

RAWALAKOT

District Disaster Risk Management Plan



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**Building Enabling Governance and Institutions
for Earthquake Response (BEGIN-ER)**



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the 1990s, the number of people who have been employed in the public sector has increased in all countries. The increase in public sector employment has been particularly rapid in the United Kingdom, where the public sector has grown from 10.5% of the total labour force in 1980 to 16.5% in 1997 (see Figure 1).

There are a number of reasons for the increase in public sector employment. One reason is that the public sector has become a more important part of the economy. In many countries, the public sector has become a major employer, and its growth has been a key factor in the overall growth of the economy. Another reason is that the public sector has become a more attractive place to work. This is due to a number of factors, including the fact that the public sector is often seen as a more stable and secure place to work, and that it offers a range of benefits and perks that are not available in the private sector.

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Acronyms

AC	Assistant Commissioner
AD	Assistant Director
ADB	Asian Development Bank
AJ&K	Azad Jammu & Kashmir
CBDM	Community Based Disaster Management
CBO	Community Based Organization
CD	Civil Defence
DC	Deputy Commissioner
DEOC	District Emergency Operations Center (DEOC)
DFO	District Forest Officer
DM	Disaster Management
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DRU	District Reconstruction Unit
EOC	Emergency Operations Centre
ERC	Emergency Relief Cell
ERRA	Earthquake Reconstruction and Rehabilitation Authority
EWS	Early Warning System
GoP	Government of Pakistan
GSP	Geological Survey of Pakistan
HVCA	Hazard Vulnerability and Capacity Assessment
IDB	Islamic Development Bank
IHK	Indian-held Kashmir
INGO	International Non-Governmental Organization
LG&RD	Local Government & Rural Development
MC	Municipal Committee
NDMA	National Disaster Management Authority
NDMC	National Disaster Management Commission
NESPAK	National Engineering Services Pakistan
NDMO	National Disaster Management Ordinance
NGO	Non-Governmental Organization
OCHA	Organization for Coordination of Humanitarian Affairs
PAK	Pakistan Administered Kashmir

PC-1	Planning Commission (Form)-1
PKR	Pakistani Rupees
PMD	Pakistan Meteorological Department
RDA	Rawalakot Development Authority
PRCS	Pakistan Red Crescent Society
SERRA	State Earthquake Reconstruction and Rehabilitation Authority
SOPs	Standard Operating Procedures
SSP	Senior Superintendent of Police
SW&WD	Social Welfare & Women Development
SUPARCO	Pakistan Space and Upper Atmosphere Research Commission
UC	Union Council
UNDP	United Nations Development Program
WAPDA	Water and Power Development Authority
WB	World Bank

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- Zahir Khan, Range officer - Forest Dept.
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the 1990s, the number of people in the UK who are employed in the public sector has increased from 10.5 million to 12.5 million, and the number of people in the public sector who are employed in health care has increased from 2.5 million to 3.5 million (Department of Health 2000).

There are a number of reasons for this increase in the number of people employed in the public sector. One reason is that the public sector has become a more important part of the economy. Another reason is that the public sector has become a more attractive place to work. A third reason is that the public sector has become a more important part of the welfare state.

The increase in the number of people employed in the public sector has led to a number of changes in the way that the public sector is organized. One change is that the public sector has become more decentralized. Another change is that the public sector has become more market-oriented. A third change is that the public sector has become more customer-oriented.

The increase in the number of people employed in the public sector has also led to a number of changes in the way that the public sector is funded. One change is that the public sector has become more dependent on government funding. Another change is that the public sector has become more dependent on private funding. A third change is that the public sector has become more dependent on user fees.

The increase in the number of people employed in the public sector has also led to a number of changes in the way that the public sector is managed. One change is that the public sector has become more professionalized. Another change is that the public sector has become more bureaucratic. A third change is that the public sector has become more hierarchical.

The increase in the number of people employed in the public sector has also led to a number of changes in the way that the public sector is evaluated. One change is that the public sector has become more subject to performance indicators. Another change is that the public sector has become more subject to external audits. A third change is that the public sector has become more subject to public scrutiny.

The increase in the number of people employed in the public sector has also led to a number of changes in the way that the public sector is perceived. One change is that the public sector has become more respected. Another change is that the public sector has become more valued. A third change is that the public sector has become more trusted.

The increase in the number of people employed in the public sector has also led to a number of changes in the way that the public sector is viewed. One change is that the public sector has become more important. Another change is that the public sector has become more central. A third change is that the public sector has become more visible.

Foreword

The devastating earthquake of October 2005 brought about an acute awareness among government institutions and communities of the critical need for disaster risk management. As part of the joint UN response to earthquake relief and recovery, the United Nations Development Programme (UNDP) supported the Government in restoring the operations of local government institutions for the planning and implementation of recovery activities through the "Building Enabling Governance and Institutions for Earthquake Response (BEGIN-ER)" project in the affected districts of North West Frontier Province (NWFP) and Pakistan Administered Kashmir (PAK). It was during the implementation of the capacity building component of this project that government officials, elected local representatives, community based organizations, and national and international NGOs identified the need for developing District Disaster Risk Management Plans.

Meanwhile, the Government of Pakistan promulgated the National Disaster Management Ordinance in December 2006. The Ordinance provides for a coherent disaster risk management system through the establishment of National Disaster Management Commission (NDMC) and National Disaster Management Authority (NDMA). It also calls for instituting similar bodies at the provincial and district levels. The NDMA has been established to ensure that appropriate policies, strategies and programmes for risk management are developed and implemented to reduce disaster risks in a proactive, organized and effective manner.

Considering these national level developments and the needs expressed by local authorities, UNDP engaged national and international planning experts to develop disaster risk management plans for the districts of Muzaffarabad, Neelum, Rawalakot, and Bagh in Pakistan Administered Kashmir (PAK). During the process, they conducted a series of bilateral meetings and had consultations with the district administration officials and civil society representatives. Based on review of the secondary data and consultations, draft plans were prepared, which were presented in district level stakeholder workshops for final comments. The plans were also shared with Earthquake Reconstruction and Rehabilitation Authority (ERRA) and we are grateful especially to Lieutenant General Nadeem Ahmed for his valuable inputs to finalize and endorse the district plans.

I am glad to present the District Disaster Risk Management Plan (DDRMP) of district Rawalakot, which has been developed with a primary objective of saving lives, properties and infrastructure of the district from existing and future natural and human-induced hazards. The Plan consists of three sections: a) profile of district Rawalakot; b) risk assessment and current response; and c) disaster risk reduction strategy, structures and roles of stakeholders in disaster risk management; and recommended readings on the subject.

I am grateful to our experts Mr. Zorobabel Zuniga and Mr. Iqbal Haider Butt for putting together their efforts in producing the Plan. For guiding the planning process we are thankful to Mr. Mohammad Zafar Iqbal, Mr. Zubair Murshed and Mr. Irfan Maqbool. Thanks are also due to Ms. Shaista Hussain, Mr. Tariq Rafique and Mr. Usman Qazi for review and editing of the plan, and Ms. Asma Rashid and Ms. Jamila Sikander Khan for the copy editing. The preparation of this document and publishing has been made possible with support from United Nations secretariat of the International Strategy for Disaster Reduction (UN-ISDR).

The production of District Disaster Risk Management Plan is only a first step towards achieving the broader objective of reducing disaster risks. We hope that the government of PAK would extend all possible support to the District Administration through the establishment of the District Disaster Management Authority and provision of resources for the implementation of this plan.



Mikiko Tanaka
Acting Country Director
UNDP Islamabad

Message from Deputy Chairman ERRA

In the post-earthquake phases of emergency relief, early recovery, rehabilitation of the affected populace, and the on-going process of reconstruction in NWFP and Azad Jammu & Kashmir, the United Nations Development Programme - Pakistan has so far played a commendable role through its continuous support to the Earthquake Reconstruction and Rehabilitation Authority (ERRA).


Most significantly, the BEGIN-ER (Building Enabling Governance and Institutions for Earthquake Response) project has been a great success in terms of providing critically needed prefabricated offices to the local government institutions in the most affected districts and enhancing capacities of elected representatives, government officials, and community based organizations for an effective and integrated response to the earthquake disaster.

I am glad that under the training component of the BEGIN-ER project, UNDP has been able to produce District Disaster Risk Management Plans for Muzaffarabad, Rawalakot, Bagh and Neelum districts in AJ&K and Abbottabad, Battagram, Shangla and Manshra districts in NWFP.

