

## Earthquake Aftermath in Northern Pakistan

### Environmental Catastrophe Continues in the Affected Areas

*The World Conservation Union (IUCN), the Worldwide Fund for Nature (WWF) and CARE International warn against further risks from environmental hazards in Northern Pakistan.*

This alert-bulletin primarily aims to outline some of the environmental hazards that persist in the earthquake affected areas. These include serious health hazards due to poor sanitation and inadequate solid waste management practices in the relief camps; the danger of flash floods and more landslides; the pressure on dwindling natural resources, especially forests for fuel and shelter needs; the dangers of heavy siltation in rivers feeding into the Mangla Dam and those of haphazard reconstruction. More detailed guidelines on tackling some of these issues would be released in due course of time.

#### Sanitation and Solid Waste Management

Many of the relief camps, which house a large number of people, rendered homeless by the devastating earthquake, have poor sanitation conditions in general and absence of hygienic solid waste management in particular. This has not only made them vulnerable to serious risks of epidemics and other health hazards, but is also resulting in polluting the environment. The issue of solid waste management in all such temporary settlements should be accorded the highest priority.



**Waste dumped unhygienically outside a tented settlement**

#### Flash-floods and Landslides

Landslides caused by the earthquake have temporarily obstructed river channels at many locations. However, between Hattian Bala and Chakaar, a massive landslide has completely blocked the course of the river across two valleys, creating two lakes. The height of the dike created by the slide is approximately 200m. The communities both upstream and downstream of this blockage are threatened by this situation, particularly if it rains and rains heavily. There is also a danger of further landslides in the event of

heavy rains and snow. This is especially so during the period of January to March, known for its heavy precipitation. All precaution should be taken to avoid locating relief settlements on mountain slopes as well as sites directly under them. This is because the earth has already loosened due to the massive earthquake and its aftershocks. Ominously, snow and heavy rains would further reduce the gradient at which landslides can occur.



**Landslide between Hattian Bala and Chakaar blocking the river**

#### Degradation of Forests and Timber Trade

The need for shelter and fuel for hundreds of thousands of affected people have put the already depleted forests in the region under a great potential threat. But any further degradation of this precious natural resource would drastically reduce the livelihoods options of the local people, increasing their vulnerability. The situation also demands that any timber stocks in the affected areas should be used locally for reconstruction and other related needs. However, in anticipation of imposition of government controls or subsidies, stocked timber is rapidly being transported out of the earthquake affected areas for more profitable marketing elsewhere.

#### Siltation of Mangla Dam

The landslides caused by the earthquake deposited massive volumes of silt and sediments into the rivers flowing through the affected region. Aftershocks, some of them equivalent to fairly strong earthquakes in their own right, have further added to these seismo-sediments. Rivers Kunhar, Neelum and Jehlum - and their various tributaries - are the most affected by this phenomenon. They are carrying this load downstream to the Mangla reservoir, greatly increasing the risk of silting this already silted dam, and reducing the life and capacity of this reservoir. A project for increasing the

capacity of the reservoir has been in the planning phase. In view of current hazards, the technical feasibility may need to be reviewed and revised.

### **Hazardous Reconstruction**

Due to the onset of winter and inadequate shelter, people living in higher altitudes have started reconstruction. In the absence of specific guidelines for constructing earthquake resistant buildings, people are reverting to their old construction practices, without taking into account the risks posed by such structures. Some basic guidelines by relevant agencies at this stage would have a huge positive impact, for it would not be wise to curb the initiative and self-motivation of the affected people. Also, to a great extent, this reconstruction is being carried out with timber and other material salvaged from the debris. However, these are in limited supply and once they run out, there is a danger that people might turn to felling trees.



***Conventional reconstruction from timber***