



# Rapid Environmental Impact Assessment - South Asia Earthquake - Pakistan



*Funded under Award DFD-A-00-04-00122-00, Office of Foreign Disaster Assistance, U. S. Agency for International Development and CARE International. Opinions expressed are those of the author and not those of U. S. Agency for International Development, CARE International or Benfield Hazard Research Centre, Univ. College London.*





## Rapid Environmental Impact Assessment - South Asia Earthquake - Pakistan<sup>1</sup>

### Executive Summary

The South Asia Earthquake of 8 October 2005 resulted in the loss of over 54,000 lives, a significant number of injured and extensive damage to housing and infrastructure in Pakistan. Given the scale of the disaster, CARE International requested the Rapid Environmental Impact Assessment in Disasters (REA) project to conduct an assessment of the disaster. The REA is intended to (1) Identify critical environmental issues to be incorporated into immediate disaster response activities and (2) Provided input into medium term relief and recovery operations.

This REA is based on input from relief personnel, disaster affected communities and relevant reports. The assessment was conducted from 16 to 30 October 2005 and involved travel to Abbottabad, Mansehra, Batagram, Muzafarabad Districts as well as consultations in Islamabad.

Five broad disaster-linked environmental issues can be identified from the assessment:

- **Adequate climate appropriate shelter** is a requirement for survival. Shelter options, such as formal and ad hoc camps, pose significant environmental risks which do not appear to be addressed, while ad hoc shelter efforts present significant opportunities for reuse of earthquake debris. The thermal qualities of winter shelter will be worse than pre-earthquake housing, requiring a greater heating need and greater demand on wood (the primary normal energy source). Additional extensive steps should be taken to improve the thermal characteristics of winter shelter and provide clothing and other assistance to reduce the impact of cold weather.
- **Health** will be a major problem in the coming months. Health problems are linked to poor living conditions (related to the shelter problem), poor waste management and waste (including medical) generated by relief operations. Expected health problems can be largely addressed by improved environmental sanitation and shelter.
- **Changes to physical environment** (e.g., landslides, changes in water sources) were and continue to be caused by the seismic activity, and are expected to be exacerbated by expected seasonal precipitation. These changes, as well as flood and snow hazards, need to be mapped and mitigation measures taken. Hazard mapping should be used to ensure disaster survivors are not placed in camps in dangerous locations.
- **Inappropriate Relief Aid.** Inappropriate relief has been provided to the affected areas. Some of this aid is polluting the environment. Aid deliveries should be based on explicit requests from the affected populations to avoid pollution and ensure the efficiency of limited logistics capacities.
- **Debris Management.** The earthquake induced collapsed buildings and relief operations generated a considerably amount of debris. Clearing and managing this debris, which will require months, should be based on the maximizing recycling and reuse. (See **Technical Note – Debris Removal in Muzafarabad** in Section Four, below.)

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## Introduction

A strong earthquake occurred in Pakistan at 0850 on the morning of 8 October 2005 near the city of Muzaffarabad, Pakistan Administered Kashmir (PAK). The earthquake led to an estimated 54,000 deaths in Pakistan, with an estimated 72,000 injured, principally in PAK and North West Frontier Province (NWFP). Damage to infrastructure, particularly traditional and engineered buildings is severe. Landslides were also triggered by earthquake and aftershocks continue.

At the request of CARE International, the Rapid Environmental Impact Assessment in Disasters (REA) project is conducting a rapid assessment of the earthquake disaster in Pakistan. The assessment is led by C. Kelly, REA Project Lead Researcher, and Becky Myton, CARE Tajikistan. The assessment is based in input from (1) Individuals involved in the earthquake response, (2) Communities directly affected by the disaster and (3) Other reports and information on the environmental aspects of the earthquake disaster.

The South Asia Earthquake Pakistan REA Report is divided as follows:

- **Section One: Key Findings and Initial Recommendations,**
- **Section Two: Community Level Assessment (with field assessment reports in Annex A).**
- **Section Three: Organizational Level Assessment, with data tables generated in the assessment.**
- **Section Four: Reference Documents**

Procedures set out in the [Guidelines for Rapid Environmental Impact Assessment in Disasters](#)<sup>2</sup> were followed in completing this assessment. Summary information on different steps of the assessment is provided in the appropriate sections noted above.

This report provides a snap shot of disaster-related critical environmental issues at the time the assessment is completed. The number and nature of critical issues will change as the disaster recovery process evolves. This assessment was preceded by a very quick identification of earthquake associated environmental issues (see “Pansch Report” in Section Four). It is expected (and strongly suggested) that further in-depth environmental assessments will be done are part of the recovery planning process<sup>3</sup>.

This report contains an extensive record of data collected as part of the assessment. This information is of use in future environmental impact assessments and project design efforts. ***Most readers will only need to review Section One: Key Findings to identify those critical environmental issues which should be addressed as part of relief and recovery operations.***

This report was prepared by C. Kelly. The views expressed are those of the author and do not necessarily are those of other individual or organization.

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<sup>2</sup> See: [http://www.benfieldhrc.org/SiteRoot/disaster\\_studies/rea/rea\\_index.htm](http://www.benfieldhrc.org/SiteRoot/disaster_studies/rea/rea_index.htm).

<sup>3</sup> In Sri Lanka, UNEP worked with the Gov. of Sri Lanka on a “brown-green” study, focusing on specific types of damage and issues associated with the disaster. A similar assessment is anticipated for Pakistan

## Section One: Key Finding and Initial Recommendations

The following table presents the key critical issues identified in the REA. A second table shows the comparison of issues identified during the OLA and CLA.

The issues are prioritized based on whether the issue presents a direct threat to the:

- **Life** of a disaster survivor,
- **Welfare** (livelihoods) of disaster survivors, or
- **Environment**.

Issues in the first and second groups (life and welfare) have links to environmental impacts, but the impact of the issue is on life or welfare, respectively. The third group contains environmental issues without any *direct and immediate* link to life or welfare. This prioritization hierarchy focuses on REA results with impacts on immediate relief and short term recovery operations.

Within each set, issues which were noted by communities are considered priorities and have been listed first. In general, communities listed fewer and more focused issues (based on frequency of mention) than participants in the Organization Level Assessment.

The REA cannot identify all possible actions to address critical environmental issues. However, actions can be grouped into four broad types:

- **Fixing** an existing relief effort to address environmental issues. (Referred to as “on-going” in the table below.)
- **Establishing a new project** to address environment issues.
- **Collecting more information** on a possible issue.
- **Advocating** with the responsible authorities to take action on a specific issue.

Most of the actions identified in the assessment relate to improvements (“fixing”) on-going operations. (Background on the selection of more specific actions can be found in the [Guidelines for Rapid Environmental Impact Assessment](#).)

The prioritized list of issues and actions provides a starting point for the inclusion of environmental concerns into the disaster response efforts. **Inclusion of environmental issues into disaster plans and operations is the responsibility of organizations responding to the disaster. Addressing known or anticipated environmental issues is linked to compliance with Sphere Standards, the “do no harm” concept of relief, and other accepted principals of humanitarian assistance.**

Issues in the Welfare and Environment categories provide input into medium and long term recovery planning and operations. At the same time, most of the welfare and environmental issues can be addressed as part of extended relief operations.

## Consolidate REA Issues and Suggested Actions– Pakistan Earthquake

Issues mentioned in both the CLA and OLA are marked with a “\*”.

OLA Issues	Suggested Actions
<b>Life Threatening</b>	
<p><b>Shelter*</b> Coming cold weather conditions present a significant threat to the lives and welfare of earthquake victims who have lost housing and possessions normally used to survive winter weather. The weather related problems will be exacerbated by a possible lack of adequate fuel for cooking and heating.</p>	<p><b>On-going</b> efforts to provide shelter to disaster survivors should include:</p> <ul style="list-style-type: none"> <li>• Provisions to increase the thermal efficiency of structures (“winterization”). This assistance should include tents and ad hoc shelters built by survivors.</li> <li>• Clothing, bedding, floor mats and other household items which reduce individual exposure to cold weather.</li> <li>• Provision of fuel efficient stoves and community-based steps to rationalize fuel wood harvesting<sup>4</sup>.</li> <li>• Assessment and mitigation of environmental impacts of ad hoc and de jure earthquake survivor camps.</li> </ul>
<p><b>Health-related Issues*</b> Disaster survivors are confronted with a number of health issues directly or indirectly linked to environmental conditions. These include:</p> <ul style="list-style-type: none"> <li>• Increased morbidity, particularly resulting from earthquake injuries and due to cold weather and poor living conditions.</li> <li>• Poor sanitation, including insufficient latrines, waste treatment and transport infrastructure, and inadequate solid waste management.</li> <li>• Inadequate control of insects and breeding sites. (This issue may become critical when warm weather returns).</li> <li>• Medical waste generated before and after the earthquake.</li> <li>• A reduction in levels of care in the future as some relief assistance phases out.</li> </ul> <p>Related environment-threatening issues include limited capacity to absorb waste and inappropriate waste management procedures.</p>	<p><b>On-going</b> health programs should expand or include new efforts to:</p> <ul style="list-style-type: none"> <li>• Provide weather-appropriate shelter for seriously injured individuals.</li> <li>• Improve sanitation, including adequate latrines, site clean-up efforts and hygiene education for families living in ad hoc and de jure camps.</li> <li>• Design site specific waste management programs which focus on waste reduction, recycling and disease risk reduction.</li> </ul> <p><b>Advocacy</b> should be pursued with health authorities to ensure that medical waste is properly disposed.</p> <p><b>Advocacy</b> and labor intensive public works efforts should be pursued for debris removal in urban areas and locations which have suffered environmental pollution do to relief operations.</p>
<p><b>Geophysical events*</b> These events, including aftershocks, landslides, and past disasters including heavy snows and flooding, place survivors at risk of additional personal injury and damage to livelihoods. Some hazards may be exacerbated by seasonal wet weather and the risk of damage continues throughout the coming months.</p> <p>A related welfare-linked issue is resettlement, particularly the placement of tented camps and new settlements in hazardous locations and involuntary resettlement.</p>	<p><b>New</b> hazard maps should be developed for the earthquake affected area.</p> <p><b>Advocacy</b> should be pursued with authorities to ensure that settlements and camps do not exist in locations which may experience landslides, flooding or other hazards associated with geophysical changes associated with the 8 October earthquake.</p> <p>Hazard mapping should include water sources with this information feeding into efforts to address water supply problems in the earthquake-affected region.</p>
<p><b>Duration of the disaster</b> (expected).*</p>	<p>Both issues can be addressed by expanding the timeliness, scope and scale of relief and recovery operations.</p>
<p><b>Large number of persons affected.</b></p>	

<sup>4</sup> Fuel wood is expected to be the largest single source of heating energy for disaster survivors.

OLA Issues	Suggested Actions
<p><b>Inadequate food supplies*</b> Although some disaster affected communities had harvested some crops before the earthquake, others had not and most lost food stocks due to building damage. The existence of inadequate food supplies may be localized.</p>	<p><b>On-going</b> food aid should, based on local needs assessments, continue to be provided throughout the winter. The provision of food aid should take into account disincentive impacts. Works activities should be reviewed for negative impacts on the environment.</p>
<p><b>Inadequate Water Supplies</b> While physical access to water does not appear to be a significant problem, the quality and safety of the water which is available is in question. The water supply problem is exacerbated by the lack of latrines and poor liquid waste management.</p>	<p><b>On-going</b> projects should assure the delivery of adequate safe water to all disaster survivors through improved access to local sources, repair of piped systems and treatment. Overexploitation of sources should be avoided and water purification chemicals managed to limit negative impacts on the environment.</p>
<p><b>Poor transport</b> in rural areas, limiting access to critical assistance. This problem is being reduced by efforts to open roads, but the situation may worsen with winter snowfalls and additional landslides.</p>	<p><b>Advocacy</b> should be pursued with the government and donors to ensure that adequate equipment is available to assure roads remain open throughout the winter.</p> <p>Hazard mapping should be used to identify locations where road disruptions can be expected and where safety measures are needed.</p>
<p><b>Relief supplies</b> which are unneeded (e.g., clothes), inappropriate or which generate unnecessary waste. Delivery of such supplies reduced capacity to deliver critically needed supplies.</p>	<p><b>Advocacy and public information</b> efforts should be pursued to limit the provision of unnecessary or unneeded aid. Unusable aid should be recycled or disposed under proper conditions.</p>
<p><b>Hazardous materials</b> which will be uncovered in during debris removal efforts in damaged markets (bazaars) and storage buildings (e.g., pesticide stock piles).</p>	<p><b>Additional technical information</b> is needed to identify the more appropriate ways to collect, process and dispose of hazardous waste without creating additional negative environmental impacts.</p>
<b>Welfare Threatening</b>	
<p>Debris removal, particularly the properly dispose of the rubble, e.g., recycling and avoidance of additional environmental problems.</p>	<p>On-going and new debris management efforts should focus on reuse and recycling. These efforts should be integrated into shelter and environmental health activities. <b>While debris management is a “welfare” issue, it is closely linked to life threatening issues and should be implemented as a priority.</b></p>
<p>Lack of domestic resources.*</p>	<p>This issue should be addressed as part of the provision of shelter to disaster survivors and well as support to for livelihoods.</p>
<p>High expectation of external assistance.* Dependency on relief aid.</p>	<p>Both issues relate to the manner in which assistance is provided. Mechanisms for transparent assistance should be included in project implementation.</p>
<p>Need for viable livelihood alternatives to reduce demand on the environment</p>	<p>These issues are linked to development of the affected areas and should be addressed as part of long term development assistance. Integration of developmental efforts into recovery efforts can also help address these issues.</p>
<p>Few livelihood options.</p>	
<p>Poor social solidarity.</p>	
<p>Poor asset distribution.</p>	<p>Recovery efforts should include natural resource management components and awareness raising when appropriate.</p>
<p>Increased animal disease, particularly to injured animals, or due to exposure to winter weather.</p>	<p>Veterinary services should be increased, together with the possible provision of feed and fodder through the winter months. Animal issues are also livelihood issues.</p>
<p>Reduction in the level of personal safety in the future. Lack of adequate lighting</p>	<p>Both issues should be addressed as part of protection efforts for the disaster survivors.</p>

<b>OLA Issues</b>	<b>Suggested Actions</b>
Proposals to establish new industry in the affected areas.	Information on proposals to establish new industry in the affected area is unclear and additional information is needed.
Change in cooking or food processing procedures.	Shelter assistance programs should provide advice and assistance should be given to women on energy efficient cooking.
<b>Environment Threatening</b> (but not involving immediate threats to life or welfare)	
Transformers (damaged by the earthquake).	Proper management and disposal of damaged transformers should be integrated into debris management programs.
Tree cutting for fuel and rebuilding.	This set of issues should be addressed in reconstruction projects which adopt approaches and procedures to reduce negative environmental impacts and promote improved environmental conditions.
Poor availability of natural resources. Excessive use of resources limiting future availability	
Limited environmental resilience.	
Poor environmental conditions.	
Lack of environmental review of disaster relief activities	Existing environmental review procedures should be applied to all reconstruction activities. Infrastructure construction activities, including shelter, should include provisions to off-set negative environmental impacts from resource extraction activities (e.g., quarries, timber harvesting).
The lack of environmental considerations in construction, including shelter, public buildings and infrastructure excluding roads.	
The lack of considerations of environmental in the construction or rehabilitation of roads, paved or other, new and existing.	
Unique areas near/in disaster affected area	Proposed relief and recovery projects should be screened for impact on environmentally unique locations as part of design and as part of consultation with local participants.