I congratulate Mr. Mohammad Zafar Iqbal, Assistant Resident Representative, UNDP and his team for such a tangible and timely output. It is expected that these plans can be used as guidelines for development of plans by National Disaster Management Authority for other districts of Pakistan.

The ERRA, on its part, would extend all possible assistance to the district governments for successful implementation of the disaster risk management plans in due course of time. Additionally, the planning guidelines and framework would also be shared with other district governments in Pakistan to be followed during the future development discourse.

I am confident this initiative would lead towards achieving the overall objective of making communities more resilient against future hazards and putting the country on the path of integrating disaster risk reduction into development plans, ensuring sustainable development.


Lieutenant General Nadeem Ahmed
Deputy Chairman, ERRA

the 1990s, the number of people in the world who are illiterate has increased from 1.1 billion to 1.2 billion. The number of illiterate people in the world is expected to reach 1.5 billion by the year 2015 (UNESCO, 2003).

Illiteracy is a major barrier to economic and social development. It is a major cause of poverty and social exclusion. It is a major barrier to the realization of the Millennium Development Goals (MDGs). The MDGs are a set of eight goals that the world's leaders agreed to in 2000. The goals are to reduce poverty, improve education, improve health, and improve the environment. The first goal is to reduce poverty. The second goal is to improve education. The third goal is to improve health. The fourth goal is to improve the environment.

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Introduction

The destruction and devastation caused by the October 2005 earthquake has diverted global attention to Pakistan in general and Pakistan Administered Kashmir (PAK) in particular¹. The level of direct damage is higher in PAK than in NWFP. For PAK, it amounts to PKR 76.4 billion (US\$1.3 billion) and for NWFP, PKR 58.7 billion (US\$989 million). In most sectors, the monetary value of destruction of physical assets in PAK exceeds comparatively to that in NWFP².

Assistance to PAK started from emergency response and has entered into the rehabilitation and construction phase today. The Pakistani government with the help of the UN system and other countries has also established the policies and procedures to guide reconstruction of the ruined portions of the country.

Among the government agencies in the forefront are the Earthquake Rehabilitation and Reconstruction Authority (ERRA) and the recently formed National Disaster Management Authority (NDMA)

The development of the Rawalakot District Disaster Risk Management Plan, hereafter called the Plan, is part of this undertaking and has been developed with support from the BEGIN-ER project of UNDP. This has been result of an extensive literature review, series of meetings with various officials in Rawalakot, consultative workshop with stakeholders and technical review by DM experts.

The Plan will guide initial operationalization of the District Disaster Management Authority (DDMA) until such time that it is able to function on its own. The Plan will also guide in identifying risks and hazards in district Rawalakot and as to what activities are most urgent and need immediate implementation.

The Disaster Risk Management Plan for district Rawalakot is composed of three (3) chapters:

1. Profile of District Rawalakot is a brief introduction to the area. It provides basic information about location, administrative area and divisions, salient physical features, climate and rainfall, population, and the scale of public services and resources (i.e. health, education, roads, power, etc.) available to the district populace. This section sets the geographical context of Disaster Risk Management planning for district Rawalakot.

¹Azad Jammu and Kashmir (AJ&K) is the national designation, while the official designation of the UN for Kashmir is Pakistan Administered Kashmir (PAK)

²ADB /WB Preliminary Damage and Needs Assessment.

2. Risk Assessment and Current Responses in the District prioritizes risks and hazards being faced by the district. While using a qualitative matrix, this section is developed by scientific research and participatory approaches to map out which hazards affect the district most in order of both likelihood and consequences. The planning consultants have traced patterns of occurrences of disasters i.e. landslides, earthquake, droughts, etc. This section highlights and prioritizes localized problems of the disaster risks of district Rawalakot; so the appropriate strategies are adopted to minimize these risks.

3. Strategy for Implementation of the District Disaster Risk Management Plan. By delineating principles of social vulnerability, this section is further divided into two sub-sections (i) the institutional mechanism for District Disaster Risk Management, specifically the structure of DDMA, and (ii) implementation activities/ targets to be achieved by the DDMA for immediate and mid-term periods. This section proposes DDMA's structure, functions and implementation agenda.

Purpose and Scope of the Plan

The Rawalakot District Disaster Risk Management Plan is conditioned by the following objective:

- The Plan aims to guide to the establishment and operationalization of the District Disaster Management Authority Rawalakot in terms of structure, strategy and activities and will provide implementation agenda for the medium term (3 years).

Planning Process

The following steps were undertaken in the crafting of the District Disaster Risk Management Plan:

1. Review of existing documents on the disaster situation, present activities in rehabilitation and reconstruction, and the pertinent documents relevant to the National Disaster Management Framework at the UNDP office in Islamabad
(See Bibliography given at the end of the Plan)
2. Information gathering at field level through bilateral meetings with district officials, some NGO and local residents. (For detail see *Annex VII: Bi-lateral Meetings in Rawalakot for the Development of Rawalakot District Disaster Risk Management Plan*)
3. Impressions were taken through site visits, visual inspection, observations, photography, and discussions with affected people, officials and field staff of aid agencies
4. Review of information gathered and Plan drafting

5. Sharing of draft Plan with stakeholders through a consultative workshop in Muzaffarabad
6. Revision of the Plan and internal review
7. Consultation with ERRA and endorsement of draft plans
8. Finalization of the Plan

the 1990s, the number of people with a mental health problem has increased in the UK (Mental Health Act 1983, 1990).

There is a growing awareness of the need to improve the lives of people with mental health problems. The UK Government has set out a strategy for mental health care in the 21st century (Department of Health 1999). The strategy is based on the following principles: (1) to improve the lives of people with mental health problems; (2) to reduce the need for hospital care; (3) to improve the effectiveness of mental health services; (4) to improve the way in which mental health services are funded; (5) to improve the way in which mental health services are managed; (6) to improve the way in which mental health services are delivered; (7) to improve the way in which mental health services are evaluated; (8) to improve the way in which mental health services are researched.

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SECTION 1:

Profile of District Rawalakot

1.1. Location

Rawalakot is the capital of the district Poonch of Pakistan Administered Kashmir. It is in a saucer-shaped valley at elevation 1615 meters (5300ft). It is 76 km (47 miles) from Kohalla, and is also linked with Rawalpindi and Islamabad via the neighboring localities of Azad Pattan and Dhalkot, and with Muzaffarabad via Kohalla and Sudhangali. Line of Control (LoC) is 15 km from Hajira and 43 km from Rawalakot.

1.2. Area, Population and Divisions

Total Territory	844 sq km
Population (2006)	490,000
Population Density	548 per sq km
Growth Rate	2.24 % per Annum
Houseld Size	7
Sub-divisions	3 (Rawalakot, Hajeera, Abbaspur)
Tehsil	1 (Thorar)
Union Councils	23
Municipal Committee	1
Town Committees	2
Patwar Circles	39
Villages	122

1.3. Physical Features

Poonch was annexed and converted into Jagir by Maharaja Hari Singh in 1935-36 by deposing the Raja of Poonch. In 1947, when Pakistan came into being, the people of Poonch started armed struggle against the Dogra and Indian Forces and got liberated the area which now administratively stands divided into three districts namely Poonch, Sudhanoti and Bagh.

Average temperature during the summer varies from 60° F to 75° F. In winter the snowfall starts in December and lasts till January. Monsoon season prevails from April to September and annual rainfall is 1689 mm. Rawalakot hosts some of the most beautiful resorts in Kashmir i.e. Banjosa in Kashmir i.e. Banjosa and Toli Pir etc.

1.4. Public Services and Resources

The city of Rawalakot got its present status of the Municipal Committee in Dec 1975. It is spread over a radius of 3 ½ km and divided into 21 wards.

Electric Connections									
Domestic		Commercial		Industrial	Total				
42226		3468		64	45758				
Road Position									
Metalled Roads	Fair-weather Roads By					G. Total			
	PWD	LGRD		Total					
690	12	983		995		1685			
Urban Water Supply									
Houses within Municipal Town Limits				Piped water	% Cover				
6412				1350	21%				
Rural Water Supply									
Total Villages				Piped Water	% Cover				
98				89	91%				
Schools									
Primary	Male	262	Female	310	Total	572			
Middle	Male	63	Female	88	Total	151			
High	Male	51	Female	44	Total	95			
Health and Population Welfare									
CMH	01	THQ Hospital	02	Institute of M	01	R health Centre	05		
B Health	19	Dispensaries	09	FAPs	31	MCH	19	TB	06
Industries and Minerals									
Public	0		Private	59		Total	59		

SECTION 2:

Risk Assessment and Current Responses

The consultation in Rawalakot undertaken by the BEGIN - ER project on the draft District Disaster Risk Management Plan has resulted in prioritization of risks faced by the area. In this deliberation, the stakeholders ranked Earthquake first, Landslide second and Drought third on the priority list of hazards. These hazards call for immediate attention of District Disaster Management Authority.

