



Disaster Vulnerability Assessment Report

District Chitral, KPK, Pakistan

15 Aug. 2010 to 15 Sept. 2010

Disaster Vulnerability Assessment Report

District Chitral, KPK, PAKISTAN

Aug 15 2010 to Sep 15 2010



Conducted by:

Hundred of Original Projects for Employment (HOPE'87)

House Number 15-A - Street Number 62 - Sector G-6/4 - Islamabad - Pakistan.

Phone: (92-51) 2826942. E-mail: ahmed@hope87.org

In collaboration with:

Hashoo Foundation

7-A, Street 65, F-8/3, Islamabad

Tel: +92-51-2287712-6 Ext: 120

Fax: +92-51-2287718

www.hashoofoundation.org

Report Prepared by:

Ahmed Abbas – Director Operations – HOPE'87 Pakistan

Sultan Mehmood – Regional Manager, Chitral Office, Hashoo Foundation

Shahzad Ali Mirza – Communication and Development Coordinator, Hashoo Foundation

Sadiqa Batool – Senior Program Officer Hashoo Foundation

Supervised by:

Shoaib Haider – Islamabad Representative (HOPE'87 – Pakistan)

Acronyms:

LSO	Local Support Organizations
AKRSP	Aga Khan Rural Support Program
HF	Hashoo Foundation
MDGs	Millennium Development Goals
UN ISDR	United Nations International Strategy for Disaster Reduction
GLOF	Glacial Lake Outburst Flood
DRR	Disaster Risk Reduction
NDMA	National Disaster Management Authority
UNDP	United Nations Development Programme
UC	Union Councils

Contents:

1.0	Executive Summary	5
2.0	Background	5
3.0	Chitral's History of Disaster	8
4.0	Purpose	10
5.0	Objectives	10
6.0	Methodology	10
7.0	Stakeholders' Consultation	10
8.0	Secondary Data analysis	11
9.0	Preliminary Field Work	11
10.0	Site Selection	11
11.0	Tools designing and sequences	12
12.0	Team composition, Training and Implementation	13
13.0	Analysis	13
14.0	Key Findings	13
15.0	Recommendations	14
16.0	Conclusion	15

Annexure

1.1 Executive Summary

In wake of the unprecedented natural disasters in Pakistan, HOPE'87 and Hashoo foundation conducted a disaster vulnerability assessment in District Chitral between August 15, 2010 and September 15, 2010, with an estimated population of 400,000 people. The objective of this assessment is to understand the current situation of Disaster Preparedness and School Safety in District Chitral and to identify the needs amongst the local communities that must be addressed to make schools safer.

The 90 villages in 15 union councils were surveyed during the assessment and were selected according to four pronged criteria: hazard prone, having schools vulnerable to natural disaster, poverty clustering and remoteness. 50 focus group discussion and 300 in-depth interviews were undertaken at two levels: stakeholder level and at vulnerable group level. A total of about 800 people (including about 450 women and 50 Children) were consulted in various stages of this study. The assessment was made in 15 union councils in Tehsil Chitral and Mastuj of District Chitral in KPK province and took 30 days to complete with the involvement of 15 teams comprised of about 70 personnel.

The study is composed of three main components. The first is a background study of the area, the nature and severity of disasters in the area with its history in brief, the risk elements especially the schools, level of vulnerabilities of the exposed community especially the students. The second part is the key findings of pertaining knowledge, perceptions, practices and observations amongst and about the elements at risk while the third part is the recommendations and conclusion derived after the detail study of the area and studying the previous experiences about the area or likewise.

The key findings were as follows:

- 350 schools (25,000 students) were identified as most at risk to floods and other natural hazards, such as earthquakes and mudslides. These were out of the total of 912, situated in district Chitral.
- 5,000 parents and 2,000 teachers related to these 350 schools were not well informed or prepared to cope with natural disasters such as recent earthquakes and floods.
- School management committees and local government officials did not have the capacity or technical knowledge to implement disaster risk reduction programs. This is due to the lack of work in the remote areas of Chitral while on the other hand the structures of schools at Chitral were not retrofitted to avert hazards caused by natural disasters, particularly earthquakes.

- From Pakistan's perspective, school infrastructures are most vulnerable during disasters due to poor construction, lack of proper maintenance and many other issues related to the schools. Moreover, as a result of the rapid urbanization and overpopulation in urban areas, schools are growing in an unplanned way to accommodate students in the education system. As a result, vulnerability is ever increasing in the education sector and safety of the students is becoming questionable day by day. Considering all these points, school safety has become an issue of major priority to make schools safer for the wellbeing of our next generation. Schools play a versatile role in the communities and hence the impacts of disasters on schools are pervasive.

The key recommendations can be summarized as follows:

- Strengthening and retrofitting of school buildings and facilities.
- The school site should be stable and safe enough to withstand the total building load, their occupants and their belongings.
- Ensure schools can function as post disaster shelter.
- The schools require a coordinator / focal teacher(s) with excellent organization skills and understanding of disaster preparedness dynamics to manage the scope of preparations necessary for a regional-level activity.
- Disaster risk reduction material and plans must be fashioned by the teachers themselves.
- Emergency drills should be regularly held in all schools.
- Children are caring about present and future risks, by involving children and schools, governments can get messages into a large number of households and push for knowledge and change precisely where it is needed.
- Involving children establishes DRR with the next generation, and support intergenerational dialogue and learning.
- Interactive games for students of nursery, pre-school and primary level students are one of the most productive educational methods.
- Awareness-raising publications and IEC materials should be published and distributed.
- Establish linkage between school safety programs and the existing DRR interventions in the area.
- Establishing networking and partnership with DRR actors at district and national level.

1.2 Background

Pakistan has been at risk to various types of natural disasters of which cyclones, flooding, landslides, earthquakes and drought are most common. The country is one of the most flood prone countries in South Asia. During its history the floods of 1950, 1992, 1998 and 2010 resulted in a large number of deaths and severe loss of property. The flood of 2010 is estimated to have cost damages of more than \$ 10 billion¹. Pakistan is also located in a seismically active zone on account of its proximity to the Indo-Australian and Eurasian plates. This vulnerability was proven in October of 2005 when a major earthquake measuring 7.6 on the Richter scale hit 9 Districts in KPK and Azad Jammu and Kashmir (AJK), killing over 73,000 people and damaging/destroying about 450,000 houses. Droughts are also a serious hazard in the country as 60 percent of the country is classified as semi-arid to arid. The droughts of 2000-2002 are estimated to have cost economic losses of about \$ 2.5 billion. The country does not have a very high risk to cyclones; however fourteen cyclones have been recorded between 1971 and 2001 which have caused a certain amount of damage.

There are a number of underlying risk factors that increase vulnerability and contribute to the severity of disasters in Pakistan. These include:

- Poor construction practices and limited enforcement of existing building codes
- Weak early warning systems
- Lack of awareness and education on disasters and response
- Limited capacity and coordination between various government disaster response agencies
- Disaster susceptibility of large number of impoverished communities

Despite the immense human and capital loss during the earthquake 2005, the Government's response to make local communities aware, streamline and mainstream seismic safety and construction skills, and awareness and education on school safety and safe designs for schools and other government buildings, has been limited in Northern Areas, e.g. standard designs for critical community and public infrastructure, such as seismic resistant school design and construction in Northern Areas have not been revised yet and there is no monitoring mechanism in place to ensure adherence to even the existing housing and building designs (such as being recommended by NDMA in Kashmir) that may have some seismic resistance elements built into it.

1. World Bank Disaster Needs Assessment (DNA) December 2010.
http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1264873659180/6750579-1291656195263/Exe_PakistanFloodsDNA_December2010.pdf

1.3 Target area – District Chitral, KPK

Among the highest regions of the world, sweeping from 1,094 meters at Arandu to 7,726 meters at Tirichmir, and packing over 40 peaks more than 6,100 meters in height in an area of 14,850 square kilometers, Chitral is the northern most district of Pakistan bordering Afghanistan. It is the largest district of Khyber Pakhtunkhwa (KPK) in terms of territory and

smallest in terms of population.

About ninety percent of the people are rural, residing in 523 habitations of 20 to 3,573 persons. The district of Chitral comprises two Tehsils - Mastuj and Chitral and 24 Union Councils.