### **Comparison of OLA and CLA Issues – Pakistan Earthquake**

Issues extracted from CLA data and allocated to life threatening, welfare threatening and environment threatening categories, as per REA procedures.

<b>OLA Issues</b>	<b>CLA Issues</b>
<b>Life Threatening</b>	
A lack of adequate water of appropriate quality. (Possibly more of an urban than rural problem.)	Inadequate control of insects and breeding sites. (This issue appears to be most critical when warm weather returns).
Contaminated water supplies due to sewage	Inadequate human health conditions
A lack of adequate shelter.	Inadequate supply of food
Lack of adequate fuel for cooking and heating.	Inadequate shelter.
Weather change (snow-cold) at higher elevations.	Other hazards (snow, landslides)
Landslides, past and on-going.	Human disease a reported problem
Poor transport in rural areas, limiting access to critical assistance.	Large number of persons affected.
Relief supplies which are unneeded (e.g., clothes), inappropriate or which generate unnecessary waste. Delivery of such supplies reduced capacity to deliver critically needed supplies.	Disaster duration
Increased human disease, particularly resulting from injuries due to the earthquake.	
Poor health care and reduction in levels of care in the future. *	

<b>OLA Issues</b>	<b>CLA Issues</b>
Poor sanitation, including a lack of latrines, waste treatment and transport infrastructure, and solid waste management.	
Hospital/Medical waste generated before and after the earthquake.	
Hazardous materials in damaged markets (bazaars) and storage buildings (e.g., pesticide stock piles).	
A lack of adequate food.	
Further earthquakes and aftershocks.	
Flooding (expected following winter and spring thaws).	
Duration of the disaster (expected)	
<b>Welfare Threatening</b>	
Dependency on relief aid.	High expectations.
Need for viable livelihood alternatives to reduce demand on the environment	Inadequate household resources.
* Number of persons affected.	
Poor social solidarity.	
Poor asset distribution.	
* Few livelihood options.	
* High expectation of external assistance.	
* Increased animal disease, particularly to injured animals, or due to exposure to winter weather.	
* Reduction in the level of personal safety in the future.	
* Lack of adequate lighting	
* Lack of domestic resources	
Proposals to establish new industry in the affected areas.	
* Rubble removal, particularly the properly dispose of the rubble, e.g., recycling and avoidance of additional environmental problems.	
* Change in cooking or food processing procedures.	
* Resettlement, particularly the placement of tented camps and new settlements in hazardous locations and involuntary resettlement.	
<b>Environment Threatening</b> (but not involving immediate threats to life or welfare)	
Transformers (damaged by the earthquake).	Limited environmental resilience.
Tree cutting for fuel and rebuilding.	Limited capacity to absorb waste.
Lack of environmental review of disaster relief activities	Inappropriate waste management.
Poor availability of natural resources	Excessive use of resources limiting future availability
Limited capacity to absorb waste.	Unique areas near/in disaster affected area
Poor environmental resilience	
Inadequate waste management (liquid and solid)	
Poor environmental conditions.	
The lack of environmental considerations in construction, including shelter, public buildings and infrastructure excluding roads.	
The lack of considerations of environmental considerations on the construction or rehabilitation of roads, paved or other, new and existing.	

## Section Two: REA Community Level Assessment – Pakistan

### Process Summary

The Pakistan Earthquake Community Level Assessment followed procedures set out in the Guidelines for Rapid Environmental Impact Assessment<sup>5</sup> A total of nine interviews were conducted in four districts.

In most cases the selection of a community for involvement in the assessment was opportunistic. One community level assessment for was completed by a CARE staff involved in relief operations in the Allai Valley (Batagram District). An individual involved in relief operations in Muzaffrabad District completed a “**Community Assessment Summary Form**” for two communities in which the individual was working. (See the Guidelines for details on the use of the form.) Information was also provided through a World Wildlife Fund for Nature (WWF) project in the Palais Valley (Kohistan District).

A completed **Community Assessment Summary Form** summarizing the data collected from the various community-focused assessments is provided immediately below. Pages following this form provide completed **Community REA Information Collection Guides** (Use of the **Guides** is detailed in the **Guidelines**.)

The assessment team ensured the participation of both men and women in assessment process by having one (female) sub-team meet directly with women and another (male) sub-team meet directly with men. In many cases, men also participated in the women-focused meetings but these meetings were engineered to solicit women’s perspectives. Meetings were carried out in tent communities, official tent camps and with individuals in the disaster affected areas as indicated in the **Community REA Information Collection Guides** (see **Annex A**).

The field assessment work was conducted with the assistance of staff from Sungi Development Foundation (SDF), the International Union for the Conservation of Nature (IUCN) and World Wildlife Fund for Nature. Particular note is made of the assistance provided by Mr. Amjad Nazeer of SDF and Mr. Shahzad Ahmad of IUCN Pakistan.

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<sup>5</sup> See: [http://www.benfieldhrc.org/SiteRoot/disaster\\_studies/rea/rea\\_index.htm](http://www.benfieldhrc.org/SiteRoot/disaster_studies/rea/rea_index.htm).

### Community Assessment Summary Form

Shaded items are considered significant given the frequency of the issue being mentioned in discussions with community members.

Questions		Bahari and Machiara, Muzaffarabad District (PAK)	Kai, Nuri, Balikop District (NWP)	Allai Valley, Batagram District (NWFP)	Camp outside Muzaffarabad (PAK)	Kaghan Valley, Mansehra District (NWFP)	Sharkok, Mansehra District (NWFP)	500 meters off NR 35 (Karakum Highway) 20 km south of Batagram, Batagram District	Eageel Abalel, Batagram District	Palais Communes, Kohistan District	Importance Ranking <sup>7</sup>
<b>Context Questions; Yes = 1, No = 0</b>											
<b>Corresponds to Sections One and Two of the Organization Level Assessment</b>											
1	Did the community report environmental concerns?	1	0	1	0	.5	0	0	1	1	4.5
2	Did the community report environmental problems?	1	0	1	0	1	0	0	1	1	5
3	Are there unique areas near the community?	1	0	0	1	1	1	1	1	1	7
4	Are a large number of persons affected by the disaster?	1	1	1	1	1	1	1	1	1	9
5	Has the disaster been going on for a long time?	1	1	1	1	1	1	1	1	-	8
6	Are the disaster survivors concentrated?	.5	.5	.5	1	0	0	0	1	0	3.5
7	Have the survivors moved a great distance?	0	.5	.5	1	.5	0	0	0	0	2.5
8	Is level of self-sufficiency low?	.5	.5	.5	.5	0	0	0	0	0	2
9	Is social solidarity low?	1	.5	.5	.5	0	0	0	0	-	2.5
10	Is culturally homogeneity low?	0	0	0	0	0	0	0	0	0	0
11	Are most assets concentrated with a few individuals?	1	0	0	0	0	0	0	0	0	1
12	Is livelihood base limited (not diversified)?	1	0	0	1	1	.5	1	1	1	6.5
13	Are expectations high?	1	1	1	1	1	1	1	1	1	9
14	Will current resource use reduce adequate availability in the future?	1	1	1	1	1	1	1	1	1	9
15	Is capacity to absorb waste limited?	1	1	1	1	1	1	1	1	?	8
16	Does the environment have limited resilience?	1	1	1	1	1	1	1	1	1	9

<sup>6</sup> Data for this site was transcribed directly to Community Assessment Summary Form.

<sup>7</sup> The importance ranking is calculated by adding the number of similar answers based on one answer (e.g. yes) being 1 and the other 0.

<b>Disasters/Hazards, Yes= 1, No = 0</b>											
<b>Corresponds to Section Three of the Organization Level Assessment</b>											
17	Is drought a reported problem?	0	0	0	0	0	0	0	0	0	0
18	Is wildfire a reported problem?	0	0	0	0	0	0	0	0	0	0
19	Is conflict a reported problem?	.5	0	1	0	0	0	0	0	.5	2
20	Is animal disease a reported problem?	0	0	1	0	0	0	0	0	0	1
21	Is human disease a reported problem?	1	0	1	1	1	1	1	1	0	7
22	Are other hazards reported problems (note response for each hazard separately).	1	0	1	0	1	1	1	1	1	7
<b>Unmet Needs No = 1 ("bad") or Yes = 0.</b>											
<b>Corresponds to Section Four of the Organization Level Assessment.</b>											
23	Are adequate supplies of potable water available for humans?	0	0	0	0	0	.5	.5	.5	1	2.5
24	Are adequate supplies of potable water available for animals?	0	0	0	0	0	0	0	0	1	1
25	Is shelter adequate for local expectations?	1	1	1	1	1	1	1	1	1	9
26	Is food adequate?	1	1	1	1	1	1	1	1	1	9
27	Is fuel adequate?	1	1	1	1	.5	.5	.5	.5	0	6
28	Are household resources adequate?	1	1	1	1	1	1	1	1	1	9
29	Is personal safety adequate?	1	.5	1	0	0	0	0	0	1	3.5
30	Are human health conditions adequate?	1	1	1	1	1	1	1	1	1	9
31	Is waste management appropriate?	1	1	0	1	1	1	1	1	-	7
32	Is the control of insects and breeding sites adequate?	0	1	1	1	1	1	1	1	-	7
32	Are agro-chemicals used safely?	-	-	1	-	-	-	-	-	-	1

### **Section Three: REA Organization Level Assessment – Pakistan Process Summary**

This draft report covers the initial Organizational Level Assessment (OLA) held on 20 October 2005 in Islamabad. The procedure set out in the Guidelines for Rapid Environmental Impact Assessment in Disasters<sup>8</sup> have been followed in completing this assessment.

Further community level assessment work started 22 October. A revised REA report incorporating community input is to be issued o/a 28 October 2005.

This Organizational Level Assessment report includes the following sections:

- Key Findings and Initial Recommendations,
- Tables summarizing the data generated through the Assessment, and,
- OLA participants.

#### **Context Statement**

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A Provide three short paragraphs which summarize the (1) cause/s and most evident impacts of the disaster, (2) whether the weather or other conditions at the disaster site will change and if these changes will affect environmental conditions and relief needs, and (3) priority disaster relief efforts and specific programmatic areas of interest to the party completing the REA.

**The disaster was triggered by a strong earthquake at 0850 on the morning of 8 October 2005 near the city of Muzaffarabad Pakistan. Aftershocks continue. The earthquake caused extensive damage to buildings, water sources and other infrastructure in the North West Frontier Province and Pakistan-administered Kashmir. An estimated 47,000 persons perished in Pakistan following the earthquake, with an estimated 65,000 injured. Landslides were also triggered by earthquake, with deforestation a reported contributing factor, and the damming of rivers due to mass movement is also reported.**

**The weather in much of the affected area is getting cooler, with periods of rain at lower elevations and snow at higher elevations. Winter weather, with potentially heavy snowfall and temperatures below freezing, is expected to develop over the coming 4 weeks and lasting until at least March. These conditions will be more severe and occurring first and for longest duration at higher elevations. There is also a potential for flooding following winter and spring thaws. The geology of the affected areas also makes it likely that additional landslide will occur during the wet weather conditions expected in the coming months.**

**Current relief priorities include**

- Evacuation of injured to adequate medical care,
- Preliminary damage assessments in isolated areas and
- Provision of shelter before severe cold weather begins.

**Accessibility is a major issue in the provision of relief and recovery assistance, with roads damaged or in some locations completely destroyed. Logistics challenges, including damaged roads and insufficient number of helicopters, limit the quantity of external assistance which can be provided to affected populations in a timely manner.**

B What sources are likely to be able to provide information on the environment in the area affected by the disaster?

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<sup>8</sup> See: [http://www.benfieldhrc.org/SiteRoot/disaster\\_studies/rea/rea\\_index.htm](http://www.benfieldhrc.org/SiteRoot/disaster_studies/rea/rea_index.htm).

Remote sensing products (e.g., from WWF)  
Forestry Department  
District officials  
Community officials  
Development projects

SRSP/NRSP  
Village organizations  
FAO/IFAD  
Islamic Relief

C Have there been, or are there currently, concerns about the release of potentially toxic substances affecting humans or the environment? If yes, summarize the information available and indicate how additional information can be collected.

**Damaged transformers. Pesticide stockpiles. Hazardous materials in damaged buildings in bazaars. Debris. Hospital (medical) waste.**

D Are there environmentally unique sites in the disaster area and have any been (or may be) affected directly or indirectly by the disaster?

**Machiara National Park (Pakistan Administered Kashmir), Ayubia National Park (North West Frontier Province), Palas Valley Man and Biosphere zone (in the process of being made official).**

E Were there concerns about environmental conditions before the disaster? Briefly describe the nature and cause of the concern, and whether these concerns are linked to the current disaster.

**Deforestation, Erosion, Flood, Landslide, Sewage entering rivers.**

F Are there any concerns about the environmental impact of the disaster on the part of the survivors or neighboring communities? Briefly describe the nature and cause of the local concern and link to the disaster for each problem noted.

**None noted. Survivors are in shock.**

G Are there any local or national laws, or donor or organizational policies and procedures which impact how environmental issues will be assessed or managed? If yes, summarize the requirements and how they will be addressed.

