation

Due to lack of irrigation system in Kech district, largely affected the economy of the district especially income of the district comes from agriculture.

There is karez system in some parts of the district, which is maintained by the local of villagers. The land irrigated by a karez is distributed in proportion to the investment made by each participant. The irrigation capacity of a karez and the distribution of water rights are expressed as the area of land. This is equivalent to an average 10 acres and is divided into sub-units.

According to an NGO NRSP there are more than 400 Karez Kech District alone. This is significant in itself, in the absence of reliable Government data about the region. Therefore, due to lack of irrigation system in Kech District, agro economy of the district has not been properly exploited, which needs attention in order to promote agro economy including dates production through channeling irrigation system in the region.

13.2 Environment

The environmental degradation is burning issue in Kech district. Mirani Dam has been built on Dasht river, flood irrigated lands; the downstream areas are also characterized with forests, which too, are the

resources of livelihoods for millions. With the decrease in river flows these forests have been degraded and degenerated, which has resulted in the deprivation of livelihoods of a large number of local people and has also resulted in significant negative impact on the environment. On the other hand, unchecked deforestation must be arrested and reforestation is to be accelerated. Since the population of whole district depends on firewood for domestic use, therefore, alternate arrangements are necessary for the stoppage of deforestation.

Karez system in Kech District

The Karez system on irrigation is one of the traditional engineering wonders of Pakistan. Balochistan the largest landmass in Pakistan with an area of 343,000 square kilometers is scarcely populated, mainly due to its daunting arid geography. It is the mountainous separated by intervening valleys. Balochistan receives very low rainfall annually. But innumerable natural springs known as "Karez" and streams are found in most of the areas. The ancient Karez system is comprised of a series of wells and linking underground channels that uses gravity to bring ground water to the surface, usually far from the source. Originally ancient towns used to depend on the streams and rivers nearby into which glaciers in far-off mountains used to feed. As the time passed the glaciers gradually shrank over the centuries, the streams they fed likewise diminished, resulting in less water flowing downwards.

Then people ingeniously created the Karez to draw the underground water to irrigate the farmland. Wells begin at the base of the mountains along the contours of the hillside. To keep the underground channels unclogged, two men and an animal worked as a team-one man is lowered down to clear the tunnel and buckets of mud are hoisted to the surface by the animal. The tunnels slope less than the contours of the geographical depression, so that the water reaches close to ground level. The water in Karez will not evaporate in large quantities.

The Karez irrigation systems rely on gravitational pull and are comprised of simply a water source, underground tunnels, and vertical shafts that feed the water scarce areas. These irrigation systems are owned and operated wholly by the community. Some work is being planned on to re establish the Karez irrigation system at the sub-tehsil level.

An average Karez can irrigate 10-20 hectares of agricultural lands. Karezes, which can yield up to 200 liters/sec normally and serve a maximum of 200 shareholders. A few decades ago, the agricultural economy of the province was totally dependent upon the supply of Karez water. Karezes have dried up due to the advent of electricity in the province resulting in excessive drilling of large number of tube wells and consequent depletion of water table many. Owing to this the area irrigated by Karezes in Balochistan has been declining steadily and has reportedly decreased from 14.2% in 1980 to 7.5% in 2000.

*S A J Shirazi: <http://pakistaniat.com/karez-balochistan-pakistan-irrigation/>

Besides, wind erosion is a major environmental threat, which needs afforestation as a protective measure. Grey pollution also needs attention of public health planners, which has largely resulted into severe health hazards in Kech district. There is also great need to create awareness amongst local community regarding garbage disposal, etc. at a vast scale.

Fuel wood and petroleum products are also largely used in some areas of the district as energy sources because the electric supply is either non-existent or not regular. In order to protect the environmental degradation in the district, there is need to promote the concept of healthy environment and also environment friendly measures also should be taken in the district, in order to block further degradation of environment.

