

Environmental Management and Disaster Reduction



Session Concept Paper
UNEP Thematic Session on:
"Environmental Management and Disaster Reduction: Building a Multi-Stakeholder Partnership"
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As the horrors of the Indian Ocean tsunami of December 2004 continue to unfold, and people in the region slowly attempt to build a semblance of normalcy, we have to look to the future as an opportunity to renew our commitment to broad-based and long-term disaster preparedness.

This commitment will have to particularly focus on making knowledge more relevant at the local level, and in making communities and ordinary people carry out their everyday lives in a sustainable manner.

The world is facing an increasing frequency and intensity of disasters – natural and man-made – that has had devastating impacts. As reported by the secretariat of the International Strategy for Disaster Reduction (ISDR), the last ten years have seen 478,100 people killed, more than 2.5 billion people affected and about US\$ 690 billion in economic losses. Disasters triggered by hydro-meteorological hazards amounted for 97 percent of the total people affected by disasters, and 60 percent of the total economic losses.

The November 2004 typhoons in the Philippines claimed over 1,000 lives and devastated the livelihoods of many more. The recent Indian Ocean Tsunami was even more destructive: more than 150,000 lives were lost.



Effects of disasters on natural resources

The greater tragedy is that many of the losses due to disasters could have been averted. Logging, both legal and illegal, contributed to the incidence of flooding and landslides; but this is only the most recent evidence of the importance of wise environmental management for disaster risk reduction.

Around the globe, land use and land cover changes are eroding the natural buffers that protect communities from hazard risk. These same changes often erode people's capacity to recover from disaster. Other environmental changes, such as anthropogenic global warming, promise to create new challenges to

the security and sustainability of communities around the world. There are, however, opportunities to reduce disaster risk, and enhance community resilience.

The impacts of disasters, whether natural or man-made, not only have human dimensions, but environmental ones as well. Environmental conditions may exacerbate the impact of a disaster, and *vice versa*, disasters have an impact on the environment.



Effective management of debris and rubble is a critical environmental need in the follow-up to a disaster

Deforestation, forest management practices, agriculture systems etc. can exacerbate the negative environmental impacts of a storm or typhoon, leading to landslides, flooding, silting and ground/surface water contamination – as illustrated by the 2004 hurricane and storm tragedies in Haiti, and in the Philippines.

The high volume of wastes from disasters, from households and debris from forests and rivers, also constitute a major concern for proper disposal. A study conducted by Japan's Ministry of Environment also showed that air pollution from urban and industrial sources has led to increased acid rain by hurricanes and typhoons.

We have only now come to realize that taking care of our natural resources and managing them wisely not only assures that future generations will be able to live

sustainably, but also reduces the risks that natural and man-made hazards pose to people living today. Emphasizing and reinforcing the centrality of environmental concerns in disaster management has become a critical priority, requiring the sound management of natural resources as a tool to prevent



Wide-spread destruction as a result of the Indian Ocean Tsunami in December 2004

disasters or lessen their impacts on people, their homes and livelihoods.

Meteorological and hydrological events, such as typhoons, are hazards that cause heavy rain, high wind and sea surges. But the real damage also happens due to the vulnerability of the people who lie in its path. Post-disaster assessment of hurricanes and typhoons have clearly illustrated that, along with disaster preparedness, proper management of the environment – its air, land, water, forests, and wastes, go a long way in reducing the risks and vulnerabilities associated with typhoons.

Environmental degradation combined with human activities are at the origin of numerous catastrophes such as flooding, desertification, fires, as well as technological disasters and transport accidents.

"Around the world, a growing share of the devastation triggered by 'natural' disasters stems from ecologically destructive practices and from putting ourselves in harm's way. Many ecosystems have been frayed to the point where they are no longer able to withstand natural disturbances ... Although the inherent links between disaster reduction and environmental

management are recognized, little research and policy work has been undertaken on the subject. The concept of using environmental tools for disaster reduction has not yet been widely applied by many practitioners." (ISDR).