**Pakistan has a regulation requiring environmental reviews of development activities. It is not clear how it applies to emergency situations. There is a law against cutting conifer trees, but these trees are expected to be a key source for reconstruction.**

**Most donors waive environmental review requirements during disasters. However, CIDA and AusAid often require environmental conditions be considered for relief and recovery funding earlier than other donors.**

#### **Critical Issues Identified in the Context Statement**

- **Transformers (damaged by the earthquake)**
- **Pesticide Stocks**
- **Hazardous materials in damaged markets**
- **Dependency**
- **Debris**
- **Hospital/Medical waste**
- **Flooding**
- **Landslides**
- **Sewage/polluted water supplies.**
- **Lack of environmental review of disaster relief activities**
- **Tree Cutting**
- **Need for viable alternatives to reduce demand on the environment**
- **Weather change (snow-cold) at higher elevations.**
- **Poor transport in rural areas.**

**OLA Rating Forms**  
(Critical issues highlighted for forms 1-3)

**Rating Form 1: Factors Influencing Environmental Impacts**

<b>FACTOR</b>	<b>RATING</b>	<b>IMPLICATION</b>
<b>Number of persons affected</b> (relative to total population in disaster area).	Many	The greater number affected the greater potential impact on the environment.
<b>Duration:</b> Time since onset of disaster.	Months to years	The longer the disaster the greater the potential impact on the environment.
<b>Concentration</b> of the affected population.	Low - High (No agreement on situation)	The more concentrated (or dense) the living conditions of the survivors, the greater potential impact.
<b>Distance</b> disaster survivors have moved since the beginning of the disaster.	Close to point of origin	The further survivors have to move, the greater the potential impact on the environment.
<b>Self-Sufficiency:</b> After the start of the disaster, the ability of survivors to meet needs without recourse to additional direct extraction from the environment or external assistance.	Low	Low self-sufficiency after the disaster implies greater risk of damage to the environment.
<b>Social solidarity:</b> Solidarity between disaster survivors and non-affected populations.	Strong to Weak (No agreement on situation)	Weak solidarity may indicate the likelihood of conflict over resources and limits to the ability of survivors to meet needs.
<b>Cultural homogeneity:</b> The similarity of cultural beliefs and practices between disaster survivors and non-affected populations.	High	A lack of common cultural structure may result in disagreement over resource use.
<b>Asset distribution:</b> The distribution of economic and other assets within disaster affected population after the start of the disaster.	Not Equitable	Concentration of assets with one part of a population can lead to tensions with less-well endowed groups over use of environmental assets.
<b>Livelihood options:</b> The number of options that disaster survivors have to assure their livelihoods after the start of the disaster.	Few	The fewer the number of livelihood options indicates the disaster survivors may pose higher pressure upon fewer resources of the environment.
<b>Expectations:</b> The level of assistance (local/external) which the disaster survivors expect to need to survive.	High	In the absence of adequate assistance, high expectations can lead to high demand on local resources.
<b>Availability of natural resources,</b> or whether the available natural resources meet the needs of the disaster survivors in a way which can continue without degradation to the environment or future availability of the resources.	Low	Excessive use of natural resources leads to environment damage. Relief can be used to reduce excessive resource demand or repair damage done to the environment. The resources in question are water (for human consumption and for other uses), forest resources (timber, firewood), agriculture land (soil and water quality), et cetera.

FACTOR	RATING	IMPLICATION
<b>Capacity to absorb waste:</b> The environmental, social and physical structures available to handle waste produced by the survivors.	Low	Low waste absorptive capacity will lead to environmental damage.
<b>Environmental Resilience:</b> Ability of eco-system to rebound from the disaster itself and from relief and recovery activities which cause environmental damage.	Low	Low resilience likely means high fragility and greater possibility of long-term environmental damage.

#### Rating Form 2: Environmental Threats of Disasters

HAZARD	GUIDANCE AS TO WHETHER HAZARD CONSTITUTES A THREAT	PHYSICAL AREA AFFECTED:	INITIAL RESPONSE OPTIONS
<b>Snow</b> , including associated high winds, and ice storms (unusually heavy or persistent). Damage to infrastructure and natural resources. Limiting access to fields and other natural resources. Heavy runoff.	Snow or ice presence, in time or quantity, above average.	Medium	Implement snow safety activities to protect infrastructure from damage. Shift crops and planting methods to take into account late planting and soil moisture conditions. Develop water management plan for runoff, including erosion prevention and flood management. Develop management plan for damaged vegetation and snow removal.
<b>Phytosanitary (Pest) Outbreak.</b> Damage to economic crops from pests or disease.	Damage significantly above normal <sup>9</sup> .	Small	Integrated pest management methods, with agro-chemical application as appropriate. Procedures for safer use of agro-chemicals should be followed (including user education) and containers disposed of according to international standards. For medium to large scale pest disaster it is likely that special technical assistance and program management will be required.

<sup>9</sup> "Normal" is usually defined as average recorded losses over specific period. Can also be assessed based on qualitative assessment of agriculture community as to whether losses are significantly above normal.

HAZARD	GUIDANCE AS TO WHETHER HAZARD CONSTITUTES A THREAT	PHYSICAL AREA AFFECTED:	INITIAL RESPONSE OPTIONS
<p><b>Disease.</b> Human Mortality and morbidity reducing social and economic activity and increasing personal hardship.</p>	<p>Disease incidence significantly above normal. Note that specific criteria and methods exist to determine if an epidemic is occurring or a threat, and should be used to assess threat significance.</p>	<p>Large</p>	<p>Disease control-related measures focusing on environmental factors such as water supply and quality, sanitation, pollution reduction and living condition (e. g., other hazards like flooding or crowded conditions). Many responses are likely to be common sense and relate to other threats to disaster survivors.</p>
<p><b>Disease.</b> Epizootia (animal, not human) Mortality and morbidity of non-human animals affecting food intake, assets and increasing personal hardship.</p>	<p>Disease incidence significantly above normal. Note that specific criteria and methods exist to determine if an epidemic is occurring or a threat, and should be used to assess threat significance.</p>	<p>Large</p>	<p>Improving water supply and quality, sanitation, pollution reduction and living condition, e. g., crowded conditions. Safe and environmentally sound disposal of dead animals. The general lack of experience with animal health emergencies indicates specialized technical assistance will be needed throughout the response.</p>
<p><b>Land Mass Movement,</b> including land slides, slumps, and other down slope movement. Direct damage to infrastructure and natural resources. Direct or indirect pollution of water sources.</p>	<p>Damage to infrastructure or other resources. Significant increase in water sediment load.</p>	<p>Large</p>	<p>Remove infrastructure at risk. Install containment structures and filtration systems for contaminated water. Specialist assistance is likely to be required to plan response.</p>
<p><b>Earthquake</b> Damage to critical infrastructure, leading to (i) threat to or loss of life and injuries, or (ii) hazardous materials incidents. Changes in land forms (e.g., mass movement)</p>	<p>Human death or injury Any hazardous materials release. Any damage that stops or significantly slows the delivery of critical services (water, health care, power, gas, heating, food) Any land form change due to the earthquake.</p>	<p>Large</p>	<p>Develop rescue plans (best done before the disaster). Develop and implement hazardous materials response plans (best done before the disaster). Respond to damage to infrastructure as per other disasters. Respond to land form changes as per “<b>Mass Movements</b>”. Develop solid waste disposal plan, including procedures for recycling as much waste as possible, minimizing air and water pollution and ensuring sanitary landfill standards are met. Specialized technical assistance is likely to be required in design of waste disposal plan.</p>

HAZARD	GUIDANCE AS TO WHETHER HAZARD CONSTITUTES A THREAT	PHYSICAL AREA AFFECTED:	INITIAL RESPONSE OPTIONS
<p><b>Armed Conflict</b> (between and within countries): Active fighting by military units (“conventional warfare”). Intentional damage to infrastructure, including power, water, sewage and industrial capacity due to active fighting. Limitations on ability to deliver basic supplies to non-combatant populations.</p>	<p>Active military efforts to cause damage Inability or reduced ability to deliver minimum supplies of water, food, sanitation services and basic care due to fighting or infrastructure damage</p>	<p>Small</p>	<p>Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care). Use of neutral parties to deliver supplies and manage efforts to address damage caused by fighting. Debris should be recycled or disposed in a way to minimize air, water and land pollution.</p>
<p><b>Armed Conflict:</b> Unconventional warfare (including terrorism and ethnic cleansing). Disruption of normal social and economic support systems (i.e., threat to ability of populations to meet basic needs). Damage to and disruption of infrastructure systems.</p>		<p>Small</p>	<p>Development of protected systems for delivery of minimum supplies of critical items (water, food, sanitation services, health care).</p>
<p><b>Armed Conflict:</b> Use of chemical, biological, nuclear, radiation or high yield conventional explosives (in conventional and unconventional warfare). Immediate or delayed death to non combatants and other living entities (e.g., cattle).</p>	<p>Releases of hazardous substances via air, water or land, with intention to due harm.</p>	<p>Small</p>	<p>Rapid response teams to limit releases of hazardous materials. Decontamination of affected populations and areas. Note that decontamination efforts will require significant steps to properly dispose of contaminated materials.</p>

HAZARD	GUIDANCE AS TO WHETHER HAZARD CONSTITUTES A THREAT	PHYSICAL AREA AFFECTED:	INITIAL RESPONSE OPTIONS
<p><b>Technological:</b> Hazardous Material Release (fixed site and during transport, including road, water, rail or air accidents). Release of chemicals or compounds that pose immediate threat to life and well being.</p>	<p>Level of release above established norm (local or international, as appropriate). Rate of release (e.g., explosion) poses significant threat to life or well being.</p>	<p>Small</p>	<p>Limit additional damage by removing populations from affected areas and providing response teams with protective clothing and support. Treat exposure symptoms as per standard medical response, taking care not to pass on contamination during treatment. Dispose of contaminated items in way to limit additional land, water or air pollution. Likely specialized assistance will be needed for all phases of the response.</p>
<p><b>Technological:</b> Explosion, from fixed or mobile source (e.g., tank truck). Destruction of lives, productive assets and infrastructure.</p>	<p>Humans at risk. Potential or actual damage to productive assets (natural resources, commercial facilities or infrastructure).</p>	<p>None</p>	<p>Before disaster, develop risk zoning and change land use to reduce risk from explosion. Design facilities/vehicles to reduce risk of explosion. Establish warning and evacuation plans and shelters. After explosion, consider items in previous section.</p>

### Rating Form 3: Unmet Basic Needs

<b>BASIC NEEDS</b>	<b>Are needs being met at present?</b>  <b>ANSWER: *</b> Not met at all. * Lesser part of needs met than not met. * Greater part of needs met than not met. * Largely met. * Totally met.	<b>Will the quality or quantity of the resources used to meet this need deteriorate significantly in the next 120 days?</b>	<p style="text-align: center;"><b>INDICATORS</b></p> (Based on Sphere indicators. The closer the indicators are met in full, the higher the score. These indicators are guides. Use depends on available data and familiarity of users with Sphere Standards. )
<b>Water</b>	Lesser part met	Yes	<ul style="list-style-type: none"> <li>• 15 liters of water per person per day.</li> <li>• Waiting time at point of delivery not more than 15 minutes.</li> <li>• Distance from shelter to water point no more than 500 meters.</li> <li>• Water is palatable and of sufficient quality to be used without significant risk to health due to water-borne diseases, or chemical or radiological contamination during short-term use. (Note: contaminants includes human and industrial waste and agro-chemicals.)</li> </ul>
<b>Food</b>	Not met at all	Yes	<ul style="list-style-type: none"> <li>• Minimum food needs met : On average, 2,100 kilo-calories per person per day, 10-12% of total energy from protein, 17% of total energy from fat, and adequate micro-nutrient intake.</li> <li>• Food supplies are accessible at affordable prices and supply and costs are stable over time.</li> <li>• Food distribution is equitable, transparent, safe and covers basic needs (together with other food items available).</li> </ul>
<b>Shelter</b>	Not met at all	Yes	<ul style="list-style-type: none"> <li>• At least 3.5 square meters of covered space per person providing protection from weather and fresh air, security and privacy.</li> <li>• <u>In hot climates</u>, shelter materials, construction and ventilation adequate to keep in-shelter temperature 10 degrees centigrade below outside temperature.</li> <li>• <u>In cold climates</u>, shelter material, construction, and heating ensure internal temperature no less than 15 degrees centigrade</li> <li>• Camps, temporary shelter sites or resettlement sites are safe and have adequate access to basic services.</li> <li>• 45 square meters space is available per person in temporary camps or shelters, with provision made for living, social and commercial activities.</li> </ul>
<b>Personal Safety</b>	Less part met	Yes (anticipated upheaval)	<ul style="list-style-type: none"> <li>• Disaster survivors have sufficient personal liberty and security at all times.</li> <li>• Opportunities for violence are minimized to the extent possible.</li> <li>• Opportunities for violence should be noted and linked to specific environmental issues when appropriate.</li> </ul>

<b>Health Care</b>	Lesser part of needs met	No	<ul style="list-style-type: none"> <li>Disaster survivors have adequate, timely and affordable access to care for injuries and health (including psychosocial) problems arising from the disaster.</li> <li>Health management interventions are appropriate for chronic and acute health risks faced by disaster survivors and take into account age and gender. (See Sphere Standards for specifics.)</li> </ul>
<b>Waste management (liquid and solid)</b>	Not met at all	Yes	<ul style="list-style-type: none"> <li>Toilets are clean and safe, with a maximum of 20 people per toilet and are no more than 50 meters from dwellings</li> <li>Use of toilets is arranged by household(s) and/or segregated by sex.</li> <li>Environment is acceptably free of solid waste contamination, including medical wastes.</li> <li>Refuse containers are easily available and refuse is disposed of in a way to avoid creating health and environmental problems</li> <li>No contaminated or dangerous medical wastes in living or public space.</li> </ul>
<b>Environmental Conditions</b>	Not met at all	Yes	<ul style="list-style-type: none"> <li>Location of disaster survivors is not subject to immediate hazards, including flooding, pollution, landslides, fire, or volcanic eruptions, or effective mitigation measures have been taken.</li> <li>Environment is free from risk of water erosion, from standing water and a slope of no more than 6%.</li> <li>Smoke and fumes are below nuisance levels and pose no threat to human health.</li> <li>Animal management minimizes opportunities for disease transmission, solid and liquid waste problems and environmental degradation.</li> <li>Uncontrolled extraction of natural resources by disaster survivors is not taking place.</li> <li>Graveyard (s) is appropriately located and sized.</li> </ul>
<b>Fuel</b>	Lesser part of needs met	Yes	<ul style="list-style-type: none"> <li>Fuel availability meets immediate needs.</li> <li>Low smoke and fuel-efficient wood stoves, gas or kerosene stoves and cooking pots with well-fitting lids are available.</li> </ul>
<b>Lighting</b>	Lesser part of needs met	Yes	<ul style="list-style-type: none"> <li>Sufficient to meet security requirements and for normal economic and social activities.</li> </ul>
<b>Domestic Resources</b>	Not met at all	Yes	<ul style="list-style-type: none"> <li>Each household unit has access to adequate utensils, soap for personal hygiene and necessary tools. (Specific minimum needs identified in Sphere Handbook Chapter 4, Section 2).</li> </ul>
<b>Clothing</b>	Lesser part of needs met	No	<ul style="list-style-type: none"> <li>Clothing is appropriate for climatic conditions, gender, age, safety, dignity, and well-being.</li> </ul>
<b>Transport</b>	Lesser part of needs met	No	<ul style="list-style-type: none"> <li>Adequate to deliver goods and services to displaced at reasonable cost and convenience.</li> <li>Adequate to permit disaster survivors to reach goods and services at reasonable cost and convenience.</li> </ul>