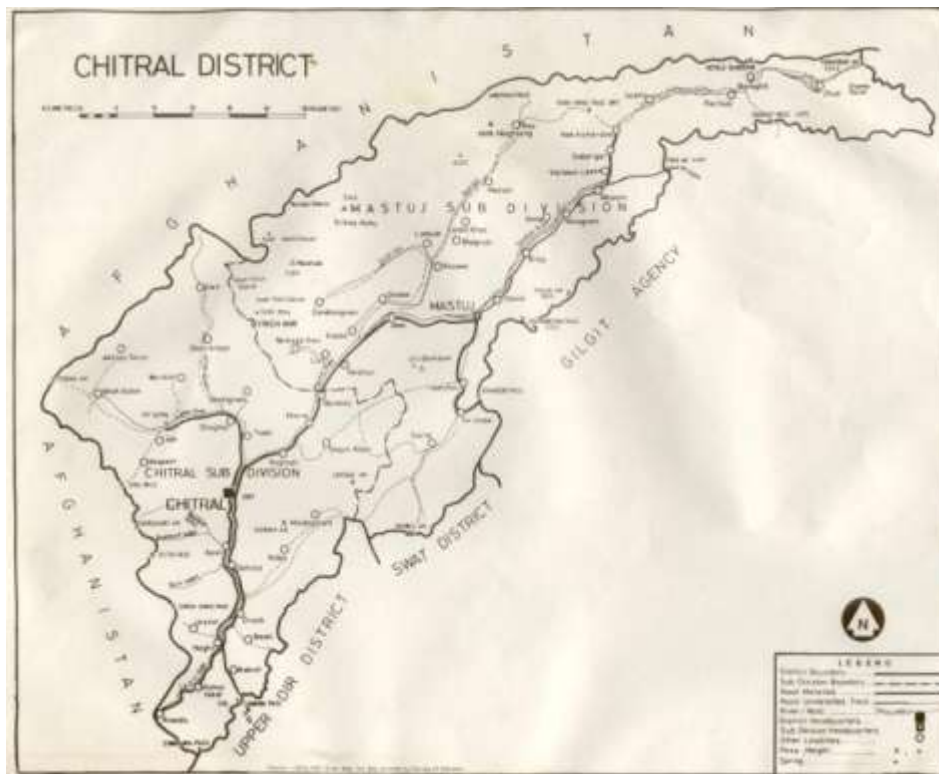
Location of District Chitral (Map 1.1)

After the last population census in 1998 the population has increased and according to the current and ongoing census undertaken by AKRSP under Benazir Income Support Program (BISP) the population has crossed the figure of 400,000. The demographics information of District Chitral is given in figure 1.1 while Tehsil and UCs' wise demographic information is attached as annexure IV.

Demographic information of District Chitral (Figure 1.1)

Demographics of District Chitral			
Area 14,850 Sq.km	Population 385,000 (Projected)	Households 48,000	# of Tehsils 02
# of Valleys 32	# of UCs 24	UCs in Teh. Mastuj 10	UCs in Teh. Chitral 14
# of Villages 523	Annual income Growth (1991-2005) 09%	PCI as Proportion of National PCI (2005) 0.42	Off-Farm income as proportion of total income 54
Literacy Rate →	Total: 56%	Women: 48%	Men: 62%

Below is A Map of District Chitral



1.4 Chitral's History of Disaster

Chitral District is prone to various kinds of disasters such as earthquakes, floods, avalanches, land/mud slides and rock falls. According to an expert disaster mitigation committee, comprised of a core group of seismic and structure experts from across the country including Imtiaz Hussain Gilani, Vice Chancellor of University Engineering and Technology Peshawar as convener, Dr Qaiser Ali, Director at Earthquake Engineering Centre University of Peshawar and Dr. Asif of the Centre of Excellence in Geology, University of Peshawar as members published a report in the Daily News, dated 13th August 2007. The experts committee has classified all parts of the country into minor, moderate, upper moderate and severe earth quake zones. Chitral district falls in seismic Zone 4, the severe damage zone (refer Annex VI – Seismic zones of Pakistan published by Geological Survey of Pakistan).

The district Chitral has witnessed disasters of varying intensity over the past few years. The incidents of glacial lake out burst floods (GLOF), river and flash floods, avalanches, landslides, mudslides and earthquake have caused life, property and infrastructure losses across the district. A recent history² of significant natural disaster in Chitral is as follows (please, refer to page 14 of the Chitral, District Disaster Management Plan developed by FOCUS Humanitarian Assistance for a comprehensive list):

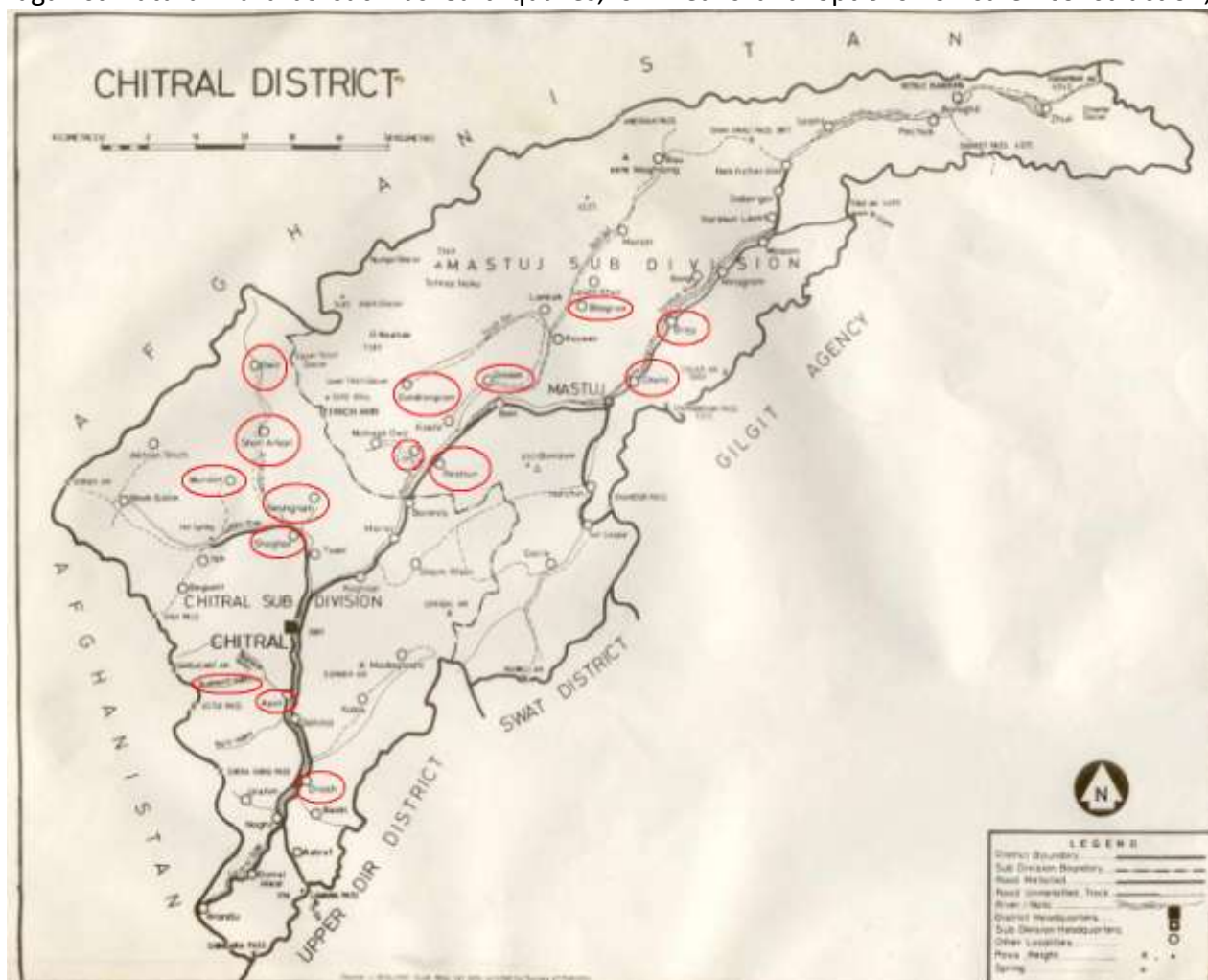
Year	Nature of disaster	Areas hit /affected	Casualties /Damages
2010	Flash Flood Disaster	Most of the district	Total of 79,044 people affected, 39 people died, 121 houses washed away, 185 houses partially damaged, almost all main and side roads destroyed
2008	GLOF & Flash Flood	Gabor & Chuinj Villages	13 houses washed away, standing crops damaged and livestock was badly affected
2007	Heavy snow, glacier break/debris flow, rockfall and avalanche	Chitral town, Sonoghere, Rech, Momi & Terich villages	40 people died, 113 houses collapsed & livestock buried
2006	Heavy snow, mudflow	Terich, Chapali villages	Crops & livestock damaged
2005	Avalanche	Terich, Gabore, Rech villages	1 person died and livestock damaged
2004	Heavy snow & heavy rain	Buroghal & Chapali villages	Standing crops and livestock damaged

History of disasters in District Chitral (Table 1.1)

² Focus Humanitarian Assistance (Aga Khan Foundation) Chitral office and OCHA

The frequency of natural disasters in the district shows that there is an urgent need of disaster preparedness in the communities. There is a dire need of training the communities in rescue and relief operations, awareness creation in safety measures and other techniques to cope with disastrous situations in the future. Furthermore, the remoteness of District Chitral and its great expanse (24 Union councils and 523 villages) makes it almost inaccessible during disasters, as communication mediums come to a halt. The 912³ schools situated in District Chitral are also at a great risk, as teachers, students and the communities are not trained to deal with the after-effects of disaster.