The main considerations for the prioritized list of hazards were the likelihood of occurrence, the consequences of the hazard and the current responses. [For details of the criteria to determine the severity of a hazard, please see *Annex VI: Matrix for Prioritization of Hazards*]

The casualties and damages caused due to the collapse of poorly constructed structures in earthquake 2005 calls for the immediate and serious attention of the authorities. Constructing earthquake resistant structures following proper building codes and preparedness activities is mandatory. The scenario compelled the stakeholders to select the hazard of earthquake as the top most priority.

Landslide in Rawalakot is a frequently recurring hazard intensified by the effects of the earthquake. Rains trigger landslide events which results in deaths and destruction of properties. This combination and its fatal effects were recently witnessed during first quarter of 2007. During the summer season when snow melts and during the monsoon season landslide becomes a routine occurrence. There is a pressing need to mitigate this hazard that is causing deaths and destruction on regular basis.

Drought is ranked third on the list of priority hazards. Discussions with the Agriculture Department and group consultation raised apprehensions regarding the imminence of drought in district Rawalakot.

There were concerns also raised regarding deaths caused due to vehicular accidents, and outbreaks of diseases in the rural villages.

A final concern was the cross border firing which lasted for fifteen (15) years and affected 5 UCs of Hajeera and Abbaspur Sub-divisions affecting about 150,000 people. These UCs include Battal, Mandol, Tetrinot (Hajeera), Chaffar and Chahtra. Thus this hazard was not selected among the top three for immediate attention by the District Disaster Management Authority.

2.1. The Earthquake Situation

The Kashmir earthquake of 2005 (also known as the South Asia earthquake or the Great Pakistan earthquake), was a major earthquake, of which the epicenter was the Pakistan-administered Kashmir. The earthquake occurred at 08:50:38 Pakistan Standard Time (03:50:38 UTC) on 8th October 2005. It registered 7.6 on the Richter scale making it a major earthquake similar in intensity to the 1935 Quetta earthquake, the 2001 Gujarat Earthquake, and the 1906 San Francisco earthquake. The earthquake occurred in a region where a great plate-boundary earthquake has long been considered overdue. (For details on the 2005 earthquake, see *Annex I: Kashmir Earthquake Study by Colorado University*)

2.1.1. Buildings and Structures

The destruction caused by the earthquake in Rawalakot was severe with 121,995 structures completely demolished, 12,499 damaged, and 2,891 negligible damages, representing (89%), (9%) and (2%) of the existing structures prior to the earthquake¹. These collapsed buildings were the cause of most of the deaths and injuries both to human and animals in Rawalakot. Most of the residential buildings were severely damaged by the earthquake making the hazard's effect on the district comparatively equal to that of Muzaffarabad and Bagh.

Different types of buildings that collapsed during the earthquake have been observed. Three classifications of building were identified as follows:

- Unreinforced Stone Masonry buildings
- Unreinforced Solid Concrete Block Masonry Buildings
- Reinforced Concrete Framed Buildings

Among the findings that showed why these buildings collapsed during the ground shaking produced by the earthquake were:

- Poor quality of concrete used for fabrication of blocks, rendering low strength blocks
- Poor quality of mortar
- Inadequate thickness of walls (6 inches) which were the main shear resisting elements
- No integrity of the wall in the transverse direction
- Weak connections at corners
- Most of the structures were designed with strong column-weak beam connections
- Deficient design for seismic forces, improper length and location of column splices, improper spacing and anchorage of lateral ties in columns, and poor quality of concrete

¹ ERRA, *Rebuild, Revive with Dignity & Hope: Annual Review 2005-2006*, October 2006.

In Rawalakot's town centre, 50% of houses were destroyed by earthquake with Damni and Parat wards worst hit, according to the Town Committee's Administrator. The PAK government has allocated funds for the demolition of these structures under the Removal of Debris initiative worth PKR 409.266 million.

The ERRA is responsible for ensuring that structures be rehabilitated or reconstructed with government assistance adhering to the guidelines. An organizational structure down to the district level has been set up to implement the rehabilitation and reconstruction plan. Some of ERRA's achievements for 2005-2006 are listed below⁴:

a. Housing Rehabilitation / Reconstruction

- A total number of 577,062 rural houses have been assessed and 536,648 MoUs have been signed with the owners, out of a total of 630,000 houses reported to be damaged and destroyed. Funds amounting to PKR 29.82 billion have been disbursed to 422,777 beneficiaries.
- Bank/post office accounts have been opened for over 600,000 beneficiaries for direct transfer of compensation to their accounts without the use of any intermediary.
- In order to impart training, 12 Housing Reconstruction Centres (HRCs) have been established at strategic locations. So far 9,000 Master Trainers have been trained at these centres who, in turn, have trained 75,000 artisans and house-owners in 282 affected Union Councils. An outreach programme by these HRCs has also been launched for direct training at the village level to further increase the number of skilled persons.
- So far, 65 construction materials hubs for the provision of key materials have been established at controlled prices. Process for establishment of satellite hubs in remoter valleys has also started.
- Initially three (3) standard housing designs based on stone, brick and block construction were issued. Recently two (2) additional designs covering timber based and RCC frame construction have also been added to the menu.
- An estimated 25% of the affected households have started reconstruction and majority of them are complying with ERRA specified construction guidelines.
- Plinth level inspection for the release of third tranche of PKR 25,000 has started.
- Additional funding for housing sector is being negotiated and the potential donors include Asian Development Bank (US\$ 300 million), World Bank (US\$ 200 million) and Islamic Development Bank (US\$ 130 million).
- Urban Housing Damage Assessment survey is complete. Draft Master Plan of Bagh has been prepared and presented by UET.

⁴ Ibid.

b. *New Standard Designs for Health & Education Facilities*

Preparation of new standard designs for health and education facilities to ensure user friendly and safe buildings for the future.

c. *Revision of Building Codes*

Revision of building codes to establish appropriate building standards during reconstruction.

Areas of Concern

The number of monitoring and inspection teams is not enough to provide appropriate cover to ensure that guidelines are followed by contractors and other partners constructing the houses and/or the buildings. Some people living in rural part of the district have voiced preference for the old design of *pakka/kacha* houses because these can keep cold out which the tin roofs can't.

Another concern raised was regarding the capability of the government office/s concerned to enforce the revised building code.

2.1.2. Lifelines

According to the Public Works Department of district Rawalakot the link roads that connected far flung areas to town centers or main roads were damaged by the earthquake. Ninety five (95) kilometers of link roads and 208 kilometers of roads in rural areas were damaged making access to the rural settlements difficult. About 35.5 kilometers of main roads were also damaged but were repaired within 3 days after earthquake except the bridge but a detour was made to allow movement and passage.

Power (98%) and communication services were severely damaged by the earthquake. Health and education systems were seriously impaired. These added to the difficulties faced by the physically injured and the traumatized residents of district Rawalakot.

With most of the town center relying on the Gravity scheme, the earthquake deprived the residents of safe drinking water for weeks. To date more than 181 schemes have been brought to operation. However, more than 85% of these working systems have been found to be contaminated after WHO tests, according to the Local Government and Rural Development Officer of Rawalakot.

There were 833 schools, buildings and offices belonging to the Education Department that were destroyed by the earthquake. Most of these school structures are found in Batul Mundol, Sulna, Ghannir and Siri Kahota. Many classes are still held in tents while some are held in-doors in damaged buildings which is dangerous for both teachers and students.

A Master Plan was still being designed and not available during this planning mission for the Rawalakot District Disaster Risk Management Plan.

2.1.3. Population and other At-risk Elements

The majority of the population is classified as belonging to the middle and lower middle economic strata with their livelihood mainly in the areas of services. Most do not have savings on which to fall back in case of emergencies with no access to banks and other financial credit institutions. This is most obvious in the case of owners of condemned buildings who continued the use of structures for both private and public purposes despite the danger.

Farm animals were also killed in the earthquake. The villages that have most number of animals killed are Mirch kot, Nukkar, Tinjar, Sarari, Chahtra, Khuli Dramar, Ghambir (Abbaspur sub-division). Kai duri, Tolipeer, Pothty Hajira town (Hajira sub division).

