

IUCN's Earthquake Response and Strategy for Long Term Recovery



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1. Introduction and Background

The earthquake that recently struck Northern Pakistan – in parts of the North West Frontier Province (NWFP) and Azad Jammu and Kashmir (AJK) - has prompted a massive relief, rehabilitation and reconstruction effort. From the start, IUCN has been strongly committed to supporting these activities. In the immediate aftermath of the earthquake, IUCN worked with its member and partner institutions in the country as well as internationally, both to support emergency humanitarian relief efforts and to provide up-to-date information about the environmental damage caused and its impacts on local economies and livelihoods. As the focus now shifts towards long-term recovery and rehabilitation, IUCN has developed a strategic response which outlines our commitment to supporting post-earthquake processes.

This document serves to communicate IUCN's strategy for assisting in post-earthquake recovery in the affected region. It articulates our niche, role and approach in the recovery and rehabilitation process and is targeted at IUCN's worldwide network of members and partners, especially the government agencies, NGOs and donors with whom we are working to deal with the impacts of the earthquake. Based on a thorough analysis of the earthquake and its impacts, the document aims to make explicit IUCN's intentions to engage in post-earthquake reconstruction and rehabilitation and to present a strategic plan for integrating ecosystems and livelihoods concerns into these processes.

IUCN has had a long-term presence in the mountain areas of Pakistan that have been affected by the earthquake, and firmly believes that post-earthquake reconstruction must be driven by the goal of bettering and ensuring the future security of, the status and welfare of all sectors of the affected population, their living conditions, livelihoods and environment. This principle of conserving ecosystems to sustain livelihoods thus underpins IUCN's effort, and strategy, for assisting in post-earthquake recovery. Ecosystems and the goods and services they provide to support livelihoods are at the core of IUCN's mission. As elaborated in this document, any attempt at post-earthquake reconstruction which ignores the environment runs the risk of seriously jeopardizing long-term recovery in earthquake affected areas, and of undermining future livelihood security and socio-economic development. These are risks that mountain area populations in the northern region of Pakistan simply cannot afford to bear over the long-term. At the same time, current post-earthquake recovery efforts have every potential to effect significant improvements in the social, economic and environmental welfare of mountain area populations and can make a substantial contribution to long-term development in mountain area areas and in the region as a whole.

2. IUCN's Earthquake Response and its Objectives

The World Conservation Union (IUCN) has been one of the first organizations to bring attention towards this environmental aspect of the earthquake. It conducted a Preliminary Environmental Assessment (PEA) Report¹ right after the disaster struck, followed by two field missions intending to obtain an overview of environmental conditions in the earthquake affected areas and determine the risks faced by the latent threats to the environment and based on these findings, determine the environmental needs in the subsequent phase of reconstruction and rehabilitation.

In a long-term perspective the mission was to guide on what opportunities existed assisting communities with livelihood restoration and better ecosystem management of the affected areas. A supplementary aim in this respect was to determine methods for mainstreaming disaster prevention in the planning and reconstruction process in the disaster-prone areas in the mountainous regions.

¹ Preliminary Environment Assessment of the Earthquake in Pakistan, IUCN, November 2, 2005

Through IUCN's efforts environment was effectively incorporated in the joint Government of Pakistan (GoP)/Asian Development Bank (ADB)/World Bank (WB), 'Damage and Need Assessment Report' presented at the Donors' Conference a month after the catastrophe. **See the annex for the highlights of IUCN's earthquake response so far.**

The subsequent focus is to develop a strategy that can assist the stakeholders, including the government and civil society in establishing an organized and effective plan for the post-relief period. Hence, this paper aims to suggest possible measures that can be undertaken, with regard to response to associative risks and highlighting areas of intervention and approaches for post-earthquake recovery.

3. Environmental Risks and Needs Assessment

Based on the two field missions mentioned above – one each to the earthquake affected areas of NWFP and AJK – IUCN carried out an assessment of environmental risks and needs². The methodology for carrying out the assessment was based on visits to the affected areas and communities; observation of the environmental damages; meetings and consultations with affected communities as well administrators and aid agencies; and finally, a review and analysis of the findings, including the compilation of a pre-quake environmental overview of the visited areas.