**Rating Form 4: Negative Environmental Consequences of Relief Activities**  
**(Only activities expected or underway as part of the earthquake response are included.)**

Activity	Questions on whether potential negative environmental consequences of activity have been addressed.	Yes/No answer to the question immediately to the left.	Selected Avoidance or Mitigation Options
<b>Construction, including shelter, public buildings and infrastructure excluding roads.</b>	Are plans and procedures established to prevent scarce natural resources from being over exploited for construction activities?	?	Develop and follow resource management and land use management plans. Assess hazards in area where construction will take place and change siting or methods accordingly. Ensure construction methods reflect known hazards and risks and are used to reduce vulnerability.
	Are plans and procedures established to ensure that the construction site is not in an area of increased hazard compared to location or conditions before disaster?	Yes	
	Are plans and procedures in place to avoid increases risk of flooding, erosion or other hazards due to the construction?	No	
	Do construction methods and procedures take into account the risk of disaster?	?	
<b>Roads, paved or other, new and existing.</b>	Are there plans and procedures designed to avoid the exploitation of new lands or increased exploitation of existing lands due to the road?	No	Develop and follow land use plans. Limit access to roads. Verify road design against flooding/drainage risk assessment. Incorporate erosion mitigation measures in road construction activities.
	Are procedures and plans developed to prevent flooding and drainage problems due to the road work?	No	
	Are there plans and procedures to avoid landslides and soil erosion due to the road work?	No	
<b>Water Supply</b>	Are increased opportunities for disease transmission avoided?	No	Establish and maintain water treatment system. Design and maintain water supply structure to minimize standing water and vector breeding sites Plan water provision based on anticipated need and use plan for delivery area which allows current and future needs to be met.
	Are there plans and procedures to avoid an increase in population density having a negative environmental impact?	No	

	Are chemicals used to clean or purify water managed in such a way to avoid human health dangers or contamination of the environment?	Yes	Establish water resource use plan and monitor use and supply. Consider economic incentives to conserve water. Use hazardous chemicals as recommended and limit inappropriate use through education.
<b>Sanitation, including latrines, waste treatment and transport infrastructure, and solid waste management.</b>	Is the creation of hazardous waste sites avoided?	No	Establish and maintain sites for sanitary and safe waste disposal operating at international standards. Limit waste movement through appropriate collection systems meeting accepted best practices. Minimize opportunities for disease transmission and vectors. Establish and maintain environmental monitoring program covering air, land and water pollution.
	Is additional pollution of land, water and air avoided?	No	
	Is an increase in disease transmission and presence of disease vectors avoided?	No	
<b>Health Care</b>	Is pollution from disposal of medical and other waste avoided?	No	<ul style="list-style-type: none"> <li>Establish system for safe disposal of all wastes (solid and liquid).</li> <li>Develop a resource management plan for harvesting of local medicinal herbs and plants.</li> </ul>
	Is an increased demand for traditional medical herbs and plants which exceeds sustainable yield avoided?	No	
<b>Industry (new or re-starting)</b>	Are plans and procedures in place to avoid and increase in air, soil and water pollution?	?	Develop pollution mitigation and abatement plans, incorporating financial incentives where appropriate. Develop site use plans incorporating transport and population support needs based on level of industrial operation. Develop plans for the supply of services (e.g., water, education) for expected population in industrial area. Develop and implement a sustainable resource use plan for target industry.
	Is the unplanned and unmitigated disposal of solid and liquid waste avoided?	?	
	Is an increase in road and other traffic avoided or mitigated?	?	
	Are there plans and procedures in place to address the environmental impact of increased population and demand for services?	?	
	Is an increased and unsustainable resource extraction avoided?	?	
<b>Change in cooking or food processing</b>	Is increased fuel harvesting avoided or mitigated?	No	<ul style="list-style-type: none"> <li>Use fuel efficient stoves and cooking methods.</li> <li>Develop and implement a</li> </ul>
	Is increased air pollution avoided?	No	

<b>processing procedures.</b>	Is an increase resource harvesting to cover food preparation costs avoided?	Yes	<p>resource management plan for resources needed to cook or support costs of food preparation.</p> <ul style="list-style-type: none"> <li>• Consider organizing cooking process to reduce air pollution and fuel demand (e.g., communal kitchens, dining halls).</li> </ul>
<b>Relief Supplies</b>	Are steps taken to ensure that relief packaging does not create a solid waste disposal problem?	No	<ul style="list-style-type: none"> <li>• Use biodegradable, multi-use or recyclable packaging where possible.</li> <li>• Collect packaging as part of distribution program.</li> <li>• Develop program of education and facilities for safe disposal of personal hygiene materials.</li> <li>• Base assistance on needs assessment including survivor input.</li> <li>• Don't provide inappropriate materials.</li> <li>• Select assistance based on local social and economic conditions and sustainability of supply.</li> </ul>
	Are steps taken to ensure that personal hygiene materials are disposed of properly and pose no health and sanitation problem?	No	
	Are steps taken to ensure relief assistance is appropriate or acceptable to survivors and not discarded?	No	
	Are there procedures to ensure that relief does not create new and unsustainable consumption habits on part of survivors?	No	
<b>Rubble removal</b>	Is the handling and disposal of rubble done in a way to avoid the creation of disease vector breeding sites, leading to increased disease levels?	No	<ul style="list-style-type: none"> <li>• Develop and follow plans to recycle rubble and dispose of unusable materials in way which minimizes negative environmental impact.</li> <li>• Some rubble, such as asbestos sheets, is hazardous to humans and environment and will require special handling and disposal methods.</li> </ul>
	Are rubble removal efforts also clearing obstructions to existing drainage/water flow systems so that flooding and sanitation problems can be avoided?	No	
	Is rubble being recycled to that greater natural resource extraction is not necessary?	Yes to a limited extent	
	Are individuals working in rubble removal provided with appropriate and adequate safety protection and training as needed to safely handle potentially dangerous materials?	No	
<b>(Re)Settlement</b>	Do resettlement plans address possible negative environmental impacts due to changes in land use and bio-diversity?	No	<ul style="list-style-type: none"> <li>• Develop and follow land use plan in reconstruction and siting of settlements.</li> <li>• Conduct hazard and risk assessment of existing and new settlements sites and incorporate results into site selection, planning and construction methods.</li> </ul>
	Are assessments and mitigation procedures been used to ensure that new settlements are not subject to new or greater hazards than before disaster?	?	

<b>Local Coping Strategies</b>		
<b>Strategy</b>	<b>Consequence</b>	<b>Environmental Impact</b>
Construction of temporary shelter	Cutting trees	Negative
	Increase in land occupation	Negative
	Increase survival	Positive
Recovery of resources and bodies from damaged buildings	Reduced environmental demand for resources	Positive
	Increased health risk from injuries	Negative
Maximization of acquisition of relief assistance.	Inequal access to assistance	Negative
	Concentration of population	Negative
	Increased conflict over assistance	Negative
Accumulation of food supplies	Increased survival	Positive
	Increased conflict over assistance	Negative
Out Migration	Reduced pressure on local resources	Positive
	Loss of local labor supplies	Negative
	Displacement of pressure on the environment	Positive or negative depending on where pressure is now felt.

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## Section Four: Reference Documents

### Preliminary Environmental Assessment<sup>10</sup> Muzaffarabad, 20 Octobre 2005

#### Background

The purpose of the assessment was to draw a first overview of the direct and indirect impacts of the earthquake on the environment. The following four main issues were assessed:

- Destabilization of the slopes resulting in landslides, natural dams....
- Deforestation
- Pollution of surface water by solid and liquid waste
- Destabilization of ecosystems due to inadequate debris removal and disposal
- Radioactive risk associated with medical equipments

#### Findings

##### 1. Destabilization of the slopes resulting in landslides, natural dams, etc.

###### a. Assessment

The earthquake and subsequent aftershocks triggered massive landslides. These landslides have destroyed the roads all over the affected area. Being unstable, these phenomena will probably continue and will pose a threat to the population and will continue to disrupt the road traffic. As the road network is very limited, further landslides can hamper the survival of villages. Some agricultural lands and pastures have disappeared or were degraded because of landslides. This will cause a long term vulnerability of rural communities.

Some landslides have occurred on the river banks. A natural dam has been observed in the Nheluum valley. Others can be expected. This will result in a flood risk in spring during snow smelting.

Roads are also threatened by rock falling since the earthquake has cracked the metamorphic rocks.

###### b. Government actions and plans

The AJK Government and the Pakistan Army are presently clearing the main roads. An estimation given by government officials indicates 15 to 20 days for the main roads, but one month for the main road in the Nheelum valley and 2 to 3 months for the link roads. However, this estimation is without counting the further landslides and the cutting of roads by snow falling.

###### c. Recommendations

A further assessment in terms of natural disasters is urgent. Monitoring and stabilization of landslides will be needed.

##### 2. Deforestation

###### a. Assessment

Harvesting of forests was part of the main cash income source of rural communities. A ban was put by the government on cutting of green trees. This ban was approximately respected so far. Firewood and animal dung are the main energy source for remote communities. With the destruction or degradation of the houses, the need for firewood will increase during the winter for heating and cooking. The need for reconstruction will lead to an increase cutting of trees in the next months.

In the area, the deforestation leads to a fast soil erosion and increases the risk of landslides.

###### b. Actions and plans of the Government

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<sup>10</sup> Prepared by Alain Panche, UNEP/OCHA Joint Environmental Unit/UNDAC Team, Muzaffradabad.

No plans have such have been identified. However, the Chief Secretary of AJK considers the provision of solar energy.

c. Recommendations

The first action would be to provide the population with energy efficient products such as stoves. The second action is to provide them with alternate energy sources such as LPG or hydro-carbures. In the long term the electrification of rural areas through micro-hydro, bio-fuel and solar energy is to be considered. However, as deforestation will be unavoidable in the short-term, reforestation programmes will be needed in the next years.

3. Pollution of surface water by solid and liquid waste

a. Assessment

Before the earthquake, 40 tons of solid waste were generated per day in Muzaffarabad. 25 tons were collected by the municipality and disposed partially in an open field and partially directly in the river. The rest of the solid waste was naturally evacuated by rains in the river.

The waste management has been totally disrupted by the earthquake. The road to the dumping site has also been destroyed. Some informal collection of solid waste is organised. But waste is dropped directly in the river.

The hospital waste of Muzaffarabad is presently burnt by the army.

A sewage system was functioning but without treatment of the waste water prior discharge to the stream. Most probably the sewage system is now faulty and might contaminate the water supply system.

The arrival of population from villages and their settlement in camps will significantly increase the load on the environment if no adequate waste management is put in place.

b. Plan and action of the Government/ Auhtorities

No action has been planed so far.

c. Recommendations

The roads leading to the dumping site should be restored as soon as possible.

The waste management of all camps should also be implemented urgently and closely monitored for the coming months. As medium term action a suitable waste management should be implemented in the municipality of Muzaffarabad with the assistance and the support of the international community. The waste water is also to be considered urgently, especially since the human concentration in camps can lead to the spreading of epidemics. Some cases of diarrhoeas and skin diseases were already reported in some informal settlements.

4. Destabilization of ecosystems due to inadequate debris removal and disposal

a. Assessment

Debris removal and disposal have been identified as a main concern by the Authorities. According a rough estimate the earthquake could have generated up to 10'000'000 m<sup>3</sup> debris in Muzaffarabad and 1, 500, 000 m<sup>3</sup> in Bagh. The debris consists of concrete, bricks, steel, glass and plastic. If the debris is not properly disposed, it could lead to a massive destabilisation of the ecosystems. Moreover, the visual impact can be disastrous on the landscape.

b. Plan and action of the Government/ Authorities

An engineer has been appointed by the AJK Government. Two or three possible sites for debris disposal should be identified by him in the next days. Most probably, no impact assessment has been or will be conducted. The action of the Government and Army will be taking place in the next days since debris removal is one of their first priorities. The Government has also planned to advertise for debris removal and disposal. The Deputy Commissioner of Muzaffarabad has also emphasized the legal problems of private ownership of the debris.

c. Recommendations

A first and immediate action should consist to provide the government with technical assistance in order to identify sites for debris disposal. Moreover, a debris management strategy aiming at

reducing the volume to be disposed of must be developed (segregation, crushing and reuse of inert material). For example, possible uses of recycled debris include construction of buildings and roads. As the World Bank and ADB are both implementing infrastructure projects in AJK, contacts should be made with both organisations in this respect.

1. Radioactive risk associated with medical equipments

- a. Assessment

The only hospital dealing with oncology was situated in Abbas, 5 km away from Muzaffarabad. This building is still standing and the risk of radioactive contamination is thus weak. Other hospitals that collapsed did not have such equipments.

- b. Recommendations

A further assessment of Abbas hospital should be conducted in order to check the conditions of the concerned medical equipment.

## **Technical Note – Debris Removal in Muzaffarabad**

Prepared by: C. Kelly, REA Project<sup>11</sup>

Additions by Sonia Lioret, UNESCO

### **Background**

This note is prepared following a request from the UNEP/OCHA Joint Environmental Unit to provide interim technical input on removal of earthquake debris from locations in Muzaffarabad, Pakistan for a meeting with Azad Jammu and Kashmir Government officials on 26 Oct 2005. The focus of the meeting was on how to recycle as much waste as possible and minimize negative environmental impacts associated with the debris removal process. (A two person team of specialists on debris removal is expected in Pakistan o/a 31 October to develop more detailed plans.)

These notes are based on discussions with authorities in Muzaffarabad and a visit to on-going debris removal operations in the bazaar area of the city.

### **Current Situation**

#### **1. Technical aspects**

There is a considerable quantity of damaged and destroyed building stock in Muzaffarabad. The main affected area is the city centre where authorities evaluate the destruction percentage at 90%.

In some of the most affected areas, the concentration of buildings and the narrowness of streets make the debris' removal process difficult. The bazaar is one of the most complex locations as far as debris' removal is concerned.

In addition to the technical difficulty of debris' removal, one will face two social obstacles: (1) some dead bodies still remain under the rubbles, the number is most of the time unknown; (2) people have not always been able to collect their belongings from the buildings and some have already left the city.

The scale of operations is significant. Any plans need to consider the need to remove a number of in-use buildings, including some of the government compound, which are no longer seismically safe but are being used on an interim basis.

Moreover, the team should also consider other affected cities in AJK and NWFP (North West Frontier Provinces).

#### **2. On-going debris' clearance**

Clearance efforts are underway by Pakistan Army, in particular in the bazaar. The immediate objective is to clear the streets in order to enable inhabitants to access their destroyed houses and/or shops to collect their belongings. Clearing of government buildings is also underway.