2.2.4. Environment

Forest products have been one of the major sources of revenues of the PAK as it contributed about 60% to the coffers of the State. During the earthquake, 32000 acres forest, out of which 19840 acres of private land was damaged, according to the estimates of Forest Department official in the capital, Muzaffarabad

The October 8 earthquake has also affected forestry, aquatic and terrestrial ecosystems in the area. The post-disaster scenario presents with the following risks:

- Increased deforestation due to demand of timber for reconstruction and wood for cooking and heating
- Land slides in the wake of earthquake and historic denudation of mountain areas caused by tree cutting and agricultural activities

The illegal cutting of logs contributed to the slope degradation which aggravated the landslide effect of the earthquake. To contribute to the reversal of this situation, the PAK government has instituted a check on rampant log cutting by allowing only the logging of dead trees. The Forest Department has raised the alarm on the increasing encroachment of forest lands especially by families either displaced by the earthquake or in search for alternative livelihood to sustain a family. This situation could lead to annulment of the results intended in the government check on illegal log cutting.

2.2. The Landslide Situation

Rawalakot faces the risk of landslides which has been worsened after the earthquake. A general

description of the landslide situation in the PAK area from a study of the Durham University states that:

Across the whole of the affected area there are vast numbers of tension cracks extending across the slopes for hundreds of meters. Many of these clearly define incipient landslides. Most were creeping at the time. These are feared to be activated during heavy rains especially the monsoon season. In addition to the rock and soil slopes there was also extensive collapse of the old uplifted terrace edges. Often structures have been constructed that use the slope of the edge of the terrace.

Shallow rockslides have been triggered on the steeper slopes, especially where cutting has been undertaken as a result of road construction. These slides are now causing major problems for communication.

The District Forest Officer recalled that there were landslides in three (3) areas during the Earthquake but fortunately no life was claimed.

From the news report below, the landslide events are reflected as regular occurrence resulting in death and destruction of varied intensities.

July 27, 2006: Key road links in Azad Jammu and Kashmir were blocked by landslides, prompted by the recent spate of monsoon incessant rains, obstructing movement of the people. Heavy downpour which began Monday and caused landslides, cutting off the scenic Neelum valley's only link with Muzaffarabad, the capital of Azad Jammu and Kashmir. Army and civil engineers teams were busy clearing the landslides but rain was hampering the efforts, an ISPR spokesman reported. Some 10,000 survivors had been shifted to safer locations away from landslide-prone areas. Twelve people who survived last year's major earthquake in the area were killed in a landslide at a camp on Monday near Muzaffarabad. (<http://pakistantimes.net/2006/07/27/kashmir1.htm>)

Feb 25, 2007: Thirteen (13) bodies were recovered and five seriously wounded people were also pulled out.

March 24, 2007: In Dboha Syedian of Jehlum valley area of Azad Kashmir, Pak Army rescue team recovered 10 bodies from the mud-slide so far where as 18 corpses were still under the slide. 15 injured were rescued and were flown through four Helicopter sorties to CMH and Abbas Institute of Medical Sciences (AIMS) hospital Muzaffarabad for treatment. (Pakistan Times, Kashmir Desk)

The National Government of Pakistan through ERRA conducted a study of PAK landslides. The table below identifies the landslide areas and the priority category for attention in the district Rawalakot.

Estimation for Slope Stabilization of Roadside Landslides In Rawalakot, by Priority

Source: Engineering Cell (TRC) ERRA, Prime Minister Secretariat, Islamabad

(Priority-I)

S/NO	VILL/TOWNS	LOCATIONS	MEASUREMENTS			FEATURES			CAUSES			DAMAGE		
			LENGTH (m)	HEIGHT (m)	AREA (SQM)	MATERIAL	TYP	PREVIOUS MOVEMENT	PRECEDENT STATUS	E/Q#	RAIN	EROSION	RD BLOCK	NULLAH BLOCK
1	PANKOLA	7-8/20KM	110	25	2750	R. CKK F	ALL	-	ACTIVE	-	-	Y	Y	-
2	FATLA BRIDGE	15/3/AZAD PATTAN	140	100	14000	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
3	SANAYI	13KM/CMH HOSP	118	25	2950	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
4	MUJAHIDABAD	2-3/8KM	60	40	2400	R. CKK	SOIL	-	ACTIVE	-	Y	-	Y	-
5	REHBA A	ZAD PATTAN	200	50	10000	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
6	DAR HOTEL	41/11 AZD. PATTAN	40	40	1600	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
7	GOL NULLAH	25-24/15	115	45	5175	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
8	FATLA BRIDGE	25/3 AZD PATTAN	100	100	10000	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
9	SOUN	17KM/A 20 PATTAN	70	100	7000	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
10	FASAL HOTEL	29-30/30KM AZD PATTAN	150	60	9000	S OIL S	LDR	-	ACTIVE	-	-	Y	Y	-
11	TAIN	29-30/13KM / TAIN	25	40	1000	S OIL S	LDR	-	ACTIVE	-	Y	-	Y	-
12	DHAL Kot	24/25KM	1000	60	60000	S OIL S	LDR S	REVAL.	ACTIVE	-	-	Y	Y	-

(Priority-II)

1.	KSHI GALA	7KM/CMH HWAY	100	20	2000	R. CKK S	LDR O	REVAL.	ACTIVE	-	-	Y	Y	-
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2.2.1. Settlements and Structures

All residential and farm structures located in areas mentioned in the prioritized listing of landslide areas face the threat of complete or partial destruction with deaths and injuries to the occupants and residents of these areas.

2.2.2. Lifelines

In the past, most cases of landslides occurred during heavy rain associated with high velocity winds. It sometimes resulted in loss of human lives and damage to structure. After the 2005 earthquake, landslides have become more frequent in some areas while the threat of major slides is present along the main highway connecting Rawalakot to Rawalpindi. Presently, the frequency of landslides has increased as well as the volume of the debris. The Rawalakot-Islamabad roads still face land sliding.

The Public Works Department and the Pakistan Army are engaged in the repair and rehabilitation of the highways and roads affected by road slips and road cuts due to the landslides, clearance of debris from roads and construction of retaining walls on unstable slopes. Some NGOs are engaged in bio-engineering for slope stabilization.

As noted in many studies, some of the school buildings were located near areas where landslide occurred. However, the majority of school buildings collapsed due to the shaking of the land during earthquake. The ERRRA's guidelines consider this condition in its reconstruction efforts.

2.2.3. Population and other At-risk Elements

The existing number of people living in these threatened areas will have to be identified through actual survey because the delineation of the threatened areas is not accurate in the existing study done by national agencies on the 13 actual and potential and actual landslide sites in Rawalakot. The survey should also determine the number of farms and farm animals that are also threatened by the landslide hazard.

2.3. The Drought Situation

The third hazard identified by the participants requiring immediate attention is drought. Cholistan, Tharparkar and Western Balochistan regions of Pakistan usually face drought, hence it was surprising to know that drought is a potential hazard in Rawalakot.

Although, the report from Reuters Foundation Jan 2003 stated that the "highest rainfall 356 mm (15 Inches) was recorded in the mountainous region of Rawalakot in Pakistan Administered

Kashmir and the lowest, 13 mm (0.5 inch) in the southern port city of Karachi.” But it was stated that Rawalakot for the last five (5) consecutive years did not receive the usual amount of rain ranging up to 1600 mm per annum. During the discussions, the Agriculture and Livestock officials expressed their apprehension of a drought situation severer than the one experienced in 2004. The anxiety about the drought on-set increases due to the absence of water reservoirs in Rawalakot. It was mentioned that for about three years, the town center residents did not have the same water quantity they used to enjoy when there was sufficient rain and snow fall. Due to lack of irrigation facilities and considerable shortage of rainfall, the areas cultivating rice crop has noticeably reduced.

At this point there is a need to come up with a detailed technical study of potential drought situation in Rawalakot. The technical study would determine if there is a genuine situation emerging to call drought a potential imminent hazard in Rawalakot or not. Meanwhile, the DDMA could coordinate with the Pakistan Poverty Alleviation Fund (PPAF) which is engaged in detailed study on drought in Pakistan with expert consultants and has the technical capability for such research.

The DDMA can also:

- Coordinate with the Ministry for Food, Agriculture and Livestock (MINFAL) to search out information or studies, if any, regarding drought in the Rawalakot area
- Investigate, with appropriate line departments such as the Local Government and Rural Development Department, the aspect of water reservoirs for drinking or domestic purposes; and
- Develop a public awareness program on drought, primarily but not exclusively, for the drought-affected population with assistance from the University of AJ&K, colleges of Agriculture and of Animal Husbandry

Based on the findings of the technical study on drought in Rawalakot, the DDMA will be able to establish the appropriate risk reduction strategies for this hazard which as to be area-specific as well as target-specific.