In both NWFP and AJK, apart from the huge losses in life and property, badly disrupting the socio-economic activities, there has been considerable damage to the biophysical environment. This includes the destruction caused by the land and mudslides that continued after the main earthquake due to the frequent aftershocks; siltation of rivers and streams; damage to both natural and man-made water channels rendering them unusable for irrigation purposes; damage to the forest resources, essentially due to landslides and rock-falls; damage to agriculture land - especially that on the slopes - roads, water mills and fish farms; and finally, the huge amount of debris, the safe disposal of which poses a major environmental challenge.

Among the most serious risks is the danger of flash floods and more landslides; the pressure on dwindling natural resources, especially forests for fuel and shelter needs; health hazards due to poor sanitation and inadequate solid waste management practices in the relief camps; the dangers of heavy siltation in rivers feeding into the Mangla Dam and those of haphazard reconstruction. An important psycho-social risk, with far reaching socio-economic implications, is the danger of affected people becoming dependent on relief aid and lose their motivation for work.

The final section of the report assesses the environmental needs and suggests the way ahead. This includes interventions at the planning stage calling for proper land use and zoning plans; enforcement of updated building codes and guidelines (extended to the mountain hamlets); mainstreaming of multiple hazards and environmental risks into all development sectors, policies and procedures, especially to develop a comprehensive natural disaster risk management framework for mountain areas. There was also a need for collaboration between the government, civil society, private sector and the academia to design and implement such a framework.

Among the sector-wise interventions is the need for a coordinated effort for information and knowledge dissemination; technical assistance in camp management; optimal and environment-friendly ways and means for catering to the energy and construction requirements; restoration of livelihoods; rehabilitation of rural community infrastructure; sustainable forest management and environmental rehabilitation. Finally, the lessons learnt from the earthquake should inform the

² Earthquake in Pakistan: An Assessment of Environmental Risks and Needs, IUCN, January 16, 2006

approaches to rehabilitation and reconstruction. The earthquake, though devastating, has created unique opportunities for rebuilding and re-engineering of the social, economic, environmental and cultural fabrics and institutional arrangements for research, planning and service delivery in the affected areas.

4. Supporting Long-Term Recovery: IUCN's Strategic Response

A massive international and national effort has been mobilised to respond to the earthquake, involving a wide range of sectors, agencies and levels of scale. IUCN's long-term commitment to supporting this response is founded on the stated needs and demands to integrate ecosystem and livelihoods aspects into these recovery and reconstruction processes; the capacity to operate, influence and convene at global, regional, national and local levels; and the ability to draw on and work with IUCN's diverse network of government, NGO and private sector members, partners and scientific experts within Asia and beyond.

IUCN's response to assist with the post-earthquake recovery effort spans immediate, medium-term and long-term needs. Immediately after the earthquake, IUCN mobilised human and financial resources to carry out rapid assessments of biodiversity and ecosystem impacts, advise government and NGO partners engaged in the humanitarian effort, coordinate environmental inputs and information within broader planning processes, and engage in a global appeal for support. These efforts were carried out at global, regional and national levels.

However, as efforts move from short-term relief to medium and long-term recovery and rehabilitation, IUCN recognises the urgent and pressing need to establish long-term commitments to recovery efforts in the region. To these ends, a strategic response to post-earthquake recovery has been developed and is outlined below. This strategy is founded on the urgent need to integrate ecosystems and livelihoods aspects into the long-term reconstruction and recovery process, and responds to the multiple demands and requests that have been expressed to IUCN by government and other agencies who are working to address the situation created by the earthquake. It is based on IUCN's comparative advantage, including our demonstrated experience and credibility in dealing with ecosystems and livelihoods issues; our wide network of members, partners and scientific experts; our global, regional, country and field presence within Asia and elsewhere; and our ability to convene diverse stakeholders and to influence policy and practice at local, national, regional and global levels.