Children and youth of Northern Pakistan are not exposed to concepts of home or school safety against natural hazards such as earthquakes, or means and options for safer construction,



Above Map shows the red circles indicate the schools most vulnerable to disasters in Chitral

³ Government Education Department, Chitral : Annual school census report 2009-10 DEMIS (E&S) Education

which if provided, will not only lead the children and youth to adopt these safety practices in their existing circumstances, but may also help them adopt these in their own homes and schools once they have grown up and have their own assets.

Some of the most tragic loss of life can occur when public buildings such as schools, which have a large numbers of occupants, are damaged by disasters like earthquakes. Even if the users are fortunate enough not to be in the buildings when a tremor strikes, the building may be rendered unusable for educational purposes. Therefore, it becomes very important that the building is built disaster resistant/retrofitted and school children in specific shall be made aware of possible hazards and DP/DRR.

Keeping in view this background and the presence of Hashoo Foundation in the area for more than 12 years as well as the fact that HOPE'87 implemented several development projects in the area starting from 2004⁴, the Hashoo Foundation conducted a "Disaster Vulnerability Assessment" study of the area with technical support from HOPE'87 Pakistan from August 15, to September 15, 2010.

1.5 Purpose:

To understand the current situation of Disaster Preparedness and School Safety in District Chitral and to identify the needs amongst the local communities that must be addressed to make schools safer.

1.7 Objectives

The assessment was conducted to explore the details of damages inflicted on schools following the recent floods in District Chitral and other possible disaster vulnerabilities. The main focus was on school safety and the disaster preparedness of vulnerable children, school teachers and parents and the local community at the household level, who are most at risk in the advent of a natural disaster. The assessment will identify remedial actions to strengthen the long-term safety of schools with the support of the local government.

⁴ Building and Construction Improvement Programme (BACIP) co-financed by EC, ADA and HOPE'87, Women Empowerment Centre (WEC) co-financed by ADC and HOPE'87, Education Training and Risk Prevention (ETRP) co-financed by ADC and HOPE'87, Capacity Building for Habitat Improvement co-financed by EC, ADC and HOPE'87 (currently being implemented)

02:

Methodology

2.1 Methodology

Children are the most vulnerable age group during any disaster, especially those attending school, as school buildings are often destroyed. In keeping with the Hyogo Protocol and achieving the MDGs, the UN ISDR secretariat and its partners made disaster risk education and safer school facilities the two critical themes of the 2006-2007 World Disaster Reduction Campaign. Thus the whole study and its methodology are designed on the basis of this pre-conceived knowledge and making it a centerpiece of the assessment.

During the assessment, a qualitative approach was used, with primary data collected using household or key informant interviews, plus 50 focus group discussions. Enumerators carried out semi-structured interviews using a basic checklist of disaster reduction and school safety issues (attached as annexure I) after the natural disasters in the most remote villages in Chitral.

2.2 Stakeholders' Consultation

As a first step the assessment team led a stakeholder consultation process that included individual meetings with a range of humanitarian agencies and other institutions⁵. The primary stakeholders at field level that included school teachers and community based organizations, parents, field staff of humanitarian agencies and government line departments⁶ were also consulted. Representation in consultation for the study design, field observations, community needs and final reporting was put in place from these primary stakeholders at field level. Whilst at district level the key stakeholders, the Government line agencies (Rehmatullah Wazir, District Coordination Officer (DCO), Miftah-ud-Din, Assistant Coordination officer, Chitral) for Education were also consulted at each level of the study. Meetings were also held with Mr. Arshad Nawaz Cheema, Deputy Director, NDMA, with regards to the implementation of their joint collaboration with UNDP on Disaster preparedness in Chitral. Extensive meetings with Focus Humanitarian Assistance at Chitral and Islamabad level were held.

2.3 Secondary Data analysis

With roots in local community due to the presence of the Hashoo Foundation's regional office in Chitral and its various ongoing projects⁷, the assessment team was facilitated with detailed secondary data (these include list of villages affected, list of schools affected and the villages most in need for disaster preparedness). The significance of the data may be rated as the most appropriate to be used as secondary data, as it was fresh, complete and updated data.

⁵ Mr Amir Muhammad, Regional Program Manager, Focus, Mr. Mirza Aman General Manager Aga Khan Educational Services and Mr. Israr Chairman and Mr. Yaqoob Khan, Manager, Karimabad Area Development Organization, Chitral

⁶ Gulsamber Begum, the Executive District Officer Education, Chitral

⁷ Children Education Support Program, Skills Training in Chitral and Honey Bee Farming in remote areas of Chitral

In addition to the HOPE'87 assessment, the following documents were referred to in identifying the needs, selection of proposed strategies and activities: Hyogo Framework for Action, International Strategy for Disaster Reduction (ISDR) and National Disaster Risk Management Framework Pakistan 2007, Educational Building report 13 (UNESCO), Ahmedabad Action Agenda for School Safety adopted at International Conference on School Safety (January 2007), Bangkok Action Agenda (October 2007), Children in Disasters (IFRC), VCA Guide (IFRC), EU Strategy for supporting disaster risk reduction in Developing countries 2009, DIPECHO Fifth action plan for South-Asia – Bangladesh Newsletter 4 (August 2010), DRR Project portal and Draft District Disaster Management Plan for Chitral developed by Focus Humanitarian Assistance (AKF).

2.4 Preliminary Field Work

Prior to designing the assessment methodology, the assessment team (2 males and 2 females) spent several hours reviewing secondary data, discussing the expected outputs of the study with a range of stakeholders, and discussing field visits reports. The purpose of the visits and the day-long discussions was to have a sense of the appropriateness of participatory methodologies in a post-flood situation and to gauge the following:

- Is it feasible to expect people to meet in groups?
- How approachable are schools and households?
- What types of questions may be appropriate and not appropriate?
- What are the best ways to approach communities?
- Who are the community leaders that could make the introductions and bring people together for discussion?

2.5 Site Selection

The main criteria for site selection were:

- Hazard prone areas
- Areas having schools vulnerable to natural disaster
- Poverty clustering
- Remoteness

2.6 Tools designing and sequences

The outcome of the stakeholder consultation and the initial field visits of the assessment team (Hashoo Foundation) resulted in development of tools such as key informant interviews and focus group discussions for the participatory flood assessment, to capture the elements of the school safety that had not been covered in previous studies or by the secondary data review.

The participatory component of the study was designed to portray a picture of the situation in Tehsil Chitral and Mastuj from the perspective of its inhabitants themselves. In addition, by using local development professionals (Mr. Sadruddin and Alauddin, Project Officers KADO) as

facilitators and analysts, the qualitative study benefited from the skills and interpretations of those currently active in helping the affected to improve their living.

The methods used were intended not simply to collect data but to provide a structure for community members and facilitators to analyze their own vulnerability, assets, livelihoods and coping strategies and priorities in an interactive fashion. The tools were designed to build on each other in an analytical sequence that explored the various elements of the flood damage related school safety framework, then synthesized them into a holistic understanding of school safety in each village.

2.7 Team composition, Training and Implementation

Team Composition: Fifteen field teams were constituted and each team was led by professional developmental workers having sociology or social work as a key qualification. Each team consisted of five members (one woman, and four men). An office based team of three professionals (one Program development, one disaster management and one IT professional) for data cleaning, consultation with the stakeholders, trends and aspirations compilation, data analysis and report writing was also instituted.

Training: All the team members were briefed about the assessment objectives and were trained on effective interview techniques and assessment methodologies.

Implementation: The assessment was conducted in 15 Union Councils by 15 teams. Each union council was covered by one survey team, which conducted the survey and the focus group discussions in their respective union councils in three days.

2.8 Analysis

At the end of each site assessment, the facilitation team came together to prepare their site reports and to compile a summary, based on the key themes used in the original design of the assessment methodology. At the end of each day, facilitation teams came together in the base camp to present and discuss their findings. They analyzed differences and similarities between the fifteen teams' sites studied during the day, thereby taking the first step in aggregating findings across the different sites.

These various analytical processes built into the methodology itself, served to increase the validity of data through cross-referencing and engaging the facilitation team in interpretation and analysis of the community-level data.

The teams participated in a day-long analysis workshop that began with a presentation and discussion of the findings from the literature review and macro-analysis.

03:

Key Findings

3.1 Over view

Based on the analysis of data collected from the 300 respondents, stakeholder consultation and from 50 focus group discussion, it can be summarized that the lack of culture of school safety leads to absence of having minimum standards/measures to protect students and teachers from any natural or human made hazard threats, learning materials and property. A “Culture of Safety in Schools” captures issues like child's right to education and DRR policies, institutions, governance, resource allocation, disaster preparedness and family inclusion within the framework of internal and external environment of the school to reduce the impact of any possible threats to children.