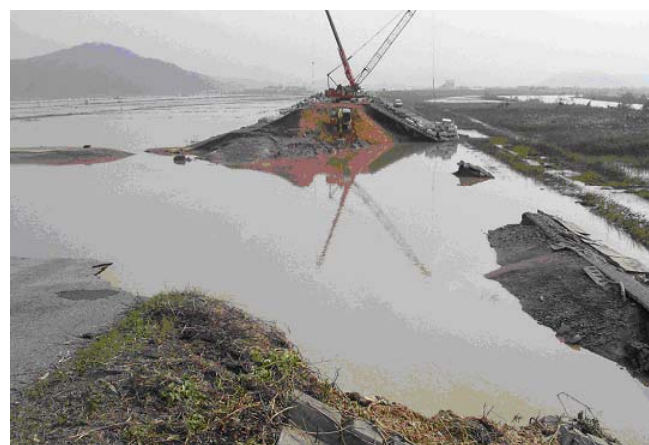
“ *There is a clear need to reinforce the importance of environmental concerns in the entire disaster management cycle of prevention, preparedness, assessment, mitigation and response and to integrate environmental concerns into planning for relief, rehabilitation, reconstruction and development. This will also require the enhancement of capacities to undertake short and medium-term activities in disaster management based on long-term environmental considerations.*

Klaus Toepfer
Executive Director, UNEP



Comprehensive understanding of natural systems coupled with the application of management tools such as environmental evaluation and risk assessment can make a major contribution to a reduction of risks and mitigation of any impacts. An important aspect is the involvement of a broader range of partners in such a process, and to fully engage the resources and interests of the private sector in prevention and mitigation. Business leadership of 'prevention' actions in civil society and industry needs to occur as a complement to government policies and institutional arrangements. Such an approach relies on industry codes and standards as a supplement to regulations, thus achieving enhanced reduction of civil society's vulnerability to potential disasters.

There is a need to highlight the role that comprehensive environmental management can play in reducing the risk of disasters, and to mitigate the consequences if they should nevertheless occur – both



Dyke breaks: Flooding increases disaster vulnerability

on human lives and on the broader ecology. We also need to explore the link between environmental systems and disasters, and also the synergies between man-made and natural disasters.

Specifically, we need to examine the need for a multi-stakeholder partnership that links local governments, private sector entities, and civil society organizations in order to facilitate more effective disaster prevention and mitigation. We need to compare successful partnership models between corporations, communities and the government, examining the way entities prepare for disasters themselves, as well as the need to be part of a larger partnership that strengthens local communities' ability to prevent, mitigate and recover from disasters.



Good practices in environmental management will go a long way in reducing our vulnerability to natural and human-induced disasters.

Much work needs to be done in facilitating a sustained dialogue between different decision makers in the fields of both disaster and environment at global, regional and national levels. This dialogue will stem from raising greater awareness of the interface between disaster risk and environmental change, and identifying gaps in the understanding of critical hazards and risks at the local level. The dialogue will have to lead to new approaches in managing risk, and the environment, at the same time.

UNEP's special mandates, to assess global environmental conditions in order to identify potential environmental problems and new ways to address the complex effects of environmental change on sustainable development, require UNEP to pay

particular attention to the broad causes and effects of disasters. A fundamental part of the global work of the United Nations Environment Programme is to strengthen the capacities of developing countries and countries in economic transition to deal with environmental emergencies. Decisions by the Governing Council of UNEP in 1997, 1999 and 2001 have solidly enhanced and refined UNEP's mandate in respect of emergency prevention, preparedness, assessment, mitigation and response, and strengthened the need for UNEP to transfer know-how on environmental emergencies. In accordance with the Governing Council decisions and the UNEP Strategic Framework on Environmental Emergencies, UNEP's global work to reduce environmental risks of disasters, focuses on collecting information and experiences on many areas of environmental disaster management and studies and manuals have been produced.

UNEP's work in the field has shown that the increasing frequency and severity of man-made and natural disasters may well be changing the global environment. All of these threats to the environment have been apparent in recent disasters. UNEP's response to disasters is based on the premise that disasters affect the environment when they have direct or indirect effects on ecology and human settlements that last far beyond the scope of immediate humanitarian response. Changing ecological conditions can provoke emergencies by placing concurrent stresses on the environment. Mitigating the effects of disasters are primary components in global efforts to ensure environmental security.

It is clear that further coordination and cooperation on environmental matters depends on UNEP's ability to set an environmental agenda for disaster management. In particular, UNEP's strategy on disasters can help the United Nations to pay attention to the environmental conditions that lead to disasters, and to natural resource management for disaster prevention and reduction.

There is a clear need to reinforce the importance of environmental concerns in the entire disaster management cycle of prevention, preparedness, assessment, mitigation and response and to integrate environmental concerns into planning for relief, rehabilitation, reconstruction and development. This will also require the enhancement of capacities to undertake short and medium-term activities in disaster management based on long-term environmental considerations.

For further information on the disaster management activities of UNEP, including UNEP's response to the 2004 Indian Ocean Tsunami, please see <http://www.unep.org/>

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