4.1 Guiding principles and cross-cutting approaches

The strategy is informed by a number of **guiding principles** that influence **what** the strategy intends to achieve:

- Recognition of the fundamental link between environmental health and ecosystem integrity on the one hand and future prospects for long-term recovery, sustainable socio-economic development, human security and wellbeing, and disaster preparedness on the other.
- The ultimate goal of effecting permanent and long-term improvements in the social, economic and environmental welfare of the affected populations.
- The use of adaptive management approaches in order to respond to future changes and risks in mountain areas, and to decrease both ecosystem and livelihood vulnerability. While recognising the immediate need to undertake certain urgent or priority actions with no further delay, precautionary approaches must guide the development of long-term activities that run the risk of causing irreversible harm to ecosystems and livelihoods.

- The key role of stakeholder participation in ecosystem management and recovery processes, and the aim of addressing the specific needs of the poorest and most vulnerable sectors of mountain communities.
- The need to take account of future changes in the political, physical and economic environment in mountain areas, the changing needs and aspirations of the people, and the likely impacts of human activities in this fragile ecosystem in the future.

IUCN will actively engage its wide network of members, partners and expert commissions in activities to support the earthquake recovery process, and to develop and foster the new partnerships and alliances that are required to undertake this successfully. This network will adopt **cross-cutting approaches** that address the two key issues of capacity and coordination and that guide **how** the strategy will be implemented:

4.1.1 Capacity

- Strengthening long-term capacity to deal with environmental issues and ecosystem concerns within the context of planning and implementing development.
- Responding to the multiple requests and needs expressed by national and provincial governments, NGOs and international agencies in both conservation and relief/development agencies, for assistance in environmental matters.

4.1.2 Coordination

- Promoting the generation and sharing of information, best practices and lessons learned between different sectors, agencies and localities in the earthquake-affected region.
- Closing the knowledge-policy-practice loop, and addressing the linkages and interactions between different levels of scale, so as to ensure that on-the-ground experiences are translated into tangible policy influence, and *vice versa*.

4.2 Defining an ecosystems and livelihoods approach in the context of post-earthquake recovery

The need to rebuild livelihoods and support basic socio-economic welfare and needs, especially for poorer and more vulnerable sectors, lies at the foundation of IUCN's efforts. This approach is founded on the fact that IUCN's core business, as reflected in its vision, mission and goals, is to influence and build capacity to strengthen both people's livelihoods and the diversity and integrity of the region's ecosystems. This requires a two-pronged approach which deals simultaneously with both human and environmental needs, and does not focus on one to the exclusion of the other.

The essence of IUCN's approach to supporting the post-earthquake recovery effort will thus be to work to maximise the positive influences of people's livelihoods on ecosystems, and ecosystems on people's livelihoods. At the heart of this approach lies a concern with the poorest groups in society, especially on minimising the negative impacts of conservation on the poor and on reducing the incidence of poverty through sustainable and equitable ecosystem conservation and use. This means integrating environmental and ecosystem concerns into all aspects of the post-earthquake reconstruction and recovery process, at all levels of scale.

4.3 IUCN's niche and role in the recovery process

Although IUCN is not a disaster relief or humanitarian assistance organisation, it has, nevertheless, played an important role in assisting national governments and NGOs as well as international aid agencies in the relief operations that were required in the immediate aftermath of the earthquake. Wherever possible, IUCN has worked through organisations which have specialist expertise and experience in humanitarian relief issues, and as a result has formed new partnerships and alliances which will prove vital in future efforts to support environmental aspects of the post-earthquake recovery process.

The focus has now shifted from immediate relief to planning for the future efforts and resources are now being mobilised to deal with medium and long-term aspects of post-earthquake reconstruction. At this point IUCN's core technical areas of expertise relating to strengthening *knowledge*, *empowerment* and *governance* in ecosystem conservation and sustainable livelihoods are particularly relevant. Within the context of post-earthquake recovery and reconstruction, and in collaboration with the partners identified above, IUCN will therefore focus on the following core technical areas:

4.3.1 Knowledge of ecosystems and livelihoods

- ***Assessing damage to ecosystems, biodiversity and livelihoods*** that has arisen as a result of the earthquake, so as to prioritise responses and plan for future needs and activities.
- ***Identifying, assessing, monitoring and mitigating environmental impacts*** of the reconstruction process itself, including aspects relating to effects on natural ecosystems and environmental integrity.
- ***Developing long-term systems for monitoring ecosystem and livelihood impacts*** of the earthquake, of reconstruction processes, and of subsequent settlement and livelihood activities.