Consultation and Meetings with Government Departments

- District Nazim Kech
- District Coordination officer
- Finance Department
- Agriculture and Food Department
- Health Department
- Livestock Department
- Irrigation Department
- Planning and Development Department
- Forest and Wildlife Department
- Education Department
- District Revenue Department
- EDOs of the District

NGOs

- SPO
- MRC
- NRSP
- MSF [Belgium]
- Red Crescent
- TVO
- Marie Stopes Society
- Kech Educational and Development Society

Websites

- Government of Pakistan: www.pakistan.gov.pk
- Government of Balochistan: www.balochistan.gov.pk
- National Construction Bureau: www.nrb.gov.pk
- National Disaster Management Authority: www.ndma.gov.pk
- Asian Disasters prepared Centre: www.adpc.net
- UNDP Pakistan: www.undp.org.pk
- Oxfam: www.oxfam.org.uk
- SPO: www.spopk.org
- Save the Children: www.savethechildren.org
- Church World Services: www.cwspsa.org
- Wikipedia: www.wikipedia.org

Documents and Reports

- District Census Report of Kech 1998
- Kech: A District Profile: District Government and UNICEF
- Community Based Disaster Risk Management: ADPC
- Abbotabad: District Disaster Risk Management Plan
- Contemporary & Concise SITREP by Kech Disaster Response Forum
- Rapid Assessment Report of 3-B Yemyen Cyclone Affected Areas in Kech and Gawadar Districts, Southern Balochistan, Pakistan: Joint Assessment Team: PHF, OXFAM GB, Concern Worldwide, CRS and Church World Service-P/A
- Kech: A district Profile: Bureau of statistics: Planning Studies Section & Planning and Development Deptt: Govt of Balochistan
- Daily Dawn: www.dawn.com
- Daily News: www.thenews.com
- The Post: <http://www.thepost.com.pk>

ANNEXES

Flood Disaster Data of District Kech Balochistan

Flood Vulnerable Health Facilities in District Kech Union Council and Tehsil Wise

S#	Name of Institution	Union Council	Tehsil
1	DHQ Hospital Turbat	Turbat	Turbat
2	RHC Nasirabad	Nasriabad	Turbat
3	RHC Kalatuk	Kalatuk	Turbat
4	RHC Pidrak	Pidrak	Turbat
5	RHC Gawarkop	Pidrak	Turbat
6	BHU Balgather	Hoshab	Turbat
7	BHU Gwarkop	Pidrak	Turbat
8	BHU Hothabad	Nasirabad	Turbat
9	BHU Hirronk	Sami	Turbat
10	BHU Jusak	Sarikahn	Turbat
11	BHU Sami	Sami	Turbat
12	BHU Absor	Absor	Turbat
13	BHU Hoshab	Hoshab	Turbat
14	BHU Dandar	Dandar	Turbat
15	BHU Nodiz	Nodiz	Turbat
16	BHU Shahitump	Kosh kalat	Turbat
17	BHU Behman	Gokdan	Turbat
18	BHU Sarikahn	Sarikahn	Turbat
19	BHU Gokdan	Gokdan	Turbat
20	BHU Danook	Gokdan	Turbat
21	BHU Karki	Sami	Turbat
22	BHU Khirabad	Nasirabad	Turbat
23	CD Dashti Bazar	Malikabad	Turbat
24	CD Dehat	Gokdan	Turbat
25	CD Ginnah	Ginnah	Turbat
26	CD Geebun	Kalatuk	Turbat
27	CD Goodi	Nodiz	Turbat
28	CD Kallag	Ginnah	Turbat
29	CD Kosh kalat	Kosh kalat	Turbat
30	CD Meeri	Sarikahn	Turbat
31	CD Perikahn	Ginnah	Turbat
32	CD Shey Kahn	Nodiz	Turbat
33	CD Shahrak	Shahrak	Turbat
34	CD Dramkool	Pidrak	Turbat
35	CD Jamak	Pidrak	Turbat
36	CD Pattan-e-Kahoor	Gokdan	Turbat
37	CD Meno	Kalatuk	Turbat
38	CD Solani	Pidrak	Turbat
39	CD Chahsar	Malikabad	Turbat
40	CD Kolwai Bazar Absor	Absor	Turbat
41	CD Sorag Bazar	Kalatuk	Turbat
42	CD Solband	Nodiz	Turbat
43	CD Baksi Bazar	Pidrak	Turbat
44	CD Zarin Kahoor	Pidrak	Turbat
45	MCH Center Absor	Absor	Turbat
46	MCH Center Turbat	Turbat	Turbat
47	Leprosy Hospital	Turbat	Turbat
48	T.B CLINIC (DHQ)	Turbat	Turbat