The population is also involved in the removal of valuable items from buildings.

Debris is being dumped in a ravine near collection area without sorting. However, there is considerable ad hoc recycling on-going along with the clearance and dumping process, sometime under unsafe conditions.

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Clearance and removal operations are constrained by a lack of appropriate equipment, including safety equipment and poor accessibility in the narrow roads of the bazaar area.

### **3. Political set-up**

The political responsibility remains with the Chief Secretary, Head of the Administration of the Government of AJK. More specifically, the main Government officers who will be involved in debris' removal and recycling will be:

- Commissioner Muzaffarabad Division, Saleem Bismil, Upper Chatter, Phone 058810-39167, Mobile: 0335-8101026  
He has also been appointed as Relief Commissioner by the Chief Secretary. He will be the focal point for team. The Commissioner is in charge of three districts.
- Deputy Commissioner Muzaffarab, Chaudry Liaqat Ali, his office is temporary situated in the Srinagar Bus Service Building in front of the secretariat, Mobile: 0335-8103319. The Deputy Commissioner Muzaffarabad is in charge of Muzaffarabad district.
- The Chief Engineer Highway, Mushtaq Awan, Secretariat, Res: 058810-34523
- The Secretary Environment, Retired Major Iqbal, Secretariat, Block 2, Office 109, 058810- 32458. He has been sent by the Federal Government as support to the Government of AJK.

However, Army plays a critical role in AJK, especially these days. They will be most probably providing equipment and workforce and lead the decision-making. The key person is Brigadier Umar Farooq.

### **Suggested Guiding Concepts**

- **Total Recycling:** It should be possible to recycle or reuse close to 100% of the earthquake debris.
- **On-Site Recycling:** To the degree possible, the collection of metal and other recyclable materials should be done at the site of the destroyed/damaged building. This will reduce the quantity of debris to be moved to a secondary processing site.
- **Selection of a Single Processing Site:** Government authorities should select a single processing site. This site should be used for recycling concrete and other construction materials. This processing can be done by machines and/or hand labor, and should focus on reducing concrete, bricks and other similar materials to pebble size and extracting all metal or other materials for recycling. The processed concrete can be used for road fill or as aggregate under the proper conditions. It is likely that the best processing site will be in the river bed.
- **Public Information:** The public, and specifically persons who occupied damaged/destroyed buildings, should be advised and consulted in the debris removal process. Building/shop owners should be provided sufficient opportunity and assistance in recovering assets (e.g. furnishings, doors, commercial stock) before a building is removed.
- **Safety:** The safety of the workers and others involved in the debris removal efforts should be a prime concern. As per international best practice, a safety officer should be appointed to review plans and provide guidance on clearance operations.

### **Suggested Clearance Process**

#### **1. Assessment**

Conduct an assessment of each site/building to be cleared. This assessment needs to identify the level of damage, the quantity and nature of materials in the building (e.g. doors, furnishings, etc.) and the best removal process. This initial assessment should indicate if

human bodies need to be recovered. (This assessment should be tied to any eventual compensation program and involve competent engineers.)

## 2. Consultation and Planning

The assessment should lead to a process of consultation with a building's owner and occupants on the recovery of possession/assets from the building. Based on these consultations, each building/site would be scheduled for removal based on accessibility, the level of damage and the nature of removal operations needed.

## 3. Clearance and Removal Operations

Clearance and removal operations will take place in several steps, as outlined below. These steps may be modified based on assessment of each building.

Clearing of all removable materials from the building. This will be done by labor crews who will physically remove all non-concrete/brick/stone (i.e., structural) furnishings, materials and goods from a building. These materials will be segregated and recycled at or near the target building, with the owner/occupant responsible for disposal to the degree possible.

The clearing step also includes final clearing roads and other access to areas such as the bazaar, which is expected to be completed by the Pakistan Army units currently engaged in this task.

Preliminary deconstruction. If needed, a team using mechanical heavy equipment will deconstruct a building into quantities of debris which can be removed from the site to a rubble reduction site (e.g., for crushing).

Secondary deconstruction. This process will require a combination of heavy equipment and labor teams to remove small size debris or address debris removal from basements or hard to access locations.

Final clearance. At this step, heavy equipment is used to clear away any remaining debris and level land, including filling in holes and **clearing drainage systems**.

Final Recycling. It is expected that owners/occupants will prefer to recovery all valuable possessions, including wood and metal, from deconstructed buildings. Where this material (e.g., broken plastic) is not recovered on-site it should be moved to the "single processing site" where it is processed for disposal. It can be expected that:

- All concrete and other similar construction materials can be crushed and used as fill or as aggregate.
- All metal can be recovered and sold for scrap,
- All plastic can be recovered, shredded and sold for reprocessing,
- All wood and organic materials can be shredded and used for compost.
- All hazardous materials, including paint, pesticides and medical supplies, will need to be incinerated. A special plan is needed for handling these hazardous materials, but it is likely they can be incinerated in Pakistan.

Special teams and procedures will be needed to handle buildings which contain human remains. For these cases, an engineering decision will need to be made on how best to deconstruct a building to ensure the remains are recovered at the least risk to those involved in the recovery process.

The process outlined above presumes that the government has taken the necessary legal measures to enable a legal condemnation and removal of private property.

Operationally, the clearance process in the bazaar area will likely need to begin at one side and move through the area, creating a working corridor from which deeper work in the bazaar area can take place. An access corridor is needed because the small streets and lanes in the bazaar prevent the use of heavy equipment and, as importantly, access for trucks and wagons to remove debris. This approach presumes that most of the bazaar will be razed due to the level of earthquake damage. Deconstruction and removal operations in other areas can probably be done from street-side.

Given that the deconstruction and removal process will be dealing with personal possessions, and likely uncover possessions of some value, there will be a need for good security of work sites. This will require a police presence and barriers and controls to limit who can access work areas. These controls will also help increase the safety of operations and limit the risk of liability issues from injuries.

The government can also consider a general clean-up campaign to collect earthquake debris from road and passages through out the city. This campaign will generate a large amount of broken building materials (e.g., bricks, masonry) as well as general garbage. These materials can be moved to the "single processing site" for processing as a way to launch and test the processing process. The use of military trucks (including those from the US) and labor intensive work team is recommended for this general clean-up operation.

## Annex A

### Community Specific Information

#### Summary of Coping Strategies and their impact on the local environment

1. **More fuel wood will be needed** to survive the winter in the shelters than would be needed in their houses which were destroyed
2. The strategy of placing people in tent camps by rivers and streams does assure a source of water, but **none of the camps visited had adequate sanitary facilities** which can lead to contamination of the water source and health problems.
3. Many of the affected communities and cities are located along major rivers. Debris removal must be managed to assure that **debris is not dumped into rivers or streams**. Flooding and water contamination will result affecting the aquatic ecosystem and health of users below the debris dumping site.

### Community Assessment Data

#### *Bhari and Machiara, Muzaraffabad District*

Local coping strategies in Bhari and Machiara, communities located in the Machiara national Park, PAK. The **Community Assessment Summary Form**. The form was completed without completion of the intermediate step of the **Community REA Information Collection Guide**.

Community Relief/Coping Strategies. Corresponds to Section Five of the Organization Level Assessment		
Strategy/Action	Indicate Positive (+) or Negative (-) Impact on Local Environment	Comments including whether the action is common for all or only a select number of communities or groups within the communities.
Medical care	Low -	Disposal of field hospital/medical waste is common
Evacuation	Low +	Population of forested areas
Erection of makeshift shelter	-	Ubiquitous problem. Almost all families are erecting temporary shelter – younger trees (conifers) are being used
Collection of fuel wood	-	Loss of forest
Collection of fodder	Low -	Surviving livestock are dependent on supplementary feeding

#### *Kai, Nuri, Balikot, Mansehra District*

##### A. GENERAL INFORMATION

1. Date: **October 22, 2005**
2. Time Started: **1:45 pm**
3. Time End: **2:20 pm**
4. Name of Community: **Kai, Nuri, Balikot, NWFP, Pakistan (interview took place in tent camp just outside of Balikot)**
5. Person/s conducting the assessment :
  - a. Facilitator: **Anjom, Community mobilizer, Sungi foundation**
  - b. Recorder: **Becky Myton**
6. Distance of community from main road and district capital: **4 km from Balikot**
7. Nature of access to the community: paved, all season, dirt track, no road. **Dirt track**
8. Ethnic group/s and religion diversity present in the community: **all Muslim**
9. Description of the community. **Rural agro pastoral zone, hilly, river runs through it, some scattered natural vegetation (conifers). Houses-- wood with tin roofs**

10. Description of the origin of the community (e.g., when settled and where first settlers came from).
11. Number of people currently living in the community: **There were 300 households in the village, (none remain standing) with a population of around 2,500 people**
12. Are there people who migrated/displaced from the area? If yes when, how many, in which direction and to where? **All are displaced, most are camping outside of Balikot**

## **B. ENVIRONMENT AND LIVELIHOOD INFORMATION**

### **Environment**

13. How does the group describe the environment in which the community is located?

**There is always water in the river, which they use for drinking and other household purposes. Main crops are wheat and corn. They have some cows and sheep. There has been deforestation, but they say there is still enough wood for fuel and construction.**

14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **no**
15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location.) **two holy sites named for martyrs, Shah Ismail Shahid, and Syed Ahmad Shahid.**
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **They are most worried about landslides**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **Before the quake, they felt safe, except for occasional flooding.**
18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females? **Now they are worried about landslides and erosion.**
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources?

### **Livelihood/ economic activities**

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **50% agro-pastoral and 50% wage labor (any work they can find)**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance. **See twenty**
22. What are the criteria for wealth classification?  
Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs? **They consider themselves middle class, but the facilitator sees them as poor. They are all at the same level.**
23. Are families supported by only one type of work, or by several family members with different occupations? **mixed**
24. Are there any development projects working with the community and what do they do? **Sungi has several projects in the area**

## **C. DISASTER INFORMATION**

25. Has the community been affected by any of the following events in the past year.

**The October 8<sup>th</sup> earthquake**

26. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?
27. What was the cause and impact of the disaster? **The earthquake destroyed the whole village – all have been displaced**
28. What damage happened as a result? Describe human and material damages. **See 27**
29. How many people have left the community due to the disaster, where did they go and when are they expected back? **All 2,500 have left and are camping out near Balikot. They want to go back, but they want to wait at least a year and a half before they do. Till then they expect the government to take care of them**
30. When did the disaster start and how long is it expected to continue? **The earthquake hit October 8<sup>th</sup> and the effects will be felt for years.**
31. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes. **Most of the men are looking for any odd job they can find.**
32. What has the community done to address the disaster? What coping mechanisms have been used? **They have moved as a group to a flat area near Balikot. They have some tents which are being shared by 4-5 families. They expect food and more permanent shelter to be provided by the government.**
33. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.) **Looking for odd jobs**
34. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **Some**
35. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39. **Yes, NGO No, Government**
36. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **Tents, blankets, clothes, food, some medical care. They still need lots more.**
37. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance? **3**
38. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community? **1 (helping them stay alive)**
39. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.) **some deforestation**
40. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal? **That is in God's hand**

#### **D. BASIC NEEDS**

41. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? Indicate more than one if needed) **River**
42. How does the community describe the water quality before and after the disaster? **River was cleaner before disaster**
43. Is there enough water for everyone in the community? Compare before and after the disaster. **Yes, both before and after**
44. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes.
45. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **They collect wood and buy tin**

46. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Their houses were destroyed, some now have tents, but more are needed**
47. How does the community meet their clothing needs? **buy**
48. Are there any changes after the disaster? Describe. **Lots of clothes have been donated, but most seem to be rejected and there are mounds of used clothes strewn all around**
49. How will additional clothing be secured: purchase, manufacture, and/or gift? **See 48**
50. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **produce and buy**
51. Do all the community members have enough food? If not, who is most affected by the lack of food? **Now they don't have enough, all seem to be affected, but they are good about making sure kids have food**
52. How does the community get fuel for cooking and other uses) **they collect wood (conifer)**
53. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Some trees have fallen due to landslides and erosion**
54. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **They have lost most of their household and personal belongings**
55. How will these be replaced: sale of assets, gift, purchase, etc? **They are waiting for the government to give them what they need**
56. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why? **They feel safe where they are and don't want to move back for a year and a half**
57. Is there adequate health care for the community? **No in the community, they had to go to Balikot**
58. Has the availability of health care changed since the disaster? **A temporary health clinic has been provided.**
59. Is health care free, including drugs? **They are charged fees**
60. If health care is not free, how do community members pay the costs involved?
61. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal). **In the village each family had it's own latrine. Now they are using the fields**
62. Are there enough latrines?
63. If no, why people do not have them?
64. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
65. Have agro-chemical users received training on safe use?
66. Is the community aware of the dangers of excessive application of agro-chemicals?

## **E. CONCLUSION**

67. How would the group describe a good future for the community? **They would like electricity and better roads**
68. What suggestions do community members make as to how environmental issues in the community should be addressed? **They are not interested or worried about environmental issues such as deforestation. It is all God's will.**

## F. COPING STRATEGIES

69. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster. Some of these coping strategies may only become evident in one-on-one or small group discussions since they may be illegal or not socially acceptable.

## G. OBSERVATIONS

70. Is the community clean of human/animal waste and garbage? (yes/no). **no**

71. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no). **no**

72. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no). **no**

73. Is the community graveyard distant from housing and water supplies? **50 meters**

74. If there is a health facility in the community are medical wastes disposed of safely? (yes/no)  
**Temporary clinic, didn't have a chance to check on waste disposal**

Community Relief/Coping Strategies. Corresponds to Section Five of the Organization Level Assessment		
Strategy/Action	Indicate Positive (+) or Negative (-) Impact on Local Environment	Comments including whether the action is common for all or only a select number of communities or groups within the communities.
Establish camps for victims	+ and -	Positive: Shelter for disaster victims Negative: Camp have not taken into account sanitary facilities or solid waste – Soil and water contamination can result
Collection of fuel wood	- I	Loss of forest
Distribution of clothes	+ and -	Positive: Refugees have clothes to replace those lost Negative: Many of the clothes have been rejected by the people and there are mounds of used clothes (solid waste) along the roads and scattered everywhere

### Rapid Environmental Assessment (REA) Community Assessment Report

(Summary report on Balakot assessment trip)

We (C. Kelly and Becky Myton) carried out a preliminary REA community assessment on October 22 in Kai, Nuri, Balikot.

The town of Balikot was completely destroyed by the earthquake. On the outskirts of Balikot, the NGO Sungi is carrying out preliminary relief efforts. Tents, blankets, clothes and food are being provided.