4.3.2 Empowerment through capacity building and information sharing

- ***Providing environment-related technical support and capacity-building*** to the various agencies and sectors that are involved in post-earthquake reconstruction, including assistance in the planning and implementation of rehabilitation and restoration operations, and in planning and operationalizing key environmental policies and legislation.
- ***Coordinating and facilitating environmental inputs and information-sharing*** among the different sectors and agencies that are involved in post-earthquake reconstruction.

4.3.3 Better governance through sustainable recovery and reconstruction

- ***Providing guidance in greening the reconstruction process***, including promoting environmental technologies and practices in both the restoration and long-term development of infrastructure and sustainable livelihood activities.
- ***Offering policy support***, including working to build awareness of current policies and regulations relating to environmental aspects of coastal zone management and development, and assisting in addressing gaps and needs in policy and legal frameworks.
- ***Planning and implementing ecosystem conservation and sustainable livelihood***

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- **Undertaking development activities** in the communities and areas that have been affected by the earthquake.

IUCN has been working on post-earthquake recovery almost since it struck. Assessments, reports and guidance documents that are currently available relating to elements of this strategy can be obtained from the website of IUCN Pakistan at: www.iucnp.org/

IUCN is headquartered in Switzerland and operates regional and country programmes in most parts of the world. IUCN maintains its national and local-level programmes and projects through an extensive network of national and international members, partners and scientific experts. Within the context of post-earthquake recovery and reconstruction, IUCN will draw on its long history of engagement at global, regional, national and local levels and its extensive networks of members, partners and scientific experts to focus on the following geographical areas.

- **As a global membership union, IUCN has the ability to work and interact with a wide range of actors and agencies, and to influence global policy and practice**, and will therefore play an important role in mobilising international support and assistance to global, regional, national and local-level processes of post-earthquake recovery.
- **As a regional institution, IUCN has both the mandate and the experience to act at a regional level**, and can play a key role in facilitating dialogue, exchange and information sharing, as well as in developing region-wide responses and future planning. One key example would be to learn from its recent post-tsunami recovery experiences in Sri Lanka and Thailand.
- **As a national institution, IUCN has a well-developed country programme in Pakistan, a longstanding presence and history of activities**. Most of the activities will be implemented through IUCN's Country Programme in Pakistan.

4.4 Implementation and partnerships

IUCN's strength lies in its diverse network of members, partners and scientific experts. This enables us to work, exert influence and convene stakeholders at many different levels of scale, from the global to the local, and with many different agencies and sectors, including governments, non-governmental organizations and private sector companies.

IUCN is a global conservation union comprising more than 1,000 States, government agencies and non-governmental organizations from 140 countries. It also includes more than 10,000 scientists and experts operating as part of volunteer commissions and networks in key environmental areas.

In Asia, IUCN operates at both the regional and country levels, and includes more than 140 members and 1,800 commission experts. With more than 200 technical staff working in the Asia Region, IUCN has regional thematic programmes in biodiversity, environmental assessment, environmental economics, environmental law, forests, marine and coastal, species, water and wetlands, and offices in 12 countries.

Implementation of post-earthquake recovery activities would draw upon the expertise of IUCN's global programme and its regional and country technical programmes around the Indian Ocean, as well as on IUCN's national, regional and global members, commissions, expert networks and partners. IUCN member organizations include a wide range of government and non-government agencies in different countries and at different levels of scale. Members of IUCN's expert commission networks, including the Commission on Ecosystem Management, the World Commission on Protected Areas, the Environmental Law Commission and the

Commission on Environmental, Economic and Social Policy, will provide key support and technical assistance to post-earthquake recovery processes.