Picture of damage caused by flash flood in Chitral town Source: Tribune.com.pk

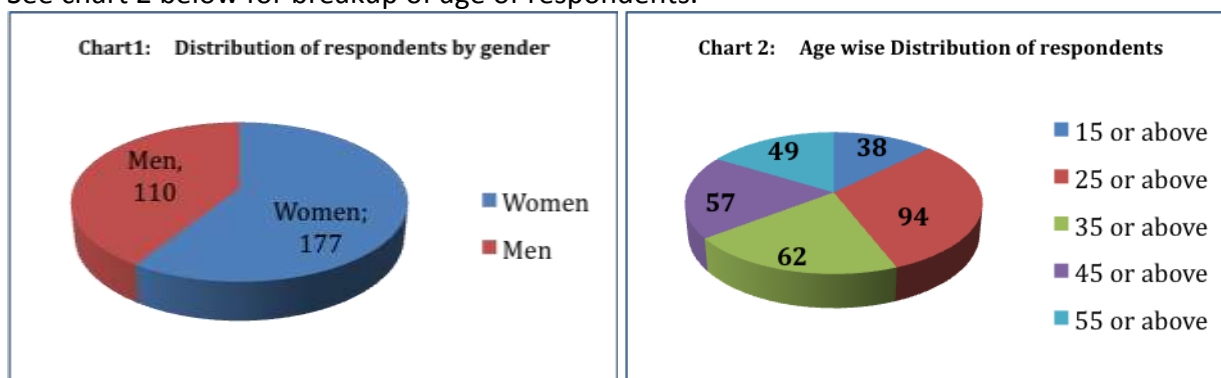
Considering the above fact and needs identified during the Disaster Vulnerability Assessment, it is immensely important to promote school safety through a comprehensive school safety plan aiming at making schools a safer place for children. As children are the future generation of society and effective change agents of their families, society and schools for creating awareness on any kind of disasters, communities in collaboration with school authority can take the lead role in planning to promote a Culture of Disaster Safety in school environment ensuring participation of all concerned.

3.2 Significant areas where the responders found challenges are:

- Preparedness and lack of coordinated response mechanism
- Achieving the right scale of operation in comparison to the needs
- Delivering a strategic action with timely response
- Adequate perspective and technical knowledge
- Focus on traditional coping mechanism for quick response
- Linked to getting appropriate experts at the local level for fast recovery.

Sample Characteristics:

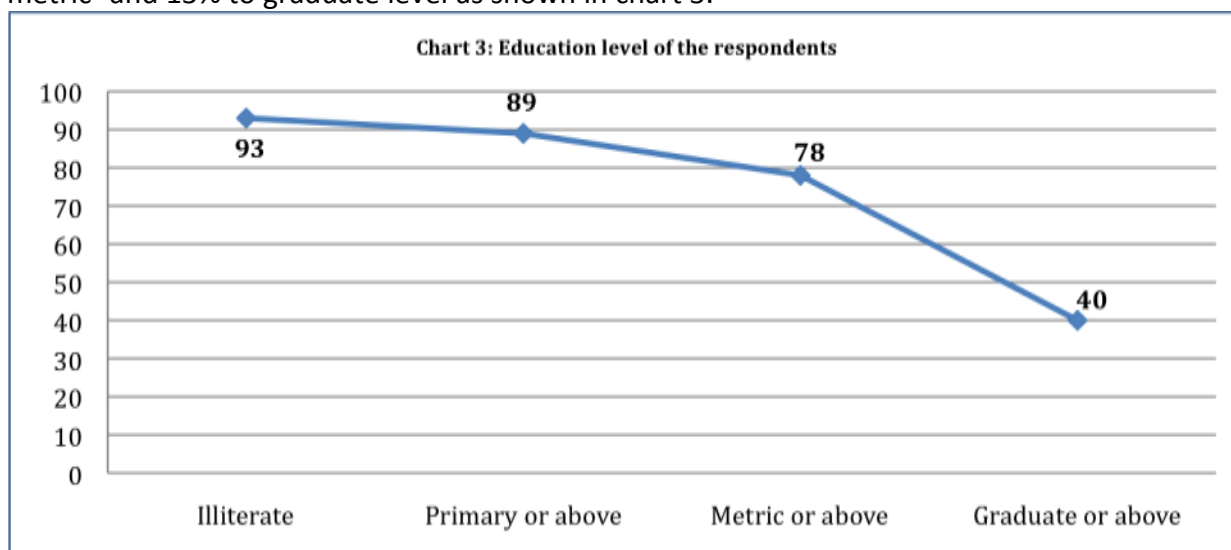
During the assessment both women (177 i.e. 59%) and men (123 i.e. 41%) were interviewed (see chart 1 below for respondent gender disaggregation). Within this sample size of 300 respondents, the majority of the respondent's age was between 25 years and 35 years (31%). See chart 2 below for breakup of age of respondents.



The family size has been identified from the available secondary sources and recent field surveys of the Hashoo Foundation after the flood 2010 as 7.9 persons per family.

Education:

Out of 300 respondents 31% are illiterate, 30% have attended the school to primary, 26% to metric⁸ and 13% to graduate level as shown in chart 3.



⁸ Metric = Completion of 10 years of school education.

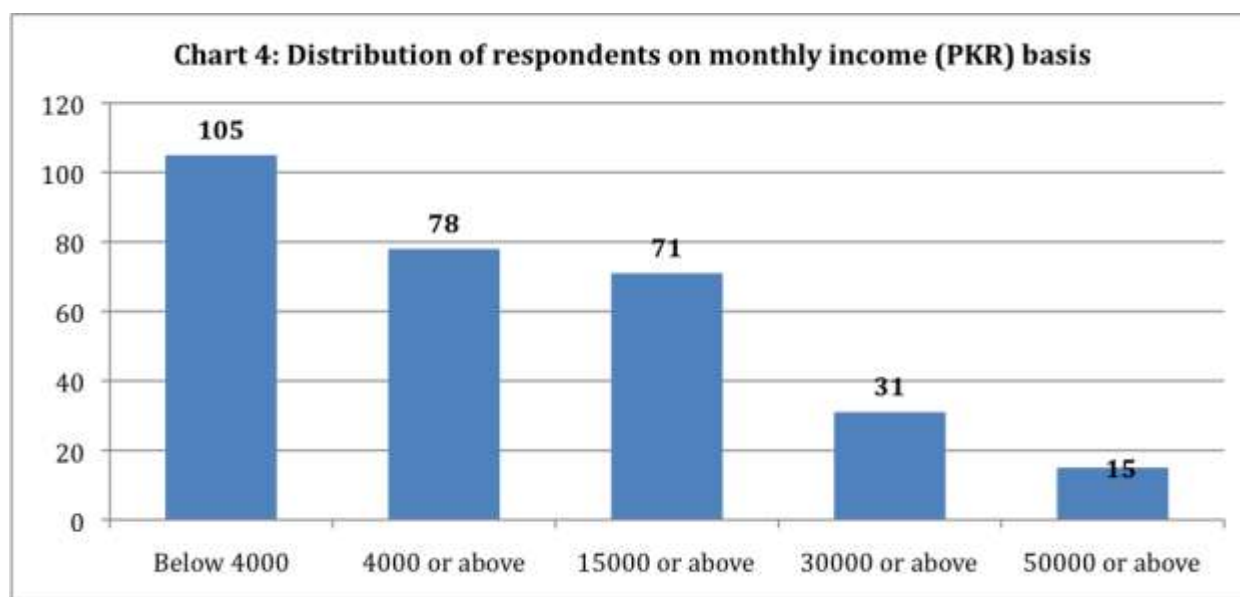
Occupations of the respondents:

Among the respondents the majority belongs to the agricultural class (105 respondents) mostly from rural areas. 67 respondents are employed professionals (teachers, government officials, development sector representatives etc.) whereas 48 respondents are self employed in business/entrepreneurships like carpeters, tailors, shopkeepers and similar employments. Along with these, 50 are doing trade of different kinds like dry fruit vendors, traders, or craftsmen. The table below depicts the summary:

Occupations	# of Resp.	Percentage
Self employed	48	16 %
Agriculture	105	35 %
Trade	50	17 %
Employed	67	22 %
Not applicable	30	10 %

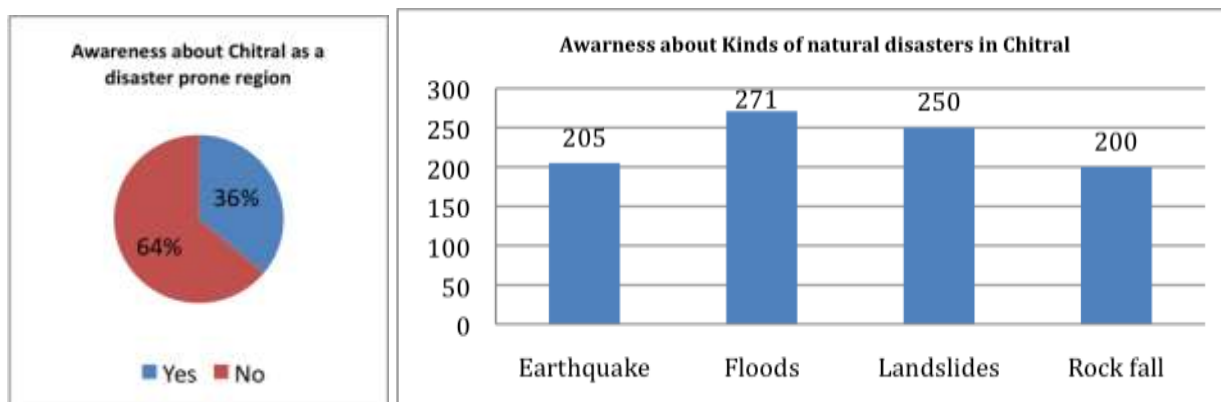
Income level of the respondents:

A majority of the respondents belongs to the ultra poor class of the societies. The families whose monthly income is below 4,000 PKR are considered as ultra poor families throughout the country. The inhabitants of district Chitral mainly consist of such families. Only 15% of the families have a monthly income more than 50,000 PKR per month. The chart 4 is showing the income level of the respondents.