SECTION 3:

Disaster Risk Reduction Strategy

The Hazard and Vulnerability Analysis shows that rural areas and town center of district Rawalakot are vulnerable to earthquake, landslide and drought disasters in different degrees. In view of this, the plans for mitigation and preparedness will have to be evolved while the implementation is to be monitored locally at the union council level to reduce the impact of the disasters. A community based monitoring scheme and warning system will be more effective but this has to be established in relation to the development of capacities of the union and wards and must be connected with the government agency such as the Met Bureau through the DDMA so that the information reaches the area in the required time for an emergency.

Furthermore, experience has shown that mitigation and preparedness plan should be area specific. This plan will be specific to the nature and type of vulnerabilities which will determine, to a great extent, the risk reduction strategies. Given the principles of disaster risk management, the strategy is oriented primarily to impoverished communities and families but does not exclude the safety of the over-all society.

In view of the risks and the vulnerabilities identified in the earlier sections, the disaster risk reduction measures proposed are presented using the hazards as the point of reference. These are earthquake, landslide, and drought.

Based on these, the requirements for the line departments will have to be identified keeping in view their future growth requirements as well as specific demands put on them as a result of disaster management plan exercise. It is expected that special procurements and inputs will enhance the capabilities and the quality of service and rationalize efficient contributions of the limited manpower resources available with these agencies. The risk reduction strategy also envisages the possibilities of upgrading the quality of human resources, through training, in the long run.

3.1 Institutional Mechanism for District Disaster Management Authority (DDMA) Rawalakot

Rawalakot is a fast urbanizing area and also has a city/town center. The existence of a Municipal Committee also has to be considered in the development of the different activities of the DDMA. The establishment of the District Disaster Management Authority (DDMA) is the keystone of the proposed disaster risk reduction strategy. All activities aimed at hazard impact reduction and decreasing the vulnerability of at-risk population, private and public assets and the environment,

require the presence and participation of the DDMA.

The coordination of efforts of all district departments, the non-governmental organizations and civil society is a major concern of the DDMA. The present sectoral coordination arrangements will be strengthened by the multi-sectoral coordination that will be handled by the DDMA. These meetings will afford all the stakeholders the opportunity to have a bird's eye view of all the efforts being undertaken to make district Rawalakot a safer place.

The systems to be set-up by the DDMA will be backed up by appropriate equipments and trained staff. The DDMA is a coordinating mechanism for all government agencies and non-governmental organizations operating in the district and which have important functions related to disaster risk reduction as well as disaster response.

The DDMA is composed of the following:

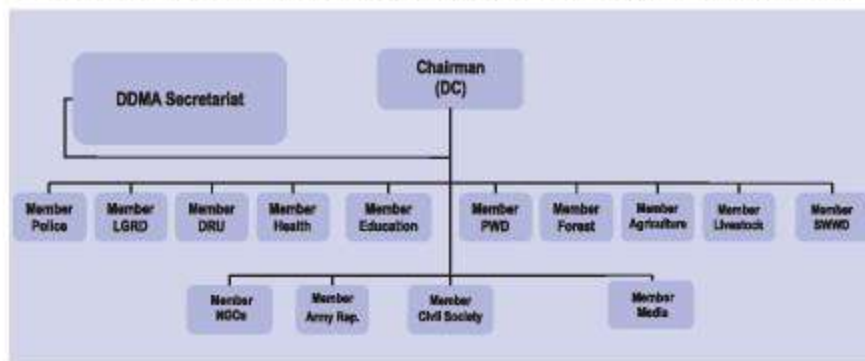
Deputy Commissioner	Chairman, District Disaster Authority
Civil Defence Head	District Disaster Officer
Agriculture	Member
Civil Society Representatives in the District	Member/s
Designated Local Representative of the Pakistan Army	Member/s
Education	Member
Fire Services	Member
Forestry	Member
Health	Member
Livestock	Member
Local Government	Member
Rawalakot Municipal Committee	Member
* NGO Representatives in the District	Member/s
Police	Member/s
PWD	Member
Others	Member

*according to the Deputy Commissioner, there are only 3 NGOs active in Rawalakot. These are Islamic Relief, Women's Welfare Organization of Poonch and National Rural Support Program or NRSP

3.1.1. The Office of District Disaster Management Authority Rawalakot

The Deputy Commissioner (DC) is the head of District Disaster Management Authority. In running the day-to-day operations of DDMA, a Secretariat would assist the DC. The make-up of the office of the DDMA will depend on the set-up of the State Disaster Management Authority because of the integrated and interdependent nature of these organizational units and also in consideration of economies of scale.

DDMA members will include designated representatives of all line departments in the district.



3.2.1. Functions of the DDMA

Based on the Ordinance No. XI of 2006, titled National Disaster Management Ordinance, 2006, the District Disaster Management Authority has the following functions to perform:

- Formulate district disaster risk management plan, based upon a hazard and vulnerability analysis of the district
- Coordinate and monitor the implementation of district plan in accordance with the State Disaster Risk Management plan
- Continuously monitor the hazards, risks, and disaster threats and the conditions of vulnerable population within the district
- Prepare guidelines for mitigation, preparedness, and response as well as for vulnerability reduction
- Identify training needs and conduct education, training and public awareness programs
- Conduct training in disaster risk reduction and relief administration for local government

officials, public and civil society representatives and at-risk communities

- Set up, maintain, review and upgrade district level early warning and communication systems for effective dissemination of warning messages
- Coordinate with local authorities to ensure that post disaster activities are carried out promptly and effectively
- Mobilize and coordinate all interventions from other agencies at the time of emergencies
- Mobilize needed financial and material resources for disaster risk management
- Implement disaster risk reduction and response activities as decided in the district disaster risk management plans
- Review development plans of government departments at the district/municipal level and provide guidance on mainstreaming disaster risk reduction measures in these plans
- Identify buildings and places in the district/municipality that could be used as evacuation sites or relief centres in case of a disaster and make arrangements for water supply and sanitation in such buildings or places
- Establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at a short notice
- Encourage the involvement of non-government and community groups in disaster risk reduction and preparedness
- Identify alternative means for emergency communications should the regular channels be disrupted
- In the event of a disaster, the DDMA will take operational control, by activating the Emergency Operation Centre, of the situation to ensure that support is delivered promptly to the affected communities
- Keep linkages with the State Disaster Management Authority and the Relief Department
- Perform such other functions as the government of the PAK may assign to it or as it seems necessary for disaster risk management in the district

3.1.3. The Secretariat of the DDMA



It will be led by a District Disaster Officer, who should be responsible, committed and experienced in disaster risk management. During consultative workshop on draft DDRMP by the UNDP-BEGINER consultants the stakeholders approved the idea of the Civil Defence official to be the District Disaster Officer. He/she should have a dedicated team of technical, liaison and support staff; so that the DDMA works efficiently through out the year. It is suggested that the minimum staff of the DDMA will be one Head, with district level personality and authority, one secretary (ex. officio) and two technical staff assistants, one liaison officer and one driver within the secretariat.

3.2. Implementation Activities of DDMA in District Rawalakot

3.2.1. Pre-Disaster Activities

The DDMA is the focal organization and authority in the conduct and implementation of activities and actions on disaster management in district Rawalakot. In the event of a disaster the DDMA will be complemented by the union council and community based disaster management groups in carrying out emergency response and relief activities in the affected areas.