49	RHC Buleda	Bit	Buleda
50	BHU Drobuly	Drobuly	Buleda
51	BHU Tehthanigithan	Siagassi	Buleda
52	BHU Nag Zamuran	Nag	Buleda
53	BHU Tehdaim	Siagassi	Buleda
54	BHU Dastuk	Badai	Buleda
55	BHU Alandoor	Alandoor	Buleda
56	CD Menaz	Menaz	Buleda
57	CD Koshk Buleda	Bit	Buleda
58	CD Sulo Buleda	Menaz	Buleda
59	CD Siagassi	Siagassi	Buleda
60	CD Niwano Zamuran	Nag	Buleda
61	RHC Kuddan	Kuddan	Dasht
62	RHC Zarinbug	Zarinbug	Dasht
63	RHC Balnigore	Balnigore	Dasht
64	BHU Drachko	Drachko	Dasht
65	BHU Kunchity	Kunchiti	Dasht
66	BHU Kashap	Balnigore	Dasht
67	BHU Kuntidar	Kunchiti	Dasht
68	BHU Bisholi	Kumbail	Dasht
69	BHU Mak-e-Sar Dasht	Kuddan	Dasht
70	CD Kaleero	Balnigore	Dasht
71	CD Jan Muhammad Bazar	Zarinbug	Dasht
72	CD Langasi	Kumbail	Dasht
73	CD Kumabil	Kumbail	Dasht
74	CD Machat	Drachko	Dasht
75	CD Toolagl	Kunchiti	Dasht
76	CD Gohragbagh	Balnigore	Dasht
77	CD Kapkapar	Balnigore	Dasht
78	CD Kihreen	Balnigore	Dasht
79	RHC Tump	Tump	Tump
80	RHC Mand	Soro	Tump
81	RHC Gomazi	Gomazi	Tump
82	BHU Bullo	Bullo	Tump
83	BHU Gouburd	Gayab	Tump
84	BHU Aspikahn	Tegran	Tump
85	BHU Kohad	Balicha	Tump
86	BHU Kulahoo	Nazarabad	Tump
87	BHU Pulabad	Gomazi	Tump
88	BHU Ridag	Bullo	Tump
89	BHU Gawak Mand	Gayab	Tump
90	CD Balicha	Balicha	Tump
91	CD Nizarabad	Nizarabad	Tump
92	CD Tegrans	Tegran	Tump
93	CD Mulla-e-Chat	Bullo	Tump
94	CD Kunshkalat	Tump	Tump
95	CD Malant	Gomazi	Tump
96	MCHC Tump	Tump	Tump
97	MCHC Mand	Soro	Tump

Sources: Health Department District Kech

Government Schools Washed Away during the Flood of 2007

S#	Name of School	Location	Tehsil
1	Government Boys High School	Kosh kalat	Turbat
2	Government Boys Primary School	Sotkal Bazar	Turbat
3	Government Boys Primary School	Goodi	Turbat
4	Government Boys Primary School	Balochabad	Turbat
5	Government Boys Middle School	Solband	Turbat
6	Government Boys Primary School	Danchop Dan	Turbat
7	Government Boys Primary School	Danchop Dan	Turbat
8	Government Boys primary School	Meero Bazar	Turbat
9	Government Boys Primary School	Kahn-e-Pushat	Turbat
10	Government Boys Middle School	Jan Mohd Bazar	Dasht
11	Government Boys Primary School	Neelaghy Dasht	Dasht
12	Government Boys Primary School	Abbas Bazar	Turbat
13	Government Boys C. Model School	Nodiz	Turbat
14	Government Boys Middle School	Nasirabad	Turbat
15	Government Boys Middle School	Solband	Turbat
16	Government Boys High School	Kosh kalat	Turbat
17	Government Boys Primary School	Kahn-e-Pushat	Turbat
18	Government Boys Primary School	Daly Bazar	Turbat
19	Government Boys primary School	Danchop Dan	Turbat