As a result of the earthquake, IUCN has already established partnerships and alliances with a wide range of new partners and agencies working in relief, rehabilitation and infrastructure development. These new partners are drawn from national and international NGOs, government agencies, bilateral and multilateral donors, research institutes, universities and the private sector. It is envisaged that these new partnerships and ways of working will be critical to IUCN's efforts in supporting post-earthquake recovery and rehabilitation processes. IUCN is committed to joining the global community in ensuring that recovery from the earthquake is successful – both in terms of human welfare and environmental rehabilitation. The two aspects are mutually dependent. IUCN's experience, membership and convening power are unique and provide the basis for an important contribution in linking the needs of both people and the environment to ensure a better future for all.

Annex: Highlights of IUCN's Earthquake Response (up to January 2006)

Initial Relief Measures

- IUCN's **Pakistan Earthquake Relief Fund** was immediately instituted with donations coming from all over the global Union, especially its Asia Region.
- Many staff wanted to do volunteer relief work and they were encouraged to do so.
- Rs.300,000 (US\$ 5,000) was donated from an existing SDC funded project funds for medicines and lighting equipment to *Sungi*, an IUCN member.
- The Pakistan National Committee of IUCN was mobilized to coordinate relief work among the members. Some of IUCN members, especially *Sungi*, *SPO*, and *SRSP*, were in the forefront of relief initiatives by civil society. Their role was acknowledged by the Government of Pakistan with *Sungi* being asked to make the presentation on behalf of Pakistan's civil society to the International Donor Conference on Earthquake Relief and Rehabilitation.

Preliminary Assessments by IUCN

- An Organization Level Assessment (OLA) of the environmental damage was carried out with CARE and WWF, followed by a Community Level Assessment (CLA), conducted in field with CARE.
- A Field Mission to NWFP and AJK was carried out between October 16-18, 2005 which resulted in:
 1. **Alert Bulletin 1**
 - Jointly released with CARE and WWF, it highlights the post-disaster hazards and risks due to aftershocks, landslides and debris; and cautions against poor sanitation conditions and pressure on forests for fuel and shelter needs.
 - Was widely circulated – both among relief administrators and the general public - and got prominent coverage in the national media.
 2. **Preliminary Environmental Assessment Report**
 - Makes a preliminary assessment of the damage and lists potential environmental risks; suggests short and medium term initiatives; and recommends specific IUCN interventions.
 - Circulated among all relevant quarters and was used as a reference by relief agencies. Also reported in the media.

Coordination and Advocacy

An **Earthquake Team** comprising of staff from various offices, covering the whole range of relevant experience and required skills was put in place. This team was given the collective responsibility for substantive, effective and timely response from IUCN.

- Extensive discussions with several key organizations - government, donors, UN and international relief agencies – were undertaken to ensure environmental concerns were integrated into the relief work and reconstruction and rehabilitation plans. These included Federal Relief Commission, Ministry of Environment, UNOCHA, UNEP, CARE, and WB Forum for Donors on Environment.

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- Participated in the International Donors Conference on November 19, 2005, with IUCN representatives highlighting the environmental aspects of relief, rehabilitation and reconstruction in different working groups.
 - A national **Roundtable on the impacts of earthquake on people and ecosystems** was jointly organized by the Pakistan National Committee and IUCN Pakistan Programme on November 28. It was actively participated by representatives of the government and its relief agencies, civil society organizations, academia and media. The key recommendations from the Roundtable were:
 1. Develop a seismic map of Pakistan and AJK (Pakistan Administered Kashmir) delineating zones with associated risks.
 2. Develop and enforce building codes for earthquake prone areas and make use of state-of-the-art (but reasonably priced) technologies for seismically resistant structures.
 3. Make use of IT and GIS-based systems for hazard, vulnerability and risk assessments (in disaster prone areas) and information dissemination for coordination and management.
 4. Urgently develop a land use policy and strictly implement Land Zoning Plans.
 5. Civil society organizations be made part of rehabilitation process at all levels.
 6. Cash for work programmes be instituted for affected population especially for debris removal and recycling of waste.
 7. Make special efforts for income generating activities for women and disabled youth in the affected areas.
 8. To the extent possible, funds be channelled through community organizations in the affected areas.
 9. Community based disaster preparedness and management programmes be instituted.