During the pre-disaster stage, the DDMA is expected to undertake selected mitigation activities to make it ready for the onset of any disaster. In this instance, activities are suggested to be accomplished with in six months and one year time frame.

a. Suggested Mitigation Activities

- Develop warning system for communities in identified landslide prone areas and the transport system passing through landslide prone highways and roads
- Organize communities and train them in emergency response for landslide hazard
- Come up with a district map identifying actual and potential landslide prone areas in coordination with the AJ&K University, appropriate line departments, UN organizations, and NGOs
- Design Action Plan for Landslide Risk Response that will include among others population details of threatened areas, evacuation routes, camp sites for temporary use, and selected areas for permanent shifting of families, livelihood assistance, and the like
- Establish institutional linkages with national and international agencies undertaking studies on topics such as warning systems, emergency response activities, and mitigation interventions for earthquake hazard. The organizations may include Pakistan Metrological Department, Federal Flood Commission, Geological Survey of Pakistan (GSP), National Engineering Services Pakistan (NESPAK) and Pakistan Space and upper Atmosphere Research Commission (SUPARCO) etc.
- Document and monitor transport situation with the police and transport offices, to include vehicular accidents, number of dead and injured, location of accident, cause of accident, etc. and develop a trend analysis for use in development of a transport hazard reduction plan
- Implement safer construction techniques in rural areas

b. Preparedness Activities to be Accomplished within Six Months

The officers and members of the DDMA shall without delay:

- Set up the office, secure equipment and design and install office systems (e.g. Disaster Management Information System)
- Conduct the first inter-agency coordination meeting for familiarization with the DDMA set up and its operating system. Agenda may include organization of an adhoc team for Damage and Needs Assessment (until such time that the more permanent inter-agency arrangement is formed), the build-up of District Emergency Response team, stockpiling of essential commodities, and the like
- Undertake an executive level disaster management training seminar for officials of district departments, selected as focal persons on disaster management to provide comprehensive understanding of the policy requirements and operational aspects of the Disaster Risk Management from the state, district, tehsil, union council and village levels
- Establish warning systems for floods and landslides with the help of concerned

government departments and the State Disaster Management Authority, and institutionalize cooperation with agencies and institutions that are involved in studies and monitoring of earthquake and other hazards. This will also include devising warning signs and signals that can immediately alert and update people about the recurring risks of their respective areas

- Call the first Multi-Sectoral Meeting with NGOs and voluntary agencies, introduce the DDMA and discuss coordination points and SOPs
- Initiate the training and formation of a skeletal emergency operations group for the district in Collapsed Structures Search and Rescue and Medical First Responders Skills. Ensure that this group is also equipped after the training (*refer to No.3.2.4.b, Equipment for Immediate Procurement*)

Note: The training for Rawalakot Rescue Team should already involve selected personnel from Bagh, Neelum and Muzaffarabad districts from the Police, Fire Brigade and Civil Defence Departments. Selected NGOs and voluntary agencies may be included in these training.

- Conduct Training Needs Assessment and conduct the needed training in disaster risk management for selected tehsil and union level officials and NGOs operating in the areas
- Conduct Community Based Disaster Management Training Seminars for selected persons in the most hazard-prone villages
- Assist in completion of the Rawalakot Municipal Master Plan
- Test run communications system with State DMA, Municipal Committee, Tehsils and NGOs and CBOs in the district
- Arrange initial training of two K-9 units

c. Preparedness Activities to be Accomplished within the First Year

The DDMA is to undertake the following activities within the First Year of this Draft Plan:

- Finalize Standard Operating Procedures for the district level coordination and action covering all aspects and phases of disaster risk management based on State DMA Policies and Procedures. Among the concerns here will be an inventory of department assets (manpower, skill, equipment, etc) and assessment of these resources for disaster risk management purposes
- Finalize communications system with State DMA, Tehsils, Union Councils and Village Disaster Management organizations
- Finalize coordination mechanisms and SOPs with NGOs at the multi-sectoral level and establish coordination in rescue, relief and rehabilitation activities as well as information sharing
- In coordination with the appropriate departments, conduct union council level meetings to increase awareness of target population regarding the major hazards in the district

- Undertake at least one training on Mass Casualty Management for personnel of selected hospitals and health organizations
- In coordination with ERRRA and DRU, conduct evaluation of randomly selected residential structures, educational buildings and related structures to determine adherence to earthquake safety measures
- Identify evacuation areas and develop evacuation plans with and for residents of threatened areas
- Assist line departments to conduct disaster management capacity assessments and formulate capacity development plan for each department considering the approved PC-1s
- Establish stockpile warehouse in the district and maintain the quality level of the supplies
- Discuss with Public Works Department the provision of safer alternative routes linking the district to the outside world
- Ensure budgetary and financial support for district level activities

3.2.2. Activities during Disaster Events

a. Establishment of the District Emergency Operations Centre (DEOC)

In the event a disaster emergency occurs, the District Disaster Management Authority shall activate the District Emergency Operations Centre (DEOC) and take the operational lead for all district administration departments. The DDMA Head will manage the EOC and is responsible for ensuring that following activities are always undertaken:

- Set up the EOC
- Advise State DMA on the disaster situation
- Send out Damage and Needs Assessment Teams
- Set up Relief Centres (following the SOP for Relief by Revenue Department) for residents residing outside the municipal or town centre
- Supervision and monitoring of disaster management and relief activities
- Coordinate the activities of
 - Police
 - Municipal Committee Control Room
 - Fire Brigade
 - Civil Defence
 - PWD
 - Health Department
 - Army District Command

- Other members of the DDMA with emergency response functions
- Enlist services of laboratories and expert institutions for specialised services through the Health Department as and when required
- Issue advisories on the disaster situation immediately and in appropriate time phases thereafter to the State DMA and the general public
- Operate a public information display area for immediate access to information by the public and media regarding the disaster and the current situation
- Requisition of accommodation, structure, vehicles and equipments for relief
- Set up transit camps and arrange food distribution
- Arrange dry rations and family kits for cooking
- Provide gratuitous relief
- Organise and coordinate clearance of debris
- Carry out temporary repairs to damaged infrastructure
 - water
 - telecommunication
 - public buildings
- Set-up an information centre to organize sharing of information with the media and the public
- Generate and provide all information contained in the Risk and Vulnerability Assessment document to other control rooms and in special circumstance communicate about the disaster prone sites to all control rooms.
- Manage international relief coming into the district
- Monitor disaster warning or disaster occurrence and communicate the same to tehsils, union councils , and wards/ villages for better preparedness and effective response in coordination with and on the advise of the following agencies :
 - State DMA
 - Meteorological Department (Heavy Rains, Cyclones),
 - SUPARCO (Earthquakes),
 - Fire Brigade, Police (Road Accidents, Riots, Bomb threats/blast, Fires, House Crashes)
 - PWD and LG&RD (Landslides)
 - Health Department (Epidemics and Food Poisoning)

b. Emergency Response Equipment

Materials/equipments needed for emergencies for immediate procurement (within 6 months)

Cutters	Hammers and Chisels
Helmets with Lights	Stretchers
Shovels and Picks	Megaphones
Ropes	Ladders

Materials/equipment to equip a fully capable District Emergency Operations Centre (DEOC)

· Ambulances	· Mobile X-Ray units
· Boats/rescue boats	· Public address systems
· Buses	· Pumps – diesel and electric
· Cranes	· Self breathing apparatus
· Demolition equipments	· Sniffer dogs
· Drilling rigs	· Tankers/ dozers
· Earth moving equipments	· Tents
· Foam tenders	· Toxic gas masks
· Generators	· Tractor
· Ham sets	· Trucks
· Helicopter service	· VHF sets with batteries
· Mobile trauma care vans	· Wireless sets

c. *Activities of Line Departments Before and During Disasters*

The various line departments will be responsible for coordinating and facilitating the performance of certain emergency services and functions within their departments. These activities would ensure availability and movement of staff and resources of their respective departments for response to the emergency at hand. Additional assistance of the District Emergency Operations Centre (DEOC) may be sought in emergency situations.

Army

- Maintain liaison with the DEOC for vital inputs during warning period
- Collate information and warn appropriate army units
- Coordinate movement of human resource and material as required
- Establish communication system reaching till the sites of disaster and supplement the civil communication set up if required
- Coordinate all military activity required by the civil administration

The armed forces can be requested to also perform the following activities in the event of a disaster:

- Command centre for relief. This would include provision of communications (radio, telephone) and specialized manpower
- Provide medical aid
- Provide medical care with the help of medical teams, including treatment at the nearest armed forces hospital
- Organize transportation of relief material
- Provide logistic back-up (aircrafts, helicopters, boats, etc) and vehicles for transportation of relief material to the affected areas
- Establish relief camps
- Set up relief camps and oversee their running, if needed
- Construct and repair roads and bridges to enable relief teams/material to reach affected areas. This will include provision of technical and plant equipment such as cranes, bulldozers and boats etc
- Organize maintenance of essential services
- Repair, maintenance and running of essential services in the initial stages of relief
- Evacuate people to safer areas
- Assist in evacuation of people to safe places before and after the disaster

- Local management of international relief can be undertaken by the defence services

Civil Defence

- Rescue and evacuation
- Communicate to DEOC details of all the above activities
- Communicate to DEOC any additional resources required for performing the above tasks

Fire Brigade

- Rescue and evacuation
- Salvage Operations
- Communicate to DEOC details of all the above activities
- Communicate to DEOC any additional resources required for performing the above tasks