We carried out the Community Assessment in a Sungi tent camp with the help of Anjom, a female Sungi staff member with experience in community mobilization.

The assessment was carried out in a tent with the initial participation of 6 women and their children. During the interview, 5 men and 3 more women joined the group. With the exception of one woman, after the men joined the group, the women did not participate very actively.

During the interview the following stood out:

- The entire village of 300 households (2,500 people) was destroyed. All of the houses were constructed of wood with tin roofs.
- 80 people from the village were killed, a high proportion of which were children. Many villagers were injured.
- The livelihood of the village before the earthquake consisted of approximately 50% agro-pastoral activities and 50% of work outside the village.
- The villagers consider themselves as middle class (but we would consider them as poor).
- The villagers see no link between the environment and disasters. When we asked if they thought the deforestation which is going on in the area contributes to environmental problems they said no. God is the one responsible. We raised this point several times and always got the same answer.
- At present the villagers are in tents or in the open. They want to stay together and presently there are 4-5 families per tent.
- In the village each house had a latrine. In the tent camp open fields are used as sanitary facilities.
- They want to return to their village, but only after a year and a half when they will not be afraid anymore. They feel that until they return, the government is responsible for giving them shelter.
- The men say they are trying to find day jobs, but most of the villagers are milling around and still seem to be in a state of shock. The men and women interviewed say that they have all suffered great losses of family members and property, but that it is God's will and they have to keep going.

We also noted several issues:

- The villagers want to eventually return to their village (1 and one years later) and expect the government to give them shelter till then. They are now located on private farm land and will need to be relocated to public land before the next planting season.
- From the start, tent camp organizers should include in the planning water source and disposal, sanitary facilities, cooking facilities, fuel and solid waste disposal. The tent camp dwellers should participate in the planning and construction of these facilities. Contamination and disease can become a problem very rapidly. There is so much pressure on everyone during this phase that these details are often forgotten. There is also a good opportunity for community trainings and counseling during the stay in the tent camps. The people seemed eager for attention.
- Deforestation is recognized by the NGOs as an environmental problem, but not by local residents. The villagers feel that God is responsible for disasters and that environmental degradation plays no part.
- I was greatly impressed by the will, especially of the women, to keep going. Their smiles told me they that they have the will and stamina to survive.

### ***Allai Valley, Batagram District***

#### **A. GENERAL INFORMATION (completed by data collection team)**

1. Date: 23 October 2005
2. Time Started:
3. Time End: 23 October 2005
4. Name of Community: Allai Valley
5. Person/s conducting the assessment : Kevin Toomer – CARE PK Security Office
6. Distance of community from main road and district capital:
7. Nature of access to the community: paved, all season, dirt track, no road. **Partially paved road currently unusable due to post earthquake damage**
8. Ethnic group/s and religion diversity present in the community: **Largely homogenous Islamic. Pashtu and Urdu speakers.**
9. Description of the community. Including physical location, types of housing, physical layout and natural environment (agro-climatic zone, presence of rivers, lakes, parks, nature reserves etc). If possible, conduct a social mapping. **The Allai river valley is home to numerous small settlements. The exact number has yet to be determined due to differences in naming**

**conventions. The current best estimate is that 20-30 distinct settlements exist. Larger villages are located near the valley floor while smaller more scattered settlements are located on the higher slopes. Villages ran from 100-250 houses. Average village household size varies from 6.6 to 10. Agriculture consists primarily of rice and maize cultivation supplemented with fruit and nut trees. Goats, cattle, buffalo, and poultry are raised.**

10. Description of the origin of the community (e.g., when settled and where first settlers came from). **Unknown.**
11. Number of people currently living in the community: **Unknown. Initial assessment indicates that government figures are exaggerated.**
12. Are there people who migrated/displaced from the area? If yes when, how many, in which direction and to where? **A small number of locals revealed they intended to leave the valley as soon as possible. They indicated that others had already left but they were unable to give an estimate of how many. Most of those who expressed their desire to leave indicated that they would go to one of the large DP camps.**

## **B. ENVIRONMENT AND LIVELIHOOD INFORMATION**

### **Environment**

13. How does the group describe the environment in which the community is located? Specifically ask about how the community has changed in the past ten years, noting changes to agriculture land, forests, pasture, supplies of raw materials, access and availability of water and pasture, and rainfall.

**Those questioned indicated that deforestation was the most significant change in the past ten years. The area in pasture and rice paddy production had increased at the expense of forest cover. Erosion was also believed to be a significant problem by some.**

14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **No**
15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? **Yes, but unlocated.**
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **The community preoccupation is with another earthquake. Some were also concerned with the repeat of a flood that occurred in 1994(?).**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **No.**
18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females? **There are complicated traditional rules that govern land ownership and use. Females do not appear to own land. Questions about land ownership in female led households were unanswered.**
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources? **Violence and kidnapping are considered valid means of dispute resolution. Non-violent means of inter-village dispute resolution were not discussed. Village leaders and tribal authorities often resolve intra-village disputes.**

### **Livelihood/ economic activities**

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **1 Agro pastoral, 2 herding, 4 wage labour**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance.
22. What are the criteria for wealth classification?

Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs? **Some (2) and some (3)**

23. Are families supported by only one type of work, or by several family members with different occupations?

24. Are there any development projects working with the community and what do they do?

### C. DISASTER INFORMATION

25. Has the community been affected by any of the following events in the past year. ✓Strong Winds ✓Erosion ✓Crop pests or diseased ✓Human diseases ✓Animal diseases ✓Conflict ✓Accidents (e.g., fire burning someone)

26. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?

27. What was the cause and impact of the disaster? **Earthquake**

28. What damage happened as a result? Describe human and material damages.

29. How many people have left the community due to the disaster, where did they go and when are they expected back?

30. When did the disaster start and how long is it expected to continue?

31. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes. **No**

32. What has the community done to address the disaster? What coping mechanisms have been used?

33. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.)

34. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **(3)**

35. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39. **Some yes. Some no**

36. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **Government and NGO sources have provided emergency medical care, evacuation, food, and emergency shelter for some valley residents.**

37. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance? **(3)**

38. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community? **(2) to (3)**

39. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.)

40. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal?

### D. BASIC NEEDS

41. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? **Varies, natural springs, streams, and natural water sources diverted by PVC and metal pipes. One cistern was observed.**

42. How does the community describe the water quality before and after the disaster?

43. Is there enough water for everyone in the community? Compare before and after the disaster.  
**Yes**
44. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes. **Yes. 90% of residential dwellings have collapsed. Standing structures have been rendered uninhabitable. No new construction has begun. Most people are living in improvised shelters. Tents are becoming available. A minority of people are continuing to reside in their unsafe buildings.**
45. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **Concrete cinderblock buildings were made from purchased materials. Dry stack fieldstone buildings were made from locally collected materials.**
46. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Most people are living in improvised shelters. Tents are becoming available. A minority of people are continuing to reside in their unsafe buildings.**
47. How does the community meet their clothing needs?
48. Are there any changes after the disaster? Describe. **Many**
49. How will additional clothing be secured: purchase, manufacture, and/or gift?
50. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **Own production.**
51. Do all the community members have enough food? If not, who is most affected by the lack of food? **Current food stocks are assessed as being insufficient to last the winter. Landless villagers are most at risk.**
52. How does the community get fuel for cooking and other uses? (purchase, free collection, other means – note) **Wood is harvested from nearby slopes.**
53. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Yes. Fuel is in short supply as the road to the valley is still blocked.**
54. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **Yes**
55. How will these be replaced: sale of assets, gift, purchase, etc? **Unknown**
56. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why? **Yes. Men traveling to work avoid other villages known to be hostile.**
57. Is there adequate health care for the community?
58. Has the availability of health care changed since the disaster? **Yes, in some respects it has improved due to the availability to medical relief personnel.**
59. Is health care free, including drugs? **No**
60. If health care is not free, how do community members pay the costs involved?
61. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal). **Some**
62. Are there enough latrines? **No**
63. If no, why people do not have them? **Use of 'field sanitation' is accepted.**
64. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
65. Have agro-chemical users received training on safe use?

66. Is the community aware of the dangers of excessive application of agro-chemicals?

**E. CONCLUSION**

67. How would the group describe a good future for the community? (Prompt for types of work, types of housing, access to water, electricity, roads, education and health status and changes to the environment.)

68. What suggestions do community members make as to how environmental issues in the community should be addressed?

**F. COPING STRATEGIES**

69. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster. Some of these coping strategies may only become evident in one-on-one or small group discussions since they may be illegal or not socially acceptable.

**G. OBSERVATIONS**

Observation should be made as to the way that human, animal and other waste is disposed.

70. Is the community clean of human/animal waste and garbage? (yes/no). **No**

71. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no). **Yes**

72. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no). **Yes**

73. Is the community graveyard distant from housing and water supplies? **No**

74. If there is a health facility in the community are medical wastes disposed of safely? (yes/no) **No**

Community Relief/Coping Strategies. Corresponds to Section Five of the Organization Level Assessment		
Strategy/Action	Indicate Positive (+) or Negative (-) Impact on Local Environment	Comments including whether the action is common for all or only a select number of communities or groups within the communities.
Expanding agricultural frontier	-	This is common throughout the valley

***Tent Camp Just Outside of Mazaffarabad City (Muzaffrabad District)***

This tent campsite established by the Punjab government was located along the river which was the source of water at present. There were no latrines yet but the bases were at the camp and were going to be installed. Water pipes were also on site and would bring water to from a local spring. These activities will have a positive effect on the environment

**A. GENERAL INFORMATION (completed by data collection team)**

1. Date: **October 27, 2005**
2. Time Started: **3:00 pm**
3. Time End: **4: pm**
4. Name of Community: **Kai Manja, villagers now located in camp just outside of Muzaffrabad**
5. Person/s conducting the assessment : Facilitator: **Kehkashan, Sungi foundation**  
Recorder: **Becky Myton**
6. Distance of community from main road and district capital: **3 hour walk**

7. Nature of access to the community: paved, all season, dirt track, no road.
8. Ethnic group/s and religion diversity present in the community: **all Muslim**
9. Description of the community. **Rural agro pastoral zone, hilly,**
10. Description of the origin of the community (e.g., when settled and where first settlers came from).
11. Number of people currently living in the community: **The tent camp, supported by the Punjab government plans to have 300 tents. Presently there are 50**
12. Are there people who migrated/displaced from the area? **All are displaced, some are camping outside of Batabran, They are worried because they have not harvested the crops yet, but they are afraid to go back because of continuing landslides**

## **B. ENVIRONMENT AND LIVELIHOOD INFORMATION**

### **Environment**

13. How does the group describe the environment in which the community is located?
14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **no**
15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location)
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **They are most worried about landslides**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **Before the quake, they felt safe,**
18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females? **Now they are worried about landslides and erosion.**
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources?

### **Livelihood/ economic activities**

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **Almost 100% agro-pastoral**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance **see 19**
22. What are the criteria for wealth classification? **Quantity of livestock**  
Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs?  
  
Are families supported by only one type of work, or by several family members with different occupations?  
  
Are there any development projects working with the community and what do they do?

## **C. DISASTER INFORMATION**

23. Has the community been affected by any of the following events in the past year.  
**The October 8<sup>th</sup> earthquake**
24. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?

25. What was the cause and impact of the disaster? **The earthquake destroyed the whole village – all have been displaced**
26. What damage happened as a result? Describe human and material damages.
27. How many people have left the community due to the disaster, where did they go and when are they expected back? **Most have left, some are camping out near Batagram. They want to go back eventually. Till then they expect the government to take care of them**
28. When did the disaster start and how long is it expected to continue? **The earthquake hit October 8<sup>th</sup> and the effects will be felt for years.**
29. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes.
30. What has the community done to address the disaster? What coping mechanisms have been used? **They have moved as a group to a tent camp.**
31. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.)
32. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **few**
33. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39. **Yes, Punjab Government**
34. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **Tents, blankets, clothes, food, some medical care. They still need lots more.**
35. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance? **3**
36. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community? **1 (helping them stay alive)**
37. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.) **There are no latrines and the women have to wait till night to find a place to defecate. This is hard for them. They are provided with two meals a day, but they can't cook**
38. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal? **That is in God's hand**

#### D. BASIC NEEDS

39. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? Indicate more than one if needed
40. How does the community describe the water quality before and after the disaster?
41. Is there enough water for everyone in the community? Compare before and after the disaster. **Yes, both before and after but now they use the river**
42. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes. **Houses were mud and wood, now in tents**
43. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **They collect wood and buy tin**
44. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Their houses were destroyed, some now have tents, but more are needed**
45. How does the community meet their clothing needs? **buy**

46. Are there any changes after the disaster? Describe.
47. How will additional clothing be secured: purchase, manufacture, and/or gift? **They expect support from government**
48. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **produce and buy**
49. Do all the community members have enough food? If not, who is most affected by the lack of food? **No**
50. How does the community get fuel for cooking and other uses? (**purchase, free collection, other means – note**) **they collect wood (conifer)**
51. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Some trees have fallen due to landslides and erosion**
52. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **They have lost most of their household and personal belongings**
53. How will these be replaced: sale of assets, gift, purchase, etc? **They are waiting for the government to give them what they need**
54. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why? **They feel safe where they are but want to move back to the village in April**
55. Is there adequate health care for the community? **No**
56. Has the availability of health care changed since the disaster?
57. Is health care free, including drugs?
58. If health care is not free, how do community members pay the costs involved?
59. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal). **In the village each family had it's own latrine. Now they are using the fields**
60. Are there enough latrines? **No, there are none in the camp, but they are planned**
61. If no, why people do not have them? **No one has given them any**
62. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
63. Have agro-chemical users received training on safe use?
64. Is the community aware of the dangers of excessive application of agro-chemicals?

#### **E. CONCLUSION**

65. How would the group describe a good future for the community?
66. What suggestions do community members make as to how environmental issues in the community should be addressed? **They are not interested or worried about environmental issues such as deforestation. It is all God's will.**

#### **F. COPING STRATEGIES**

67. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster.