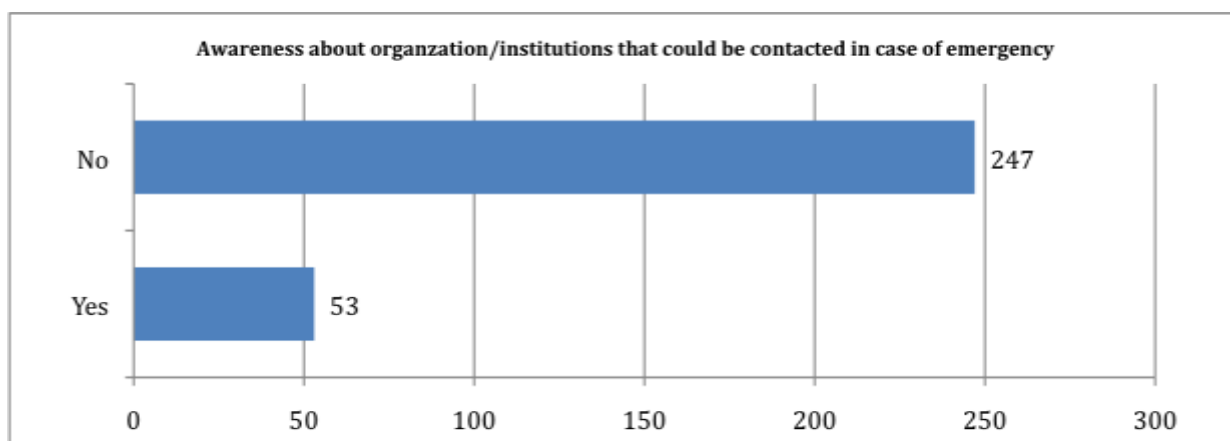
Awareness level of the community:

During the assessment 64% of the respondents were found unaware about the fact that District Chitral is a disaster prone area. Though 36% knew somehow about this reality, but the focus group discussions revealed that their knowledge about the disasters is very limited and mainly based on the old thoughts and oral stories. However the people have been exposed to disasters many times and thus the awareness ratio is higher, which is also showing the intensity of disasters' frequencies.



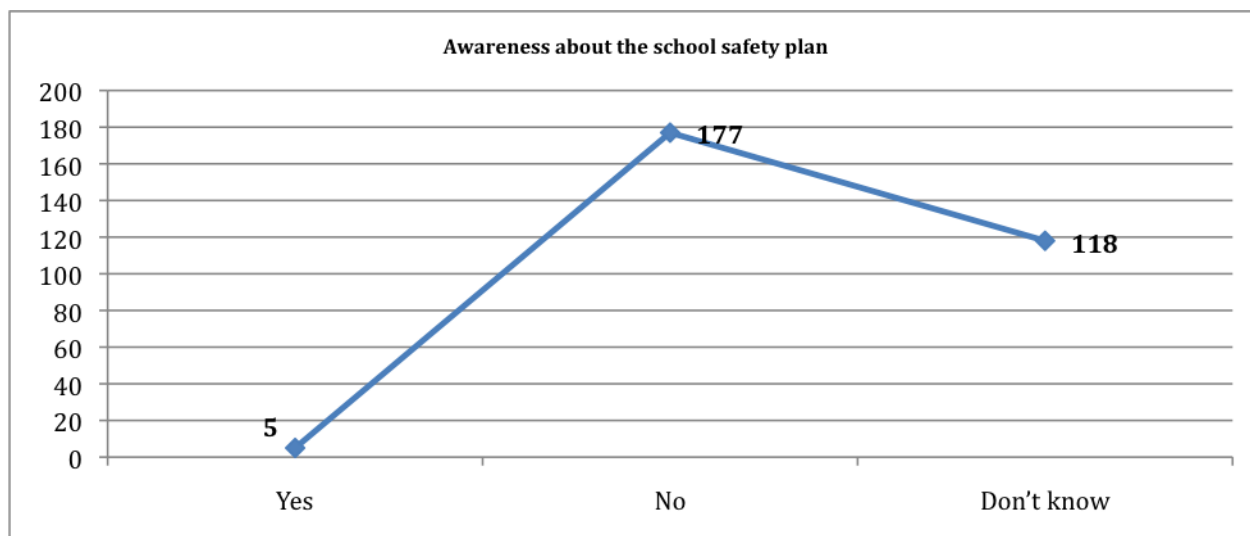
So in short we can say that almost 66% have experienced all four main types of disasters in the area while 83% faced at least two types of disasters with numerous of frequencies in occurrence, yet their knowledge, attitudes and behaviours regarding disaster prone areas and habitation in such like area is very low.

On the other side, an alarming sign is that community awareness about the organizations and institutions that may be contacted in case of emergencies and disastrous situation is quite low. The assessment shows that only 17% people knew about such organizations and institutions. The chart is depicting the fact.



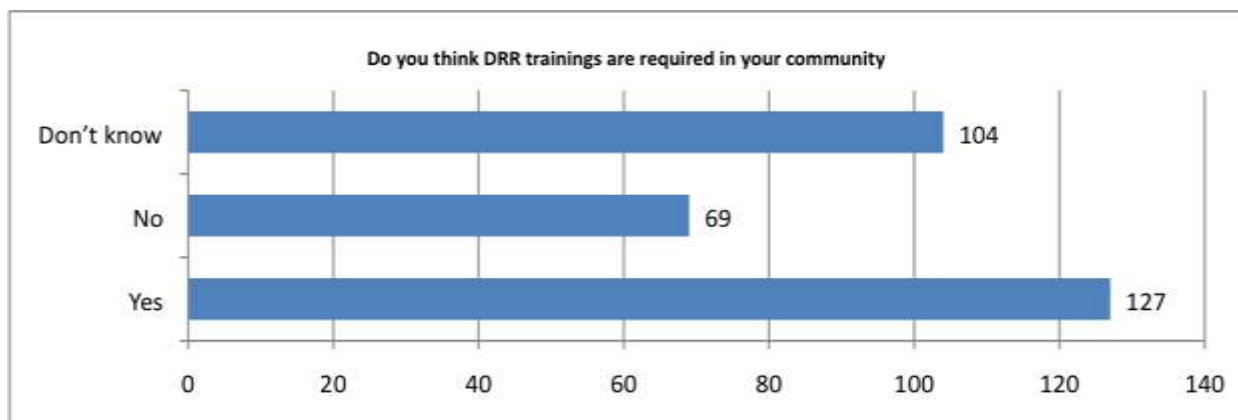
School Safety:

The earthquake 2005, killed more than 17,000 school going children in more than 7,000 collapsed school building. District Chitral was also one of the areas which was badly struck by the earthquake 2005, yet only 2% of the total respondents (that are attached with education institutions or part of the SMC) knew about school safety plans while 59% believe that such plans have not been developed and the most alarming fact is that 33% people do not know about the school safety plan at all. The facts are visualized in the chart to follow;



DRR Training:

23% (69) of the respondents feel that no DRR trainings are required for the community while 42% (127) feel that DRR trainings are indeed required for their community. The most alarming result is that 34% (104) even do not know at all about DRR trainings.



Another phenomenon is that 42% believe that losses can be minimized through DRR trainings while 23% believe that DRR may not result into minimizing losses during disasters.