Health

- Provide emergency treatment for the seriously injured
- Ensure emergency supplies of medicines and first-aid
- Corpse disposal
- Preventive medicine and anti-epidemic actions
- Supervise food, water supplies, sanitation and disposal of waste
- Assess and co-ordinate provision of ambulances and hospitals where they could be sent (public and private);
- Provide special information required regarding precautions for epidemics
- Set-up an information centre to organise sharing of information with public
- Communicate to DEOC details of all the above activities
- Communicate to DEOC any additional resources required for performing the above tasks

Local Government & Rural Development

- Provide information on the situation of rural areas and submit the same to the DEOC
- Monitor progress of relief operations in the rural areas
- Send advisories to the DEOC on the progress of disaster situation

- Assist and facilitate Damage and Needs Assessment teams from NGOs

Municipal Committee Control Room

During disaster emergencies, the Municipal Committee will be involved in the delivery of following activities within its area of jurisdiction:

- Send Initial Damage and Need Assessment Report of the Town to District EOC
- Salvage Operations for areas within the town centre
- Corpse disposal
- Assist other agencies for movement/transport of staff including rescue parties, relief personnel and relief materials
- Communicate to the DEOC additional resources required by various control rooms
- Establish communication links with DEOC, Union Council Disaster Management Committees (DMCs), NGO coordinating committee and private donors
- Course all information and any other as instructed by the DEOC
- Provide official identification bands to all ward officers and other Municipal officers on disaster duty for easy identification.
- Issue passes and identity cards to relief personnel including the persons from NGOs operating in the Town Centre
- Coordinate NGO activities through necessary support to ensure community participation by establishing coordination mechanisms among NGOs
- Identify NGOs to serve on committees task force
- Assign well-defined area of operations and assign specific response functions to specialized NGOs and report to DEOC.
- Coordinate supplies distributed directly by NGOs and other organizations including private donors
- Report upon procurement and disbursement of relief materials received through government and non-government channels
- Mobilize and coordinate work of volunteers ensuring community participation

Police

- Co-ordinate with District EOC
- Cordon the area to restrict movement of vehicular and pedestrian traffic
- Shift the rescued/affected people to hospitals
- Provide easy access to rescue and relief personnel/vehicles

- Corpse disposal
- Law and order
- Divert traffic on alternate routes as and when necessary in co-ordination with PWD
- Request PWD for providing access through roads during emergencies for specific time duration and monitor the requirement of such an access

Public Works Department

- Send advisories to the DEOC on road conditions especially regarding blocked or impassable roads
- Organize draining of flood waters from roads
- Set-up an information centre to organise information for public
- Communicate to DEOC details of all the above activities
- Communicate to DEOC any additional resources required for performing the above tasks
- Rescue and Salvage Operations for road accidents
- Monitor flood situations and landslides on roads and co-ordinate with DEOC for mass transport requirements and advisory on rerouting of traffic, as needed

Revenue Department

- Establish relief distribution centres
- Accept relief donations and relief support
- Put up camps, if warranted by the situation, and manage the same
- Request assistance from the DEOC, as needed
- Submit reports to the DEOC of operations and expenses

Women and Social Welfare

- Provide the DEOC with reports on the impact of disaster on women, children and poor in affected areas
- Extend advisories to the DEOC regarding observance or violation of gender principles
- Send report to the DEOC regarding needs assessment of vulnerable segments of the population

3.2.3. Post-Disaster Activities

The DDMA is also responsible for pursuing the efforts of recovery of communities affected by the disaster.

a. Recovery and Rehabilitation Activities

- Post disaster Damage and Need Assessment: Inter-disciplinary team with community involvement
- Recovery planning based on need assessment: Multi-disciplinary team with community involvement
- Linking with State development plan
- Implementation of recovery and rehabilitation plan with community participation
- Coordination integrated with monitoring and evaluation participated in by the affected communities

b. Minimum Intervention

The recovery management approach should be one of minimum intervention. However, recovery services and information should always be readily available within disaster affected communities and be responsive to the range of needs.

External recovery services and resources are provided as a support to an affected community, to be used if the needs following the event are beyond the capacity of existing services and resources. Wherever possible additional resources should be under local management through the network of existing service providers.

3.3. Community Based Activities

In partnership with NGOs already involved in risk reduction activities at the community level, the union councils and ward/village leaders should develop the Union and Ward/Village Disaster Management Plans based on the DEOC's Plans regarding actions during emergencies and disasters. It must be kept in mind that disaster, such as the 2005 Earthquake, resulted in cutting off essential services. Furthermore, experiences in other countries have also shown that despite administrative preparedness, the government may not be able to bring relief to particular communities immediately. In district Rawalakot there are villages that are located in the mountains and are not immediately accessible even by four-wheeled vehicles, in such a case, community based disaster management activities will be really effective.

3.3.1. Community Preparedness

Mitigation efforts and preparation of the disaster risk management plan for local areas are essential elements and pre-requisites. Preparedness to a large extent would reduce the impact and damage. Training and simulation exercises for enhancing the community's preparedness and response capability to identify risks will simultaneously strengthen and enhance capacity of the administration to undertake necessary preparedness or evacuation.

As a part of general preparedness at community level, the NGOs will make the communities conscious about the type of hazard that the community faces. Thus local disaster risk management plans for hot-spot areas in the context of specific vulnerability would be developed.

a. During Emergency Situations

For appropriate security and to maintain law and order, precautionary evacuation would be undertaken with assistance from community leaders and community based organisations (CBOs). The entire family would evacuate together as a unit. However, to avoid stampede and confusion and in cases of inadequate transport or limited time, emergency evacuation would be undertaken in an orderly manner.

The community evacuation plan should train the community residents how to leave the area in an organized manner and move to the safe place or evacuation site without losing any family member. The proper steps to orderly evacuation must be learned by the community members.

Also, there should be training in the management of evacuation centres so that the developmental nature of this activity can be safeguarded through the participatory arrangements involving the affectees. This will include participatory method in distribution of relief assistance and running of the evacuation camp affairs.

b. During Relief and Rehabilitation

After the impact of a hazard in a disastrous situation, members of the community may be depressed or still panicky. The learning from the 2005 Earthquake showed that many families sold their animals at very low prices for fear of being unable to tend these because of helplessness. The community could have come together to extend help for the more injured members and give succour regarding care of the animals. An organized community will be able to promote help for each other. This will also assist in the early recovery and promote confidence in the rebuilding stage after the disaster.

Organizing a community managed and owned disaster management organization is going to ensure the achievement of the goal of resilient community.

c. Areas of Community Participation

The DEOC Rawalakot and NGOs at the disaster site should ensure maximum community participation in all stages of operation in order to maintain community morale and confidence; maximize the use of local resources and promote a faster recovery. Disaster management situations offer a wide range of choices and demands that require immediate decision making. Participation of communities and their representatives would duly inform the field agencies about communities' perceptions and would thus create public ownership of the official decisions. Based on local dynamics, ethos and the experience of other countries, an appropriate strategy to ensure community support needs to be evolved. Such efforts to enlist community support and participation have gone a long way in reassuring the community about administration's intent and seriousness about managing the disaster.

3.4. Directions for Community Based Response Plan

The involvement of communities in the District Disaster Risk Management Plan necessitates action at the micro-level and at the ward level. The Plan will have to be evolved with the participation of village residents, their leaders and the officials of the union councils. When disaster is localised at union council level and can be managed locally, community based disaster management plan will come into operation.

However, a disaster situation may cover a major part of the city which would call for co-ordination of activities at the city level. Under such conditions, the community based plan in the affected wards would be in operation along with the DDRMP.

The response structure given in the ward plan essentially limits itself to micro-level intervention. When more than one ward are affected, DEOC which is the co-ordinating authority, would expect the ward officers to co-ordinate the activities at ward level with the line agencies such as Fire Brigade, Police etc., while the inter-ward co-ordination will be the responsibility of DEOC.

The Community Based Disaster Management Plan will include the following:

- Responsibilities of CBOs on receipt of warning or occurrence of disaster
- Responsibilities of ward officer on receipt of warning or occurrence of disaster
- Responsibilities of the tehsils and union councils on receipt of warning or occurrence of disaster

3.5. Non-Governmental Organisations (NGOs) and Voluntary Agencies

The non-governmental organisations and voluntary agencies play an important role in disaster management and provide a strong band of committed volunteers with experience in managing the disasters. Their strength lies in the choice of their manpower, the informality in operations and flexibility in procedures. These organisations enjoy a fair degree of autonomy and hence can respond to changing needs immediately.