Source: Education Department District Government Kech

Flood Affected Girls Schools During 2007 Floods

S#	Name of School	Location
1	Government Girls CM school	Nodiz
2	Government Girls CSP. Abbas Bazar	Nodiz
3	Government Girls CSP.	Shay Kahn
4	Government Girls Primary School	Goodi
5	Government Girls Middle School	Solband
6	Government Girls CSP	Balochabad
7	Government Girls CSP	Gebun
8	Government Girls Middle School	Nasirabad
9	Government Girls CSP. Daly Bazar	Daly Bazar
10	Government Girls CSP.	Danchop Dan
11	Government Girls Primary School	Gokdan
12	Government Girls Middle School	Tanzag
13	Government Girls CSP. Pathan-e- Kahoor	Pathan-e- Kahoor
14	Government Girls Primary School	Shinzdar
15	Government Girls Primary School	Nokabad
16	Government Girls CM School	Bahmen
17	Government Girls Middle School	Dannuk
18	Government Girls Primary School	Gokdan West
19	Government Girls CSP	Rekani Bhaint
20	Government Girls CSP	Choatai Joo
21	Government Girls High School	Kosh kalat
22	Government Girls CSP	Kahn-e- Pushat
23	Government Girls CSP	Nawano Zamuran
24	Government Girls CSP	Balochi Bazar Sami
25	Government Girls CSP	Kumbi Herronk
26	Government Girls Middle School	Jusak
27	Government Girls CSP	Warisabad Shahrak
28	Government Girls CSP	Zangi Bazar Shahrak
29	Government Girls CSP	Hoshab
30	Government Girls Primary School	Darmiani Bazar
31	Government Girls High School	Soloo
32	Government Girls CM School	Koshk

Source: Education Department District Government Kech

Total Flood Affected Schools in Kech District during 2007

Tehsil	Flood Affected Schools in Kech District during 2007		
	Primary schools	Middle	High school
Turbat	58	6	9
Dasht	46	12	5
Mand	8	3	2
Tump	13	5	6
Total	125	26	22

Source: Education Department District Government Kech

District Kech Health Facilities Damaged During 2007 Floods

Annexure 5

S#	Name of Facility	DHQ Hospital	DHQ Residence		BHU		CD	
		Completely Damaged	Completely Damaged	Partially Damaged	Completely Damaged	Partially Damaged	Completely Damaged	Partially Damaged
1	DHQ HOSPITAL KECH	-	11	25	-	-	-	-
2	Old DHQ Hospital Turbat	1	-	-	-	-	-	-
3	Leprosy Hosp: Kech	-	-	3	-	-	-	-
13	BHU Drobuly	-	-	-	-	1	-	-
14	BHU Tehdeem Zamuran	-	-	-	-	1	-	-
16	BHU Nag Zamuran	-	-	-	1	-	-	-
17	BHU Dasht	-	-	-	-	1	-	-
26	BHU Kuntidar	-	-	-	1	-	-	-
31	BHU Absor	-	-	-	1	-	-	-
33	BHU Dannuk	-	-	-	1	-	-	-
34	BHU Gokdan	-	-	-	1	-	-	-
35	BHU Sami	-	-	-	1	-	-	-
40	CD Menaz	-	-	-	-	-	-	1
41	CD Tegrans	-	-	-	-	-	1	-
42	CD Mula-E-Chat	-	-	-	-	-	-	1
45	CD Gohragbagh	-	-	-	-	-	-	1
46	CD Kalero	-	-	-	-	-	-	1
47	CD Langasi	-	-	-	-	-	-	1
48	CD Godi	-	-	-	-	-	1	-
49	CD Shaykahn	-	-	-	-	-	1	-
50	CD Solband	-	-	-	-	-	1	-
51	CD Geebun	-	-	-	-	-	-	1
53	CD Peerikahn	-	-	-	-	-	-	1
55	CD Chahsar	-	-	-	-	-	-	1
56	CD Kosh kalat	-	-	-	-	-	-	1
57	CD Pattan Kahoor	-	-	-	-	-	-	1
58	CD Dashat	-	-	-	-	-	1	-
59	CD Shahrak	-	-	-	-	-	1	-
67	MCHC Tump	-	-	-	-	-	-	-
	Total	1	11	28	6	3	6	10

Source: Health Department District Government Kech

Agriculture Losses as a result of 2007 Floods in Kech Distric

Tehsil	losses			
	<i>Dates</i>	<i>Lemon</i>	<i>Mango</i>	<i>Agricultural Land (Acres)</i>
Turbat	62838	6836	2491	10989
Dasht	1612	15	53	648
Buleda	1440	90	27	844
Tump	1828	8	135	11903
Total	67718	6949	2706	24384

Source: District Government Kech

Livestock Losses as a result of 2007 floods in Kech District

Tehsil	losses					
	Sheep	Goat	Cows/ Buffalos	Donkey	Camel	Poultry
Turbat	3082	19536	2846	781	372	683
Dasht	101	1629	165	70	82	79
Buleda	0	0	0	0	0	0
Tump	157	2191	431	71	92	23
Total	3340	23356	3442	922	546	785

Sources: Health Department, Kech District