3.3 Schools vulnerable to natural disasters in district Chitral:

During the assessment together with the local community, the education department and the local level community based organizations, 15 Union Councils out of 24 (in total) were listed as having schools that are most vulnerable to natural disasters. Out of these 15 Union Councils 10 are in Tehsil Chitral and 5 are in Tehsil Mastuj. The list of the Union Councils having disaster prone schools is given below:

Tehsil	Union Council	# of Villages	Total Population
Chitral	Shoghore	27	14,070
	Ayun	19	13,207
	Broze	25	12,061
	Chitral - 1	19	15,815
	Chitral - 2	24	13,888
	Denin	30	16,361
	Drosh - 2	20	12,277
	Karimabad	31	12,292
	Charun	16	14,338
	Khot	9	14,992
Mastuj	Kosht	17	13,059
	Laspur	13	13,791
	Mastuj	19	13,137
	Yarkhoon	36	12,395
	Shahgram	7	13,234

UCs having Disaster prone schools (Table 3.1)

School safety was given a major focus by the United Nations International Strategy on Disaster Reduction (UN ISDR) when the 2006-2007 World Disaster Reduction Campaign was devoted to the theme "Disaster Reduction Begins at School". This theme was chosen by UN ISDR because (a) it is in line with the Priority 3 of the Hyogo Framework for Action 2005-2015: "Use knowledge, innovation and education to build a culture of safety and resilience at all levels", and (b) schools are the best venues for forging durable collective values; and therefore suitable for building a culture of prevention and disaster resilience.

UNESCO and UNEP (2004) emphasize on the importance of school safety by stating that, "the upgrading and construction of schools that will be relatively safe during the occurrence of disasters should be part of a nation's long-term planning." It even went beyond to identify the specific reasons for which a school should be made safe; for safety proper built school buildings can save lives, for shelter schools can be utilized as shelters in emergency period, for continuation of education as often education is disrupted in times of emergencies and finally for resource preservation as schools are valuable local investment of a nation.

The federal government's Economic Survey for 2007-2008 stated that 5.7 percent of the 164,579 public sector educational institutions were in "dangerous condition". Another 42.7 percent required "major or minor repairs".

About 37.8 percent of schools in the public sector lacked a boundary wall, 32.3 percent did not have drinking water, 56.4 percent were without electricity, 40.5 percent without latrines and 6.8 percent without buildings, the same report said.

The issue of the safety of school buildings was first raised after 17,000 children were killed when 7,000 schools collapsed in the 2005 earthquake that hit northern areas of Pakistan and Pakistan-administered Kashmir.

Source: Integrated regional information network

From the Pakistan's perspective, school infrastructures are most vulnerable during disasters due to poor construction, lack of proper maintenance and disaster risk reduction and preparedness initiatives related to the schools. Moreover, as a result of the rapid urbanization and overpopulation in urban areas, schools are growing in an unplanned way to accommodate students in the education system. As a result, vulnerability is ever increasing in the education sector and safety of the students is becoming questionable day by day. Considering all these, school safety has become an issue of major priority to make schools safer for the wellbeing of our next generation. Schools play a versatile role in the communities and hence the impacts of disasters on schools are pervasive.

The major impact of any disaster affecting schools can be summarised as follows:

Quality of education is affected as the learning environment gets distorted; access to schools becomes limited due to shelters occupancy and/or damages to foot bridges, roads etc. These impacts

have cumulative and long term effects in communities and therefore, it is very important in order to protect children not to let continuity of education be disrupted and to prepare schools for "A Safer Tomorrow". Following steps shall be taken in any regions:

1. Identify how disasters can affect schools
2. Educating and creating awareness among communities, students and schools/education department about "Why School Safety is important" and training/engaging them in activities which will make them prepared and less prone to risk situations.
3. Building/retrofitting schools, which are "disaster resilient".
4. Sharing experience and best practices/lesson learnt

3.4 DRR interventions in the area:

Focus Humanitarian Assistance (AKDN) is the only organization that has undertaken and implemented disaster risk reduction and disaster preparedness interventions in northern Pakistan including Chitral. Focus has a history of community based disaster risk reduction interventions of almost 12 years now. During this period with the help of different donors including DIPECHO CBDRM trainings have been conducted in 21 out of 24 union councils of Chitral (all union councils except Chitral 1, Darosh 1 and Baroz). Focus helped establish 47 Community Emergency Response Teams (CERT) in the 21 union councils together with emergency stock piles. School safety has been addressed as a sub component only and no separate school safety interventions have been undertaken.

3.5 Key findings:

Key findings regarding the key thrust theme, the effects of disasters on education, the disaster preparedness and measures to make schools safer are abstracted from the detailed study as follow:

- 350 schools (25,000 students) out of 912 schools in Chitral are identified as most at risk to floods and other natural hazards, such as earthquakes and mudslides.
- Due to the absence of Master Plans for Urban areas in District Chitral, all settlements developed uncoordinated in form of huge slums. Therefore, the schools are located along narrow, zigzag streets, which will cause great problems for the movement of rescue workers after a natural disaster especially an earthquake.
- Safety measures and safety equipment such as firefighting equipment, first aid kits etc. are not available in the schools. This made and still makes the relief and rescue work difficult and a number of children died in the past because of non-availability of emergency medical help.
- The school children and their teachers are not prepared for dealing with the disaster of any kind. No safety drills or any other preparedness exercises are made by school authorities or local municipal authorities. Along with these students 5,000 parents and 2,500 teachers, related to the 350 schools mentioned above are not well informed or prepared to cope with natural disasters.
- The school buildings are inadequate in size and lack basic facilities such as water supply, sewerage etc. The congested classrooms with little space for circulation cause a great difficulty in immediate evacuation during earthquake.

- The regulations and laws pertaining to school safety (particularly seismic zoning regulations) exist but they are poorly or inadequately followed during implementations / execution of works due to poor knowledge and lack of know-how.
- School management committees and local government officials do not have the capacity or technical knowledge to implement disaster risk reduction programs. This is due to the lack of prioritization of school safety in the remote areas of Chitral.
- The structures of these schools are not retrofitted to avert hazards caused by natural disasters, particularly earthquakes.
- The municipal authorities are unprepared, un-trained and ill-equipped to face a catastrophe like earthquake, e.g. no crane nor excavators for rescue operation for school children trapped in the collapsed buildings are available in the whole region.
- Limited campaigns for disaster risk reduction have been implemented at the village level while the lack of roads and infrastructure hamper disaster response efforts as well.
- The community has traditional knowledge about the disasters in their areas based on their past experience. According to this they undertook certain efforts in relocation and re-settlement regarding disaster prone areas. However no proper hazard mapping techniques have been imparted to local communities and institutions resulting in the fact that public buildings like schools have been constructed without regard to disaster prone areas.

Flash floods are frequent events in Chitral District of Pakistan. Most of the time, villagers manage to save their lives. They know how to interpret local environmental signals and where hazardous places are. But on July 14th 2006, a foreign engineer lost his life at a tunnel construction site. That day, an intense rainstorm occurred between 4:00 and 5:30 pm. The extreme rainfall event triggered a flash flood, which rapidly washed away the engineering company's equipment and residential quarters on the fringe of the riverbed. This tragic event, which took the life of one person and damaged a million rupees of equipment, was not a surprise to the locals. ***"We told them twice!" said the leader of a nearby village. "We knew that the retaining walls were too small to channel the water during the rainy season and that they should have been raised."*** The villagers had learned from previous experience: they could remember how two people died in the same place about 40 years ago in a major flash flood. Unfortunately, the engineering company, interested in settling in an easily accessible and cheap area, neglected the local advice.

Many stories like these can be found in Chitral District as in other parts of the Himalayan region. They illustrate the fact that local knowledge, in general, and local knowledge on natural hazards, in particular, is normally ignored by external agencies at both national and international levels. Agencies

tend to favour scientific and specialized external knowledge; a great deal of which is not in tune with local contexts and realities.

Local people are the first to suffer from the direct impacts of disasters, but they are also the first to respond to them. Most of the time, locals are aware of the nature and history of natural hazards in their localities. Ignoring their knowledge may lead to important human and economic costs, especially in the long term. What local people know should be collected, made more visible, and be included in decision-making processes.

Text from Julie Dekens, The cost of disregarding local knowledge, Herders of Chitral; The lost messengers?

04:

Recommendations

Safety for the school children is a crucial issue for parents all over the world. However, school children are frequently exposed to serious physical threats resulting from natural and manmade disasters, particularly in some parts of Pakistan like Northern Areas and AJK where attention is rarely paid to the problem of disaster preparedness. Today, it is agreed that building of 'safe schools' needs to be a high priority throughout the world. In seismic zones facing earthquake threats on a regular basis, it is imperative to build schools that provide a safe environment for the children.

1. School safety requires necessary regulations and laws that ensure adequate codes and strict quality control and supervision as well as accountability.
2. Building safe schools makes economic sense. It means spending money on construction of safe schools proves to be economical in the long run.
3. The implementation of laws and regulations requires training and certification of professionals (planners, engineers, architects, builders, building inspectors).

The following recommendations are made to ensure the development of safe schools in district Chitral, Pakistan:

- Strengthening and retrofitting school buildings and facilities are an urgent and important matter in Chitral.
- Teachers and students are not adequately trained and equipped against disasters in Chitral; necessary measures to secure their safety and continuation of education should be a priority.