However, in order to maintain uniformity in operations and effective co-ordination, it is desirable that they follow the standards of services (as given in the Guidelines), information exchange and reporting so as to enable the DEOC to have a total picture of resource availability, disbursements and requirements. NGOs therefore have been assigned specific tasks by the Municipal Commissioner to undertake relief work within the overall institutional framework. As and where possible, NGOs may also be able to improve the quality of delivery of services. In addition, CBO Committees have been operating at the community level, especially in times of emergencies like house collapses, fires, and floods. Such committees have been identified at the ward level.

Specific activities in which NGOs/private sector can be involved during disaster management operations are:

- Search and rescue operations
- Information dissemination
- First aid
- Burial of dead
- Damage and Need Assessment
- Management of information centres at temporary shelters
- Mobilisation and distribution of relief supplies including finances
- Community mobilisation, crowd control, rumour control, traffic management
- Specialised services (psychiatric and mental health assistance)
- Management of transit camps
- Rehabilitation activities

The following agencies will be associated with relief and rehabilitation activities. Most of these agencies have capacity to mobilise required resources and have assisted the administration in the past in managing relief and rehabilitation activities. These agencies include:

- ADRA

- CARITAS
- Islamic Relief
- Helping Hand
- MERLIN
- NRSP
- Salvation Army
- UN Agencies
- Others

3.6. Reporting Formats

The need for common reporting formats to be used by both government and non-government agencies during disasters will facilitate understanding of messages, data and information. This will avoid both embarrassments and mistakes in the emergency work to save lives and properties. Examples of reporting formats are in *Annex ix*.

The DEOC will send the Status and Action taken Report on a continuous basis to the State DMA. The DEOC will provide updates of the situation and include advisories for the State DMA to guide it in its decision-making responsibilities.

3.7. Plan Dissemination through Community Education

The DDMA will disseminate the DDRMP at four levels;

- District administration departments, and to the state level officials
- To the tehsil, union council and ward/village leadership
- Through mass media to the general public in the district
- Through existing CBOs and collaborating NGOs

In addition to dissemination of literature related to the DDRMP, the DDMA will ensure that disaster response drills are conducted by the ward officers and other agencies on a regular basis, especially in the disaster prone areas to maintain the readiness of communities and departments, with attention to operational procedures, personnel, equipment and orderly response.

Bibliography

A Review of Disaster Management Policies and Systems in Pakistan, for WCDR 2005. January, 2005, Islamabad.

Action Aid Pakistan. 2006. *Conference Report: Disaster Preparedness and Mitigation in Developing Countries.* February 2006.

Asian Development Bank and World Bank. 2005. *Pakistan - 2005 Earthquake: Preliminary Damage and Needs Assessment.* Islamabad, November 12, 2005

Cabinet Division, Govt. of Pakistan. 2006. *National Plan: Strengthening National Capacities for Multi Hazard Early Warning and Response System, Phase: I.* May 2006.

Centre for Research on Poverty Reduction and Income Distribution (CRPRID). *Pakistan 2005 Earthquake: An Assessment of Impoverishment Risks.*

Civil Defence Department-AJ&K . *PC-I: Strengthening the Civil Defence Organization and Establishment of Emergency Services (1122) in Azad Kashmir (Phase-I).*

Church World Service Pakistan/Afghanistan. Reports Related to Earthquake October 8th 2005.

ERRA and IASC Country Team. 2006. *ERRA-UN Early Recovery Plan.* Islamabad, May 2006. www.erra.gov.pk

ERRA. 2006. *Rebuild, Revive with Dignity & Hope: Annual Review 2005 - 2006.* Islamabad, October 2006.

ERRA. Reconstruction and Rehabilitation Strategy Documents on (1) Education (2) Environment (3) Governance (4) Health (5) Housing (6) Livelihood (7) Power Generation (8) Telecom (9) Transport (10) Vulnerable Groups, and (11) Water and Sanitation.

Falak Nawaz & Mohammad Shafique. *Data integration for flood risk analysis by using GIS/RS as tools.* http://www.gisdevelopment.net/application/natural_hazards/floods/ma03032.htm

Food and Agriculture Organization (FAO). 2006. *Pakistan: Post-Earthquake Early Recovery, Rehabilitation and Reconstruction Programme for the Agriculture and Livestock Sectors.* Rome, 15 November 2005.

Govt. of AJ&K. 2006. *Emergency Response Plan for Winter/Monsoon (August 2006 - April 2007), First Draft*. August 2006.

Board of Revenue and Relief Department - Govt. of AJ&K. 2005. *PC-1: Azad Jammu and Kashmir Disaster Management Project (2005 - 10)*. July 2005.

Home and Tribal Affairs Department. *NWFP: Provincial Disaster Management Strategy*.

International Landslide Centre. 2006. *Brief Report on Landslide issues requiring attention 8th October 2005 earthquake affected areas, northern Pakistan*, February 2006.

Inventory of Glaciers, Glacial Lakes and Glacial Lake Outburst Floods (GLOFs) in HKH Region Pakistan.

IUCN. 2006. *Earthquake in Pakistan: An Assessment of Environmental Risks and Needs*. 16 January 2006.

LG & RD - AJ&K. *Baseline data of Earthquake Damages*.

Report on the Baseline Study of LG&RD Facilities in Azad Jammu & Kashmir, 2005.

NDMA - Govt. of Pakistan. 2006. *National Disaster Management Framework, Pakistan*. (Draft) October 2006.

OCHA 2006. *Evaluation of Disaster Response Agencies of Pakistan*. Islamabad, December 2006.

OXFAM. *Keeping Recovery on Course: Challenges Facing the Pakistan Earthquake Response One Year On*.

International Crisis Group. 2006. *Pakistan: Political Impact of the Earthquake, Asia*. Briefing No. 46, (ICG) Islamabad/Brussels, 15 March 2006.

Paul Curriion. *Assessment Report: Pakistan Earthquake Response November-December 2005*. Interagency Working Group (IWG).

Raja Muhammad Rafique Kiani. *Assessment of Damage in Earthquake Affected Areas of AJ&K*, A PPT Presentation, Central Forest Office Neelum AJ&K.

Roger Bilham. *Earthquakes and Tectonic Plate Motions*
<http://cires.colorado.edu/~bilham/Kashmir%202005.htm>

Sardar Arshad Abbasi, MC Administrator. A power point presentation before the Prime

Minister of AJ&K.

Shafeeq-ur-Rehman (Islamic Relief), Umair Hassan (Save the Children). et al. *Assessment Report: Azad Jammu and Kashmir.*

Report on Structures for Recovery Reconstruction in Earthquake Affected Districts.

The Government of Pakistan. 2006. The Gazette of Pakistan, Ordinance No. XI of 2006. *National Disaster Management Ordinance, 2006.* Dec 2006.

UNDP– BEGIN-ER. *District Action Plan, Workshop on Disaster Risk Reduction.*

United Nations Pakistan. 2006. *UNDP & The 2005 Pakistan Earthquake: One Year On.*

WHO. *District Health Plan Neelum (2006-2007).*

the 1990s, the number of people in the world who are illiterate has increased from 1.2 billion to 1.5 billion. The number of illiterate people in the world is expected to reach 1.7 billion by the year 2015 (UNESCO 2003).

Illiteracy is a global problem that has become a major barrier to economic and social development. It is a major cause of poverty and social exclusion. Illiterate people are unable to read and write, which makes it difficult for them to find employment, access services, and participate in society. Illiteracy is also a major barrier to education and learning. Illiterate people are unable to learn from books, newspapers, and other written materials. This makes it difficult for them to improve their skills and knowledge.

There are many causes of illiteracy. One of the main causes is poverty. Poor people are unable to afford education, which makes it difficult for them to learn to read and write. Another cause of illiteracy is lack of access to education. In many parts of the world, there are no schools or libraries, which makes it difficult for people to learn. A third cause of illiteracy is lack of motivation. Many people do not see the value of education and do not want to learn.

There are many ways to reduce illiteracy. One of the most important ways is to improve access to education. This can be done by building schools and libraries, and by providing free or low-cost education. Another way to reduce illiteracy is to improve the quality of education. This can be done by training teachers, and by providing better learning materials. A third way to reduce illiteracy is to increase motivation. This can be done by showing people the benefits of education, and by providing incentives for learning.

Reducing illiteracy is a major challenge for the world. It is a challenge that requires the cooperation of governments, educators, and the public. If we can reduce illiteracy, we can improve the lives of billions of people. We can help them to find employment, access services, and participate in society. We can help them to improve their skills and knowledge. We can help them to become better citizens. We can help them to build a better world.

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