#### **G. OBSERVATIONS**

68. Is the community clean of human/animal waste and garbage? (yes/no). **no**

69. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no). **no**
70. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no). **no**
71. Is the community graveyard distant from housing and water supplies?
72. If there is a health facility in the community are medical wastes disposed of safely? (yes/no)  
**Temporary clinic, didn't have a chance to check on waste disposal**

***Kaghan Valley, Mansehra District***

**A. GENERAL INFORMATION (completed by data collection team)**

1. Date: **October 26, 2005**
2. Time Started: **3:00 pm**
3. Time End: **3:30 pm**
4. Name of Community: **Interview with family who had walked three hours to get the e main road in the Kaghan valley**
5. Person/s conducting the assessment : Facilitator: **Kehkashan, Sungi foundation**  
Recorder: **Becky Myton**
6. Distance of community from main road and district capital: **three hour walk from main road**
7. Nature of access to the community: paved, all season, dirt track, no road. **Dirt path**
8. Ethnic group/s and religion diversity present in the community: **all Muslim**
9. Description of the community. Including physical location, types of housing, physical layout and natural environment. **Rural agro pastoral zone, hilly,river runs through it, some scattered natural vegetation (conifers). Houses—med**
10. Description of the origin of the community (e.g., when settled and where first settlers came from).
11. Number of people currently living in the community: **The family lived in the house up in the mountiains – no real community**
12. Are there people who migrated/displaced from the area? If yes when, how many, in which direction and to where? **The family decided to leave and go to Islamabad for the winter. He wants to work and rent a room and return to his home in April**

**B. ENVIRONMENT AND LIVELIHOOD INFORMATION**

**Environment**

13. How does the group describe the environment in which the community is located?  
Specifically ask about how the community has changed in the past ten years, noting changes to agriculture land, forests, pasture, supplies of raw materials, access and availability of water and pasture, and rainfall. **Main crops are wheat and corn. They have some cows and buffalo, but they died**
14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **no**
15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location.)
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **They are most worried about surviving the harsh winter. They say their damaged house will not wistant the 12 fett of snow which falls**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **Before the quake, they felt safe**

18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females? **Now they are worried about landslides and erosion.**
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources?

#### **Livelihood/ economic activities**

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **agro-pastoral**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance. **See twenty**
22. What are the criteria for wealth classification?  
Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs?
23. Are families supported by only one type of work, or by several family members with different occupations?
24. Are there any development projects working with the community and what do they do? **No**

#### **C. DISASTER INFORMATION**

25. Has the community been affected by any of the following events in the past year.  
**The October 8<sup>th</sup> earthquake**
26. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?
27. What was the cause and impact of the disaster? **The earthquake destroyed their house and killed their cows and buffalo**
28. What damage happened as a result? Describe human and material damages. **See 27**
29. How many people have left the community due to the disaster, where did they go and when are they expected back? **They left and will go to Islamabad to look for work. They plan to return home next April**
30. When did the disaster start and how long is it expected to continue? **The earthquake hit October 8<sup>th</sup> and the effects will be felt for years.**
31. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes. **He will look for any job he can find.**
32. What has the community done to address the disaster? What coping mechanisms have been used? **See 29**
33. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.) **No**
34. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **few**
35. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39. **No**
36. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **None**

37. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance?
38. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community?
39. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.)
40. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal? **That is in God's hand**

#### D. BASIC NEEDS

41. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? Indicate more than one if needed) **Stream**
42. How does the community describe the water quality before and after the disaster?
43. Is there enough water for everyone in the community? Compare before and after the disaster.
44. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes.
45. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **They collect wood and buy tin**
46. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Yes, they have no shelter**
47. How does the community meet their clothing needs? **buy**
48. Are there any changes after the disaster? Describe
49. How will additional clothing be secured: purchase, manufacture, and/or gift?
50. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **produce**
51. Do all the community members have enough food? If not, who is most affected by the lack of food? **Now they don't have enough,**
52. How does the community get fuel for cooking and other uses? (purchase, free collection, other means – note) **they collect wood (conifer)**
53. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Some trees have fallen due to landslides and erosion**
54. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **They have lost most of their household and personal belongings**
55. How will these be replaced: sale of assets, gift, purchase, etc? **They don't know**
56. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why?
57. Is there adequate health care for the community? **No**
58. Has the availability of health care changed since the disaster?
59. Is health care free, including drugs? **They are charged fees**
60. If health care is not free, how do community members pay the costs involved?
61. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal).

62. Are there enough latrines?
63. If no, why people do not have them?
64. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
65. Have agro-chemical users received training on safe use?
66. Is the community aware of the dangers of excessive application of agro-chemicals?

#### E. CONCLUSION

67. How would the group describe a good future for the community?
68. What suggestions do community members make as to how environmental issues in the community should be addressed? **They are not interested or worried about environmental issues such as deforestation. It is all God's will.**

#### F. COPING STRATEGIES

69. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster.

#### G. OBSERVATIONS

Observation should be made as to the way that human, animal and other waste is disposed.

70. Is the community clean of human/animal waste and garbage? (yes/no).
71. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no).
72. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no).
73. Is the community graveyard distant from housing and water supplies?
74. If there is a health facility in the community are medical wastes disposed of safely? (yes/no)  
Temporary clinic, didn't have a chance to check on waste disposal

Community Relief/Coping Strategies. Corresponds to Section Five of the Organization Level Assessment		
Strategy/Action	Indicate Positive (+) or Negative (-) Impact on Local Environment	Comments including whether the action is common for all or only a select number of communities or groups within the communities.
Leave area till next planting season, either to tent camp or Islamabad	+ those who go farther away - in tent camps	There is no set coping strategy for the mountain dwellers. Those who have lost their livestock are more willing to relocate temporarily to areas further from their homes

#### ***Sharok Village, Batagram District***

##### **A. GENERAL INFORMATION (completed by data collection team)**

1. Date: **October 25, 2005**
2. Time Started: **1:45 pm**
3. Time End: **2:20 pm**
4. Name of Community: **Sharkok, a village on the main road to Batagram**
5. Person/s conducting the assessment : Facilitator: **Anjom, Community mobilizer, Sungi foundation**, Recorder: **Becky Myton**

6. Distance of community from main road and district capital: **just off the main road**
7. Nature of access to the community: paved, all season, dirt track, no road.
8. Ethnic group/s and religion diversity present in the community: **all Muslim**
9. Description of the community. Including physical location, types of housing, physical layout and natural environment (agro-climatic zone, presence of rivers, lakes, parks, nature reserves etc). If possible, conduct a social mapping. **Houses of different types (bricks, concrete, some mud)**
10. Description of the origin of the community (e.g., when settled and where first settlers came from).
11. Number of people currently living in the community: **There were 150 houses in the community – 75 were destroyed. 400 people currently living there in tents**
12. Are there people who migrated/displaced from the area? If yes when, how many, in which direction and to where? **some displaced went to live with relatives**

## B. ENVIRONMENT AND LIVELIHOOD INFORMATION

### Environment

13. How does the group describe the environment in which the community is located?  
Specifically ask about how the community has changed in the past ten years, noting changes to agriculture land, forests, pasture, supplies of raw materials, access and availability of water and pasture, and rainfall. **There has been deforestation, but they say there is still enough wood for fuel and construction.**
14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **no**
15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location.)
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **They expressed no specific concerns**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **Before the quake, they felt safe**
18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females?
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources?

### Livelihood/ economic activities

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **50% agro-pastoral and 50% wage labor, shop keepers**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance. **See twenty**
22. What are the criteria for wealth classification?  
Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs? **Some are wealthier than others, the ones that could have left, the ones that couldn't are staying in tents**
23. Are families supported by only one type of work, or by several family members with different occupations? **mixed**
24. Are there any development projects working with the community and what do they do?

### C. DISASTER INFORMATION

25. Has the community been affected by any of the following events in the past year.

#### **The October 8<sup>th</sup> earthquake**

26. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?
27. What was the cause and impact of the disaster? **The earthquake destroyed half the homes**
28. What damage happened as a result? Describe human and material damages. **See 27**
29. How many people have left the community due to the disaster, where did they go and when are they expected back? **Some are camping out in a make shift camp near their homes. They want to rebuild, bur right now are afraid**
30. When did the disaster start and how long is it expected to continue? **The earthquake hit October 8<sup>th</sup> and the effects will be felt for years.**
31. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes. **The ones with jobs are still working**
32. What has the community done to address the disaster? What coping mechanisms have been used? **They have put their tents on a flat area near their homes. They expect food and more permanent shelter to be provided by the government.**
33. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.) **Looking for odd jobs**
34. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **Some**
35. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39.
36. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **Tents, blankets, clothes, food, some medical care. They still need lots more.**
37. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance? **3**
38. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community? **3**
39. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.)
40. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal? **That is in God's hand**

### D. BASIC NEEDS

41. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? Indicate more than one if needed) **There was a water system with distribution pipes. This has been destroyed by the quake. Now they go to a nearby stream to get water**
42. How does the community describe the water quality before and after the disaster?
43. Is there enough water for everyone in the community? Compare before and after the disaster. **Yes, before -- no after**
44. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes.

45. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **Bought materials**
46. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Their houses were destroyed, some now have tents, but more are needed**
47. How does the community meet their clothing needs? **buy**
48. Are there any changes after the disaster? Describe. **Lots of clothes have been donated, but most seem to be rejected and there are mounds of used clothes strewn all around**
49. How will additional clothing be secured: purchase, manufacture, and/or gift? **See 48**
50. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **produce and buy**
51. Do all the community members have enough food? If not, who is most affected by the lack of food? **Most seem to**
52. How does the community get fuel for cooking and other uses? (purchase, free collection, other means – note) **they collect wood (conifer)**
53. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Some trees have fallen due to landslides and erosion**
54. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **They have lost some of their household and personal belongings**
55. How will these be replaced: sale of assets, gift, purchase, etc? **They are waiting for the government to give them what they need**
56. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why? **They feel safe where they are**
57. Is there adequate health care for the community? **No**
58. Has the availability of health care changed since the disaster?
59. Is health care free, including drugs? **They are charged fees**
60. If health care is not free, how do community members pay the costs involved?
61. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal). **In the village each family had it's own latrine or toilet. Now they are using the fields**
62. Are there enough latrines? **See 61**
63. If no, why people do not have them? **They were destroyed by quake**
64. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
65. Have agro-chemical users received training on safe use?
66. Is the community aware of the dangers of excessive application of agro-chemicals?

## **E. CONCLUSION**

67. How would the group describe a good future for the community? (Prompt for types of work, types of housing, access to water, electricity, roads, education and health status and changes to the environment.)

68. What suggestions do community members make as to how environmental issues in the community should be addressed? **They are not interested or worried about environmental issues such as deforestation. It is all God's will.**

#### F. COPING STRATEGIES

69. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster.

#### G. OBSERVATIONS

70. Is the community clean of human/animal waste and garbage? (yes/no). **no**
71. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no). **no**
72. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no). **no**
73. Is the community graveyard distant from housing and water supplies
74. If there is a health facility in the community are medical wastes disposed of safely? (yes/no) **Temporary clinic, didn't have a chance to check on waste disposal**

#### *Eageel Abale – Batagram District*

##### A. GENERAL INFORMATION

1. Date: **October 25, 2005**
2. Time Started: **3:00 pm**
3. Time End: **4: pm**
4. Name of Community: **Eageel Abael, now located in camp just outside of Batagram**
5. Person/s conducting the assessment : Facilitator: **Kehkashan, Sungi foundation**  
Recorder: **Becky Myton:**
6. Distance of community from main road and district capital: **3 hour walk**
7. Nature of access to the community: paved, all season, dirt track, no road. **No road**
8. Ethnic group/s and religion diversity present in the community: **all Muslim**
9. Description of the community. Including physical location, types of housing, physical layout and natural environment (agro-climatic zone, presence of rivers, lakes, parks, nature reserves etc). If possible, conduct a social mapping. **Rural agro pastoral zone, hilly,**
10. Description of the origin of the community (e.g., when settled and where first settlers came from).
11. Number of people currently living in the community: **There are 200 people in the camp. Village had population of 5,000**
12. Are there people who migrated/displaced from the area? If yes when, how many, in which direction and to where? **All are displaced, some are camping outside of Batabran**

##### B. ENVIRONMENT AND LIVELIHOOD INFORMATION

###### Environment

13. How does the group describe the environment in which the community is located?

Specifically ask about how the community has changed in the past ten years, noting changes to agriculture land, forests, pasture, supplies of raw materials, access and availability of water and pasture, and rainfall. **There is always water in the river, which they use for drinking and other household purposes. Main crops are wheat and corn. They have some cows and sheep.**

14. Is the community near any unique environmental areas (e.g., national park, industrial site)? **no**

15. Are there any areas which the community considers as special, such as holy sites, locations of natural resources or places which are protected by tradition? (Where possible, identify exact location)
16. Does the community have any specific concerns about the environment? Specifically ask about fire, drought, floods, water and air pollution and other hazards, and recent changes to environmental conditions. **They are most worried about landslides**
17. Does the group see the location of the community as one that is safe from floods, erosion, and other problems? **Before the quake, they felt safe,**
18. What are the rules that the community has governing the use of natural resources (agriculture land, forests, pasture, water)? Is there any difference for males and females? **Now they are worried about landslides and erosion.**
19. How does the community resolve a dispute over the use of natural resources (forest, pasture or land use) water or other natural resources?

#### **Livelihood/ economic activities**

20. Nature of livelihood system: herding, agro-pastoral, farming, industry, other wage labor (indicate what type of labor). Indicate if more than one system is used, and number 1 to 5 in terms of importance. **Almost 100% agro-pastoral**
21. What are major means of incomes and who involve from family members? Describe major occupation in terms of importance. **See twenty**
22. What are the criteria for wealth classification? **Quantity of livestock**  
Do (1) most families have about the same wealth, (2) are there a lot of poor and a few wealthy families in the community, or (3) are there some poor and wealthy, but most families have sufficient resources for all needs?  
  
Are families supported by only one type of work, or by several family members with different occupations?  
  
Are there any development projects working with the community and what do they do?