- The school site should be stable and safe enough to withstand the total building load, their occupants and their belongings. In general the schools should not be constructed on fault lines, unstable slopes, river banks, marshy lands, fills and areas marked as red zone in the seismic map. These issues should be considered while preparing a Master Plan of the city/town. The detailed local planning or area development schemes should be designed in such a way that it ensures suitable layout pattern according to the topography of the area and adequate width of streets and roads along which the school buildings are constructed.
- Ensure schools can function as temporary post disaster shelters including consideration for adults, people with disabilities, and provide alternative sites for educational continuity with school based disaster management planning and training.
- The schools require coordinators / focal teachers with excellent organization skills and understanding of disaster preparedness dynamics to manage the scope of preparations necessary for a regional-level activity.
- A key lesson learned from this assessment was that disaster risk reduction material and plans must be fashioned by the teachers themselves. Providing teachers with information and procedures is not sufficient as they may, for example follow evacuation procedures inadequately, or simply not follow them at all out of fear of doing something wrong.
- Special short and medium term training and refresher courses must be conducted through “teachers training institutions” and education boards for primary, middle and senior schools teachers and school management at regular intervals. These trainings must focus on understanding safety aspects of school buildings, school transport, regional vulnerabilities and management of children groups in case of emergencies. Training in “safety aspects” must form a routine in teachers training courses and education boards must make it mandatory.
- Emergency drills should be regularly held in all schools to train the students’ attitude at time of emergency.

- Children are caring about present and future risks. Many studies from around the world show that children are worried about environment, disasters and climate change and they want to do something about these problems. Children being effective drivers of change and effective in questioning the status quo can bring effective long-term changes.
- Research shows that children have a clearer appreciation about long term risks compared to elders who are usually most focused on short and medium term risks. By involving children, school authorities and local education departments, government as continuing body in charge can get messages into a large number of households and push for knowledge and change precisely where it is needed.
- Involving children establishes DRR with the next generation, and support intergenerational dialogue and learning. Children and youth are in a position to influence their parents by providing them with the acquired safety and safer habitat skills and practical information, which the parents may not have and the means or opportunity to acquire otherwise⁹.
- Interactive games for students of nursery, pre-school and primary level students are one of the most productive educational methods. Playing games is a method that is child-centered and

National Disaster Risk Management Framework has been formulated to guide the work of the entire system in the area of disaster risk management. It has been developed through wide consultations with stakeholders at local, provincial and national levels. The Framework envisions, “to achieve sustainable social, economic and environmental development in Pakistan through reducing risks and vulnerabilities, particularly those of poor and marginalized groups, and by effectively responding to and recovering from disaster impact”. Nine priority areas have been identified within this Framework to establish and strengthen policies, institutions and capacities over the next five years. These include:

1. Institutional and legal arrangements for DRM,
2. Hazard and vulnerability assessment,
3. Training, education and awareness raising,
4. Disaster risk management planning,
5. Community and local level programming,
6. Multi-hazard early warning system,
7. Mainstreaming disaster risk reduction into development,
8. Emergency response system,
9. Capacity development for post disaster recovery.

⁹ “Disaster Risk Reduction Begins at School” www.unisdr.org/wdrc-2006-2007

intensifies the personal needs, the capabilities and their interests. Acting in the plays creates real experiences for the children in a way that it makes them active participants in the learning process.

- The awareness raising and training on DP/DRR however needs to be sustained through detailed follow-up, permanent information and refresher courses. The sustainability of a Disaster Risk Reduction in Schools Initiative depends largely on mainstreaming disaster risk reduction in the national school curricula.
- Awareness-raising publications such as manuals, calendar, posters, books on FAQs, and comic books should be published and distributed. FM Radio programs are found very effective too. Television programs are expensive to conduct, however videos clips may be prepared and theaters may be organized during special occasions like earthquake safety day, school annual functions or theater day. Interviews after any felt earthquake are great chances to propagate earthquake safety message to the community.
- School safety programs should establish networking with the Focus trained teams of CERT, Search and Rescue Teams (SERT) and Disaster Assessment and Relief Teams (DART).
- Establishing networking and partnership with all DRR actors at district and national level.
- Encourage private and commercial enterprises to raise awareness among their employees, and create incentives for employees' wider involvement in awareness campaigns, through such activities as sponsorships and advertising opportunities.

Annex I - Disaster Preparedness Checklist

- ☐ Water, one gallon of water per person per day for at least three days, for drinking and sanitation and a possible nine days.
- ☐ Food, at least a three to nine day supply of non-perishable food and a portable stove.
- ☐ Battery-powered or hand crank radio and a NOAA Weather Radio with tone alert and extra batteries for both
- ☐ Flashlight and extra batteries
- ☐ First aid kit
- ☐ Whistle to signal for help
- ☐ Dust mask to help filter contaminated air and plastic sheeting and duct tape to shelter-in-place
- ☐ Moist towelettes, garbage bags and plastic ties for personal sanitation
- ☐ Wrench or pliers to turn off utilities
- ☐ Can opener for food (if kit contains canned foods)
- ☐ Local maps
- ☐ Cell phone and chargers

Additional Items to Consider Adding to an Emergency Supply Kit

- ☐ Prescriptions medications and glasses
- ☐ Infant formula and diapers
- ☐ Pet food and water for your pet
- ☐ Important family documents such as copies of insurance policies, identification, and bank account records in a waterproof, portable container
- ☐ Cash or traveler's checks and change
- ☐ Emergency reference material, such as a first aid book
- ☐ Sleeping bag or warm blanket for each person; consider additional bedding if you live in a cold-weather climate and rain gear.
- ☐ Household chlorine bleach and medicine dropper – When diluted nine parts water to one part bleach, bleach can be used as a disinfectant. Or in an emergency, you can use it to treat water by using 16 drops of regular household liquid bleach per gallon of water. Do not use scented, color safe or bleaches with added cleaners.
- ☐ Fire extinguisher
- ☐ Matches in a waterproof container
- ☐ Candles!
- ☐ Feminine supplies and personal hygiene items
- ☐ Mess kits, paper cups, plates and plastic utensils, paper towels
- ☐ Books, games, puzzles or other activities for children

Annex II - In-Depth Focus Group Discussions

Location: _____

Date: _____

Participants:

Teachers, Parents, Household members of local communities, village elders and members of the Government

Name	Occupation	Address
------	------------	---------

1.

2.

3.

4.

5.

6.

7.

8.

General guidelines for the researcher:

The moderator should facilitate discussion to get the maximum information in a free and congenial atmosphere. Too much control and the discussion are stifled, too little and leaders will emerge from the participant group. The moderator should avoid getting drawn into discussing issues her or himself.

At all times during the Focus Group Discussions, a note taker should be present taking notes and if possible, a tape recorder should also be carried to record the responses accurately.

Subject to be discussed

Disaster Preparedness

Note for the researcher –

Following the recent earthquakes and floods, many local communities are vulnerable to the natural disasters. The researcher should encourage discussion on the following issues:

- How safe do you think that schools in the local region are?
- Are the schools safe enough to cope with natural disasters such as earthquake and floods?
- Are there any formal safety plans?
- How aware is the community about the safety of schools in this region?
- What have they done about it and have they received any help?
- What is history of natural disasters in this region and what measures have been taken so far?
- What measures do think must be taken to make schools safer from natural disasters in the future?

Name & Signature of Research Associate: _____

Name & Signature of Co- Research Associate: _____

Annex III – Key Informant Interview

Section A: General Information

Respondents Selection Criteria

<u>Rural</u>	<u>Urban</u>
Married/Unmarried	Married/Unmarried
Age (18-60)	Age (18-60)
Income Group (below Rs 4000/Rs 4000 & above)	Income Group (below Rs 4000/Rs 4000 & above)
Literate/illiterate	literate/illiterate

Selection Criteria for Members of Civil Society

<u>Rural</u>	<u>Urban</u>
Member Civil Society Organization	Member Civil Society Organization
Religious Leader	Religious Leader
Local Government Representative	Local Government Representative
Lawyer	Lawyer
Member of the Police Force	Member of the Police Force
Member of the Judiciary	Member of the Judiciary
Media Representative	Media Representative
Lady Health Visitors	Lady Health Visitors
Doctors	Doctors

I. Data Collection Profile

- 1.1 Interview Number: _____ 1.2 District: _____
 1.3 City/Town: _____ 1.3.1 UC: _____
 1.3.2 Village name: _____ Date of interview: _____
 1.5 Interviewer's Name: _____
 1.6 Supervisor: check survey and design: _____

II. Household Information

- 2.1 Respondent's Name: _____
 2.1.1 Respondents education (Please encircle the relevant): 1. Illiterate 2. Primary or above 3. Matric or above 6. Graduate or above
 2.2 Address: _____
 2.3 Age: _____
 2.4 Type of Work/ Occupation (Please encircle the relevant): 1. Self employed 2. Agriculture 3. Trade 4. E employed 5NA
 2.5 Name of Head of the family: _____
 2.6 Relation of Head of the family with the respondent: _____
 2.7 Household members of the respondent: _____
 2.8 Monthly income of the household: 1. Below 4,000 2. 4,000 or above 3. 15,000 or above 4. 30,000 or above 5. 50,000 or above