More Recent and Ongoing Initiatives

- A **multi-media slide show** on the devastation of the earthquake, with IUCN and IUCN members role in its aftermath was produced along with a power point presentation on IUCN's strategy for post-earthquake recovery.
- Following on its preliminary field mission, IUCN carried out two field missions in selected districts of NWFP and AJK, in the affected areas, to have a more detailed **assessment of environmental risks and needs**. The methodology during these field missions - November 19-26 to NWFP and December 4-7, 2005 to AJK - was based on visits to the affected areas and communities; observation of the environmental damages; meetings and consultations with affected communities as well administrators and aid agencies; and finally, a review and analysis of the findings, including the compilation of a pre-quake environmental overview of the visited areas. These visits resulted in:
 1. **Alert Bulletin 2**
 - Joint release with CARE and WWF the 2nd bulletin, it highlights the post-disaster hazards and risks of flash floods and more landslides; the pressure on dwindling natural resources, especially forests for fuel and shelter needs; health hazards due to poor sanitation and inadequate solid waste management practices in the relief camps; the dangers of heavy siltation in rivers feeding into the Mangla Dam and those of haphazard reconstruction.
 - Was again widely circulated among the targeted audience (including general public) and received prominent coverage in the national media.
 2. **Environmental Risks and Needs Assessment Report**
 - Makes a qualitative assessment of the whole gamut of environmental risks ranking them – wherever possible - in terms of their severity and the proportion of population that might be affected.

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- Also assesses the environmental needs and suggests the way ahead. This includes interventions at the planning stage calling for proper land use and zoning plans; enforcement of updated building codes and guidelines (extended to the mountain hamlets); mainstreaming of multiple hazards and environmental risks into all development sectors, policies and procedures, especially to develop a comprehensive natural disaster risk management framework for mountain areas. There was also a need for collaboration between the government, civil society, private sector and the academia to design and implement such a framework.
 - Among the sector-wise interventions that it emphasizes is the need for a coordinated effort for information and knowledge dissemination; technical assistance in camp management; optimal and environment-friendly ways and means for catering to the energy and construction requirements; restoration of livelihoods; rehabilitation of rural community infrastructure; sustainable forest management and environmental rehabilitation. Finally, the lessons learnt from the earthquake should inform the approaches to rehabilitation and reconstruction.
 - Being circulated to all the relevant partners and potential users.

Among the ongoing initiatives are:

- A study on earthquake affected women and children.
- A video documentary on environmental aspects of the earthquake
- Preparing environmentally sound guidelines on various aspects of relief and reconstruction work (some of these have already been prepared and would be published).
- Coordination of information on different organizations and their work in environmental aspect of relief and reconstruction. An earthquake **Information Resource Centre** has been set up in the Islamabad Office and an overall **communication strategy** is being formulated.
- Preparation of project proposals focused on restoration of ecosystems and livelihoods in affected areas.



The World Conservation Union (IUCN)

Created in 1948, the World Conservation Union (IUCN) brings together 82 States, 112 government agencies, 850 plus NGOs, some 10,000 scientists and experts from over 180 countries in a unique worldwide partnership. IUCN's mission is to influence, encourage and assist societies throughout the world to conserve the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

IUCN is the world's largest environmental knowledge network and has helped over 75 countries to prepare and implement national conservation and biodiversity strategies. IUCN is a multi-cultural, multilingual organization with some 1000 staff located in 62 countries. Its headquarters are in Gland, Switzerland.

IUCN Pakistan has five programme offices in cities from the north to the south, multiple field offices and a large portfolio of projects. It is one of the 9 Country Programmes of IUCN's Asia Region, covering 23 countries with a workforce of nearly 500.

<http://www.iucn.org>

IUCN Pakistan

Country Office:

1 Bath Island Road, Karachi 75530.

Sindh Programme Office:

Parin Lodge, Flat No. 2, Bath Island Road, Karachi.

Islamabad Programme Office:

House 38, Street 86, Main Embassy Road, Sector G-6/3, Islamabad.

Sarhad Programme Office:

House 109, Street 2, Defence Officers Colony, Peshawar.

Balochistan Programme Office:

Marker Cottage, Zarghoon Road, Quetta.

Northern Areas Programme Office:

Alpine Complex, Jutial Road, Gilgit.