#### **C. DISASTER INFORMATION**

23. Has the community been affected by any of the following events in the past year.  
**The October 8<sup>th</sup> earthquake**
24. For each type of event identified, ask whether this event was considered a disaster, that is, why was it different than normal conditions?
25. What was the cause and impact of the disaster? **The earthquake destroyed the whole village – all have been displaced**
26. What damage happened as a result? Describe human and material damages. **See 27**
27. How many people have left the community due to the disaster, where did they go and when are they expected back? **Most have left, some are camping out near Batagan. They want to go back eventually. Till then they expect the government to take care of them**
28. When did the disaster start and how long is it expected to continue? **The earthquake hit October 8<sup>th</sup> and the effects will be felt for years.**
29. Has the type of work that people do to support families changed since the start of the disaster? If yes, note changes.
30. What has the community done to address the disaster? What coping mechanisms have been used? **They have moved as a group to a tent camp.**

31. Since the disaster began, how do people in the community get money and have these sources changed? (List sources and changes.)
32. Has the community been able to address (1) most, (2) some, (3) few of the impacts of the disaster from their own resources? **few**
33. Has the community received any assistance from the government or NGOs to deal with the disaster? (Yes/no). If no, skip to number 39. **Yes, NGO No, Government**
34. What kind of assistance was received? (List, including origin – government, donor, NGO, other communities, people who have left the community-- if possible) **Tents, blankets, clothes, food, some medical care. They still need lots more.**
35. Was this assistance considered to be (1) a lot of assistance, (2) enough assistance, (3) just some assistance, (3) little assistance? **3**
36. Has this assistance (1) improved, (2) stabilized or (3) not had much impact on conditions in the community? **1 (helping them stay alive)**
37. Has the assistance which has been provided caused any problems for the community? (Prompt for impact on the environment.)
38. When the disaster is over, how long does the community think it will take for environmental conditions to return to normal? **That is in God's hand**

#### D. BASIC NEEDS

39. How did the community get water before the disaster: purchase, wells, cisterns, lakes, ponds etc.? Indicate more than one if needed) **Wells**
40. How does the community describe the water quality before and after the disaster? **Wells water was clean before disaster, now it is muddy**
41. Is there enough water for everyone in the community? Compare before and after the disaster. **Yes, both before and after but now they use the river**
42. What types of shelter does the community use and has there been any change after the disaster? If yes, describe major changes. **Houses were mud and wood, now in tents**
43. How did community members get materials to build a house before the disaster: purchase, collect from country side, receive as gift, etc? **They collect wood and buy tin**
44. Does the community have any problems with shelter since the disaster? If there are problems, note what they are. **Their houses were destroyed, some now have tents, but more are needed**
45. How does the community meet their clothing needs? **buy**
46. Are there any changes after the disaster? Describe.
47. How will additional clothing be secured: purchase, manufacture, and/or gift? **They expect support from government**
48. How do community members get food: own production, purchasing in market, gift etc.? (Indicate importance if more than one source.) **produce and buy**
49. Do all the community members have enough food? If not, who is most affected by the lack of food? **No**
50. How does the community get fuel for cooking and other uses? (**purchase, free collection, other means – note**) **they collect wood (conifer)**
51. Has the supply of fuel changed because of the disaster? If yes, describe how and why. **Some trees have fallen due to landslides and erosion**

52. Have community members lost any household resources (utensils, soap for personal hygiene, bedding, tools etc.) due to the disaster? **They have lost most of their household and personal belongings**
53. How will these be replaced: sale of assets, gift, purchase, etc? **They are waiting for the government to give them what they need**
54. Do people in the community have any concerns about personal safety, either in the community or when outside the community? If yes, who is affected and why? **They feel safe where they are and don't want to move back for a year and a half**
55. Is there adequate health care for the community? **No**
56. Has the availability of health care changed since the disaster?
57. Is health care free, including drugs? **They are charged fees**
58. If health care is not free, how do community members pay the costs involved?
59. Does the community use latrines? If yes, indicate their type, location and ownership (family, group of families, communal). **In the village each family had it's own latrine. Now they are using the fields**
60. Are there enough latrines? **no**
61. If no, why people do not have them? **No one has given them any**
62. Is there any agro-chemicals use in the village? If yes, note type, sources and for what purpose the agro-chemicals are used.
63. Have agro-chemical users received training on safe use?
64. Is the community aware of the dangers of excessive application of agro-chemicals?

#### **E. CONCLUSION**

65. How would the group describe a good future for the community? (Prompt for types of work, types of housing, access to water, electricity, roads, education and health status and changes to the environment.)
66. What suggestions do community members make as to how environmental issues in the community should be addressed? They are not interested or worried about environmental issues such as deforestation. **It is all God's will.**

#### **F. COPING STRATEGIES**

67. If not indicated elsewhere during discussions with the community, note specific coping strategies which are being used in response to the disaster.

#### **G. OBSERVATIONS**

68. Is the community clean of human/animal waste and garbage? (yes/no). **no**
69. Are waste sites (where people throw waste or use as a toilet) distant from the community (yes/no). **no**
70. Are there obvious insect breeding sites (particularly for flies and mosquitoes) in the community? (yes/no). **no**
71. Is the community graveyard distant from housing and water supplies?
72. If there is a health facility in the community are medical wastes disposed of safely? (yes/no) **Temporary clinic, didn't have a chance to check on waste disposal**

The following table summarizes three communities:

- Sharkok, a village near the main road,
- Scattered settlements near Batagram

- A tent campsite along the river near Batagram

<b>Community Relief/Coping Strategies. Corresponds to Section Five of the Organization Level Assessment</b>		
<b>Strategy/Action</b>	<b>Indicate Positive (+) or Negative (-) Impact on Local Environment</b>	<b>Comments including whether the action is common for all or only a select number of communities or groups within the communities.</b>
Use of fuel to heat tents during winter	-	In cold areas fuel use will increase during winter as tents will be harder to heat than traditional houses. If fuel is wood, this will place more pressure on the forests
Relief agencies are setting up camps and distribution sites	+ and -	Positive for shelter for the affected people Negative aspects include: lack of sanitation in campsites, contamination of water sources, inadequate disposal of solid waste in NNO distribution centers (throw over fence into river)
Debris removal	-	Balicot should identify adequate place to put debris (not directly into river)
Rebuild	+ and -	There is a chance to plan reconstruction and insure proper building codes. Alternative building materials should be considered

**Palasi Communities, Kohistan District<sup>12</sup>**

A. GENERAL INFORMATION

- Date:** 26<sup>th</sup> - 28<sup>th</sup> October 2005
- Time started:**
- Time End:**
- Name of Community:** Palasi community
- Person/s conducting the assessment:** Facilitator: Ayaz Khan, Recorder: Dr. Hanif Khan
- Distance of community from main road and district capital**  
*About 60 kilometer from Dassu, district capital and 22 kilometer from Pattan.*
- About 25 kilometer road from main Karakorum high way and then from the road head trails lead to community living in the Valley through which the community is accessible in summer while in winter the community living in the tail of the Valley are difficult to approach due to heavy snow.*
- The people living in the Valley are all Sunni Muslims. The community is divided into two major clans i) Darma khel and ii) Kokamanka khel. The forest in the Valley is also divided between these two clans while the pastures are common and anyone can utilize any pasture in the Valley.*
- The valley lies in the northern parts of NWFP on the left bank of Indus River opposite Pattan town. It is a part of Tehsil Palas and consists of 10 union council. Jalkot valley is located on its north while Allai on its south, Kaghan valley lies on its east, Siran on southeast and Indus River runs on its west. The main river in the valley is called Mushagah which generally flows from east to west and join Indus River just above Pattan. The livelihood is mainly dependent on livestock and agriculture. Most of the area is mono-crop and maize is staple crop growing in the valley. The houses in the Valley are mostly formed of wood placed in mud and require frequent repair. Most of*

<sup>12</sup> Information collected by staff of the De-concentration of power to the local level in Pakistan Project WWF Pakistan, Serghaziabad, Palas Kohistan

- the houses have wooden roof and wooden walls. The valley is very rich in natural resources particularly in forests and wildlife.*
10. *The origin is Kashmiri. The ancestor might have come from Kashmir and have started living here.*
  11. *The total population of the Valley is about 60000-80000.*
  12. *Yes some people quit the valley and are now settled in Mansehra, Abbotabad and Mingora. The reasons for their displacement from the Valley includes enmity inside the Valley and lack of facilities and amenities.*
  13. *In past the forest in the valley was very dense and wildlife were living in good numbers and medicinal and economic plants were found near the villages. But now the forest in the lower Valley has been cut for meeting timber and firewood demand and earning cash money. The land has been cleared for agricultural practices. Pastures have become less productive due to over grazing. Gullies are prominent in high pastures due to removal of vegetative cover.*
  14. *The community is living in the area which has got a global significance due to its unique natural environment. The area is a part of Endemic Bird Area (EBA) and the process of declaring the area as World Heritage Site is underway.*
  15. *probably not*
  16. *The community is concerned about the floods that not only cause damages to their houses and livestock but also erode their agricultural fields. They have also realized the effects of deforestation in the Valley.*
  17. *No. the area is susceptible to erosion and floods.*
  18. *The forests in the valley that are found on high elevation away from the villages are divided between two major clans, Darmakhel and Kokamanka khel and the royalties from its commercial sale goes to the concerned clans while the broad-leaved forests found near the villages are divided among the sub-clans or families. But anyone in the valley can cut tree for timber and firewood from anywhere in the Valley. The agricultural field are private property but anyone in the Valley is allowed to clear the forest for agricultural practices any where in the Valley. Pasture is common property and anyone in the Valley is allowed to take any number of livestock to any pasture in the Valley. NTFPs collection is allowed to all the people in all sorts of forests. Wild vegetable is collected by all people any where in the forests. NTFPs including wild vegetable are mostly collected by women and children in the Valley. Most of the activities in agriculture are undertaken by women. Livestock rearing is also the responsibility of women.*
  19. *If any conflict arises regarding the use or ownership of natural resources, it is resolved through consensus by gathering elites of all clans and sub-clans and this gathering is called "Jerga".*
  20. *The livelihood of the people mainly depend on livestock rearing. Besides products obtained from livestock, cash is also obtained from its sale in local market. Second source of livelihood is agriculture. The area is mostly mono-crop and maize is the major crop grown in the valley but wheat is also grown in the lower parts of the valley. Bean is also grown alongwith maize crop. The natural resources also play a vital role in the livelihood of the people. Cash is obtained from the sale of timber and a handsome amount is obtained from NTFPs of the valley annually. About 80% of the people in upper palas use wild vegetable of about 40 plant species. Honey and wild fruits provide a source of food to them both in summer and winter.*
  21. *The major means of income are timber and NTFPs which benefits most of the people in the Valley. Products obtained from livestock are sold in Pattan market and brings income to the people. A few people have got employment in government or private sector while some people are involved in business and have shops in and outside valley. Mostly children and women are involved in collection of NTFPs and timber harvesting is the responsibility of men.*
  22. *Most of the people in the Valley are poor and they can hardly meet their requirements. They don't have access to basic amenities like clean drinking water, health facility,*

- education and clothes etc. There is also scarcity of food and particularly women and children never get enough nutritious food.  
Some of the people have some money who can meet their requirements and these people are mostly living in Lower Palas near Pattan town.
23. Most of the people don't have any work due to lack of opportunities in the area and only a small portion of the community is involved in work. There are a few occasions when everyone is look busy like cutting and storing of grass in October, harvesting of maize crop, collection of Morel mushroom in May and June.
  24. HJP and PCDP.....
  25. The community was affected by heavy snow in winter last year which killed their livestock and collapsed their houses. Recently in October the earthquake caused damages in the Valley. About 60 people died, 300 houses collapsed and ----- houses were damaged which are not liveable.
  26. Because this year the snow was unusually heavy and caused a considerable damages livestock, houses and agricultural field of the people. The normal snow has never caused such damages except blockage of trails that's why it was considered a disaster because it exceeds the normal snowfall in the Valley.
  27. Don't know the cause of heavy snow and severe earthquake; however the impact is very obvious – death of people, severe injuries, damages to houses, death of livestock, damages to agricultural fields, blockade of roads, removal of trails, erosion of slopes, damages to agricultural crops, damages to water channels and hydropower stations, scarcity of food, destruction of NTFPs particularly honey bee hives and wild fruits stoppage of activities like rearing and grazing of livestock, harvesting of agricultural crops etc and of course psychological shock.
  28. The damages mostly includes death of human being and serious injuries and death of livestock, collapse of houses and partial damages to houses and other infrastructure in the Valley.
  29. No one has left the valley yet except those evacuated from the valley. But most of them are living outside their houses.
  30. The disaster started on October 8, 2005 and one does not know how long it will exist.
  31. After the disaster, the dead bodies were recovered and buried, injured were rescued and evacuated and some of the effectees were provided with some items necessary for survival like food and shelter in the shape of plastic sheets and tents because their houses were completely collapsed.
  32. The community living in the area had never met their requirements due to lack of resources and poverty. They had never enough food, clothes, drinking clean water, electricity, health facility and other things in normal time so that did not have any arrangements for such disasters and emergencies. They are living under the open sky with some makeshift arrangements like covering their heads with sheets, plastic or hay or any other local material available. They are boiling and eating maize, the only food available with them but how long?
  33. They don't have any source and wait for the agencies to approach them and provide them with some relief goods. Some of the people are coming to Pattan to fetch some food, tents and clothes for themselves.
  34. The community has only been able to buried the persons died, attach on the maize crop which is a source of food for themselves for the entire year and have made some makeshift arrangements for their stay which definitely cannot protect them from rain, storm, cold and snow.
  35. Yes the community has received assistance from NGOs and government. **List from that earth quake report.**
  36. **List is in that earthquake report.**
  37. Keeping in view the number houses affected and number of effectees, the assistance provided sofar is very little. Still a lot number of people are in need of food, tents, blankets and warm clothes.
  38. The assistance provided has relieved the people for time being but still a lot number of people are in need of such relief.

39.  
40.  
41. ***The community was getting water from springs and streams.***  
42. ***They don't bother about the quality of water.***  
43. ***No such apparent effect is seen on the quantity of water in the valley.***  
44. ***Plastic sheets, bags, and hay and tents in some villages.***  
45. ***The houses in the valley are mostly made of wood and mud and both are locally available. There are a few cemented houses for which material was purchased from the local market.***  
46. ***After the disaster, the main problem of the community is shelter. Tents are their first priority followed by warm clothes and blankets and then food.***  
47. ***Even before the disaster, the community had no enough clothes.***  
48.  
49.  
50. ***Mostly they produce their own food, like maize, beans, products of livestock, honey and collection of wild vegetables which are dried and used in winter. Some of food items like sugar, tea, salt etc is purchased from local market. Only a few people can afford to purchase and eat wheat flour.***  
51. ***No all most of the community lack food and the most affected are those living in Upper Palas away from the local market.***  
52. ***The people living in the valley mostly depend on natural resources for meeting their needs. Firewood is the only fuel used for cooking and heating which is obtained from forests.***  
53. ***I don't think there is any direct effect of disaster on the firewood because the people are living inside or near the forests, the main source for the fuel. However the blockade of roads and removal of trails has made the collection of fuel wood difficult for them.***  
54. ***They never had enough utensils in their houses and the disaster deprived them of whatever they had in their houses.***  
55. ***The most important thing to ponder over is that ultimately the pressure will increase on the natural resources. These are the natural resources that are meet their requirements and these are the natural resources which have to bear the brunt. Now for purchase of household resources, the people will exploit the natural resources because that's the only resource with them.***  
56.  
57. ***No. never***  
58. ***There was no health facility before disaster so nothing is changed.***  
59. ***No.***  
60. ***They only bring those patients to Pattan town that are very serious and they mostly sell their livestock on such occasions.***  
61. ***Only a few houses have started using latrine which are near Pattan town otherwise most of the people including men, women and children do not use any latrine in the Valley.***  
62. ***No***  
63. ***It is tradition not to use any latrine in the Valley. All the people use open air for meeting their need.***  
64. ***Urea is used for agricultural crops in some villages.***  
65.  
66. ***I don't think so***  
67.