Preparation for Disaster – Awareness, Information and Services

2.1 Are you aware that you live in a region prone to natural disasters?

01 Yes

Circle one code

02

No

2.2 What kind of natural disasters are you aware off (in your region)?

01- Earthquakes

02- Floods

03- Landslides

04- Rockfall

05- Other

2.3 Do think the schools in you region are vulnerable to damage from natural disasters?

01-Yes

02-No

03- Don't know

2.4 Do the schools in your area have a formal safety plan?

01- Yes

02- No

03- Don't know

2.5 Is there any institution or body that you can contact in case of a natural disaster?

1- Yes or 2- No

2.6 Have you ever received any training on disaster preparedness?

1- Yes or 2- No

2.7 Do you know think disaster preparedness trainings are required in your community?

1. Yes

2. No

2.8 Do you think lives can be saved in the future, if people were more prepared for natural disasters?

1. Yes

2. No

Annex IV

Demographics of Chitral¹⁰

Area	14,850 Sq.km
Population	385,000 (projected)
Households	48,000
Tehsil (Masuj & Chitral)	2
No. of Valleys	32
No. of Villages	523
Union Councils	24
UCs in Mastuj Tehsil	10
UCs in Chitral Tehsil	14
Annual Income Growth (1991-2005)	9%
PCI as Proportion of National PCI (2005)	0.42
Off-Farm income as proportion of total income	54
Literacy rate	Male 58% Females 22 %

Tehsil & UC's Wise Demographics

Tehsil	Union Council	# of Villages	Population			House holds
			Male	Female	Total	
Chitral	Arandu	28	7,369	6,701	14,070	2,212
Chitral	Asherat	30	6,902	6,437	13,339	1,784
Chitral	Ayun	19	6,929	6,278	13,207	1,856
Chitral	Broze	25	6,272	5,789	12,061	1,557
Chitral	Chitral - 1	19	7,948	7,867	15,815	1,996
Chitral	Chitral - 2	24	6,944	6,944	13,888	1,756
Chitral	Denin	30	8,181	8,181	16,361	2,070
Chitral	Drosh - 1	18	6,749	6,467	13,216	1,632

¹⁰ Source: Population census carried out by AKDN for the Benazir Income Support Programme (BISP) 2008

Disaster Vulnerability Assessment Report

(District Chitral KPK)

Chitral	Drosh - 2	20	6,527	5,750	12,277	1,713
Chitral	Karimabad	31	6,211	6,081	12,292	1,468
Chitral	Koh	27	7,339	7,343	14,682	1,867
Chitral	Lotkoh	27	6,234	6,326	12,560	1,591
Chitral	Shishikoh	37	6,288	6,124	12,412	1,608
Chitral	Shoghore	27	6,087	6,444	12,531	1,677
Sub-Total	14	362	95979.5	92731.5	188711	24,787
Mastuj	Charun	16	6,968	7,370	14,338	1,769
Mastuj	Khot	9	7,397	7,595	14,992	1,746
Mastuj	Kosht	17	6,593	6,466	13,059	1,506
Mastuj	Laspur	13	6,763	7,028	13,791	1,728
Mastuj	Mastuj	19	6,490	6,647	13,137	1,549
Mastuj	Mulkhow	12	7,034	6,964	13,998	1,619
Mastuj	Ovir	12	6,392	6,159	12,551	1,582
Mastuj	Shagram	7	6,731	6,503	13,234	1,574
Mastuj	Terich	20	6,171	6,149	12,320	1,413
Mastuj	Yarkhoon	36	6,044	6,351	12,395	1,528
Sub-Total	10	161	66583	67232	133815	16,014
Grand Total	24	523	162563	159964	322527	40,801

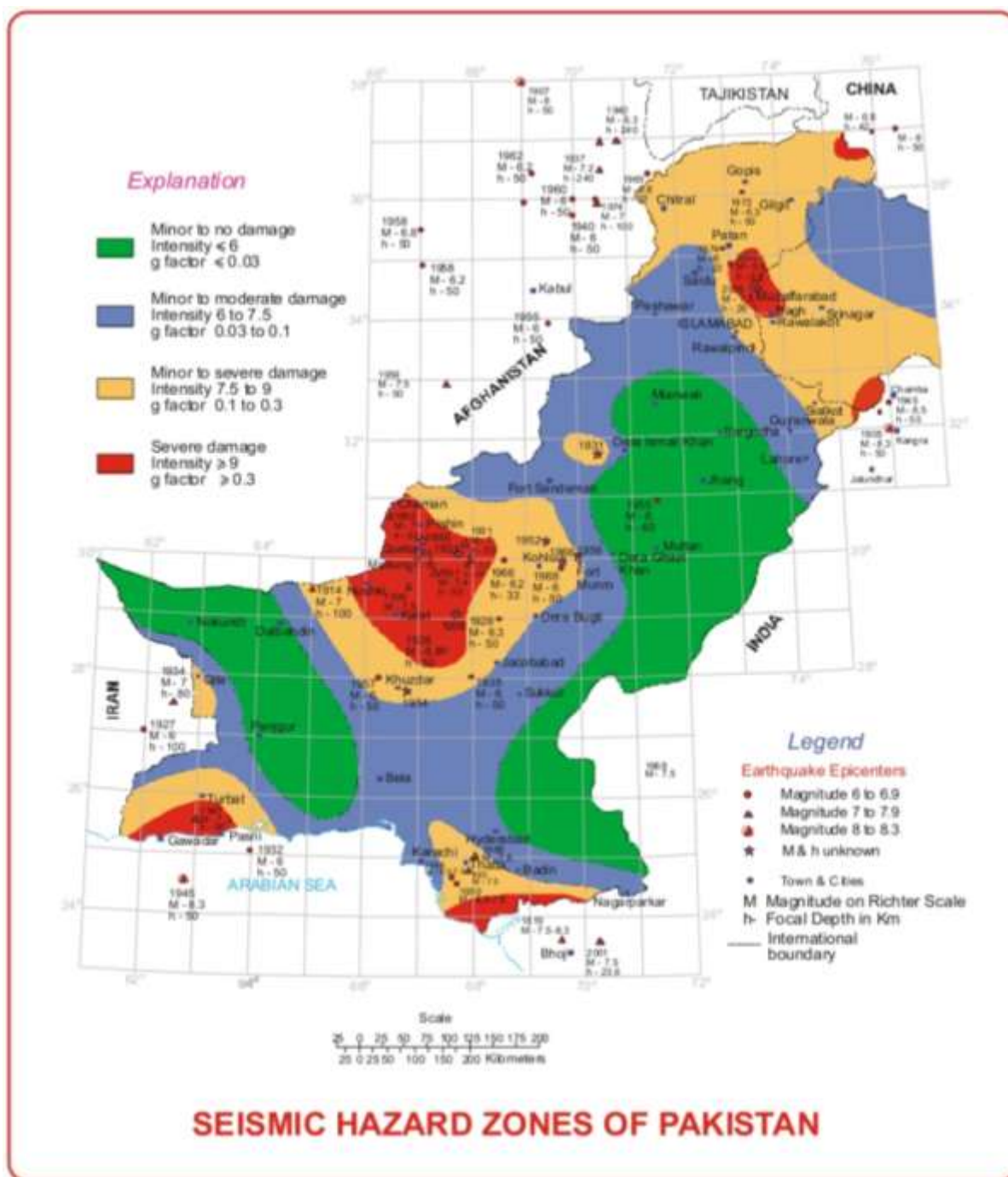
Annex V

SCHOOLS IN DISTRICT CHITRAL¹¹

	No. of Schools			No. of Teachers			No. of Students		
	Boys	Girls	Total	Male	Female	Total	Boy	Girl	Total
Govt. Primary schools	476	160	636	996	411	1407	34534	11856	46390
AKES Primary Schools	0	31	31	60	38	98	0	2283	2283
CBS Primary Schools	0	20	20	15	13	28	0	1097	1097
Govt. Middle schools	55	33	88	364	194	558	5142	2465	7607
AKES Middle School	0	14	14	79	28	107	0	2309	2309
CBS Middle Schools	0	22	22	29	46	75	0	1763	1763
Govt. High Schools	46	15	61	580	168	748	12046	4347	16393
AKES High Schools	0	4	4	25	31	56	0	1168	1168
CBS High Schools	0	25	25	47	68	133	0	1874	1874
Govt. HSS	4	0	4	86	0	86	2323	0	2323
AKES HSS	1	1	2	25	6	31	186	185	371
Govt. Colleges	3	2	5	72	38	110	3262	2300	5562
Total	585	327	912	2378	1041	3437	57493	31647	89140

¹¹ Government Education Department, Chitral : Annual school census report 2009-10 DEMIS (E&S) Education

ANNEX VI¹²



¹² Source: Geological Survey of Pakistan.