

TREAT THE EARTH WELL

The area affected by the 2005 earthquake covers approximately 30,000 sq km of upper mountain catchments of the Indus River and its major tributaries, including the Neelum, Jhelum and Kunhar Rivers. The earthquake had a severe impact on the environment of the region.

A massive amount of waste was produced from damaged buildings, infrastructure with additional human waste from villages and temporary settlements. Pressure on already scarce natural resources was increased, which included deforestation, soil erosion, slope destabilization and water contamination. In addition, the lower catchment area was further affected.

VISION:

TO protect natural resources, prevent environmental degradation, restore damages, arrange safe disposal of debris, and to establish principles and practices for environment friendly rehabilitation and reconstruction in the Earthquake Affected Areas with sustainable use of resources.

OBJECTIVES:

To preserve, protect and enhance the environment that we possess.

ROLE:

ERRA responded to the urgent need for managing the environmental issues arising from the earthquake by producing a comprehensive environment strategy. The strategy emphasized on:

- An early recovery program, encompassing development of

an appropriate waste disposal system, and alternative sources of energy for mountain populations.

Physical Environmental Challenges

- Land sharing
 - Liquification & slides
 - Siltation of rivers & streams
 - Water channels
 - Forest resources due to landslides & rock-falls
 - Agriculture land, road, water, buildings
 - Removal of debris
 - Flash floods & landslides
 - Pressure on forests
- Natural Resource Management (NRM), focusing on reforestation, nurseries and plantation, agro-forestry via community participation, watershed management, and slope stabilization. A number of awareness programs/capacity building of line departments was also undertaken. Further, a waste recycling project was initiated, including the salvaging of building materials from the rubble, watershed vulnerability mapping, water quality monitoring, and slope stabilization in watershed areas including reforestation.
 - A long term plan to recycle rubble was also incorporated in the NRM.
 - Environment Recovery Program, a joint venture of ERRA and UNDP included: solid waste management; debris recycling; soil stabilization; natural resource management and capacity strengthening.

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- Environmental safeguards, involving a checklist that has been introduced and made part of all the reconstruction projects.
- Reconstruction of Infrastructure, involving IEE (Initial Environment Examination/EIA(Environmental Impact Assessments) as one of the effective planning & management tool used to ensure environmental friendly reconstruction in the earthquake affected areas. An impact assessment provides a structured way of looking ahead through out all the stages of project development from the identification stage to designing, construction and operation
- Cross Cutting Linkages, which include assessments for World Bank's rural housing program and compliances of environment management plan of ADB funded mega-road projects.
- Repair and Reconstruction, which included repair and reconstruction of forest buildings, wildlife and fisheries buildings.
- Hazardous Land Policy: Geological Survey of Pakistan (GSP) has been given the task to carry out a comprehensive survey on hazardous land of affected area. ERRA has developed the following categories of hazardous land: High Hazardous Zone; Moderate Hazard Zone; Low Hazard Zone.

Interventions

ERRA and other Partner Organizations have designed efficient, holistic and

coordinated interventions; pooling resources; and preventing replication of activities.

Biological & Socio-Economic Environmental Challenges

- Wildlife & biodiversity
- National parks
- Natural resources
- Heavy reconstruction impact
- Dumping of debris
- Loss to the agricultural lands

Programme interventions

The following targeted interventions have been addressed in the early recovery phase. These have helped in enhancing longer-term reconstruction efforts to reduce the environmental impacts on livelihoods, human health and the environment.

Immediate interventions:

- Disposal of waste and debris from damaged buildings and other infrastructure;
- Disposal of solid and human waste from villages and other temporary settlements;
- Disposal of medical waste;
- Disposal of other hazardous materials.

Immediate to medium-term interventions

- Prevention of vegetation removal for construction, cooking and heating;
- Slope stabilization;

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- Prevention of water contamination and lake outbursts;
- Prevention of impacts on critical habitats and protected areas.

On-going Projects:

- Four agro-forestry projects in earthquake affected areas of NWFP and AJK through community participation with a cost of US \$ 7.13 million and US \$ 3.28 million respectively.
- Restoration of community based forestry production within earthquake affected areas (US \$ 2.6 million), Afforestation in Gari Habibullah (US \$ 1.15 million).
- Reconstruction of forest buildings in Galis Forest division and in Agror Tanawal Forest Division
- Restoration of Community-based Forestry Production within Earthquake-affected Areas by FAO (US \$ 2.6 million).
- Environmental Recovery Programme of US \$ 12.8 Million has been launched in the earthquake affected areas and project have been prepared for four integrated watershed management i.e. Kanshian watershed (Mansehra), Ghanool watershed (Mansehra), Kirli Lake watershed (Muzaffarabad) and Sudhan watershed management(Bagh) with 52 slopes stabilization, livelihood and natural resource management having component of substituting alternatives to meet energy demand, vulnerability assessment and mapping, slope stabilization measures, capacity building and integrated forestry and livelihood.
- CWS project of amount US \$1.09 million District Manshera in 25 villages
- WFP project in Manshera and Abbottabad
- FAO Project for EQAA under SIDA funding.
- Save the Children USA project through SDF in Allai.
- Environmental Awareness Programme by Care-Int.
- UNDP environmental recovery programme by US \$ 12 million approved and under implementation.
- Removal of Debris From Muzaffarabad City Rs.406.266 million.
- Removal of Debris From Bagh Town Rs. 92.98 million.
- Rubble Removal Project of Rs. 409.26 Million is on going with total release of Rs. 184 Million. Rubble recycling Plant donated by BBRI has been installed in Muzaffarabad. Five members team have been trained in the United Kingdom for operation of the plant and further training will be conducted during installation of the plant. Another project of amount Rs. 92 Million is under approval for district Bagh, AJK.
- Recycling of Rubble in Earthquake affected areas with community mobilization and participation have been completed with total cost of US \$ 2.36 Million. The project of

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Rubble Removal of damaged Govt. Buildings with total cost of US \$ 5.0 million and distribution of heating and cooking energy project with a cost of US \$ 5.3 million have also been completed.

Area wise distribution of projects

