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In this Issue

Opportunities and Challenges in Risk Resilient Recovery

Cultural Considerations for Post-Tsunami Recovery

Incorporating Disaster Risk Reduction into Recovery in Bangladesh

Expectations from the International Recovery Platform

ADPC Programs and Activities: *Highlights*



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Asian Disaster Preparedness Center

Opportunities and Challenges in Risk Resilient Recovery

In the post-disaster context, following the initial shock of the disaster, returning lives and livelihoods to normalcy becomes a primary concern of the affected communities and nations. Traditionally, this has been known as recovery phase, where “normalcy” referred to a situation prior to the disaster event. Recent definitions of recovery takes this process further, with a view to restoring and improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk (*UN-ISDR: living with risk, 2002*).

Often, in the case of large-scale disasters, there are tremendous pressures of time to return to “business-as-usual”. This poses extraordinary challenges to professionals working in the field, namely development planners, builders, financiers, disaster risk managers and community representatives. Unfortunately, more often than not the choice to rebuild quickly is made, albeit to a lower standard, in order to cater to large numbers of people for the same cost. Quoting a dialogue between a development planner and a disaster manager in Haiti, December 2000, “We are rich enough to build it twice, but not rich enough to build it right”, clearly emphasizes the need for risk resilient recovery processes, so that the shelter and infrastructure thus created, are safe for use in the event of future disasters.

“We are rich enough to build it twice, but not rich enough to build it right.”

Rehabilitation is the timeframe for implementation. There are invariably delays in formulating the policies for R&R due to the varying nature of each disaster, and complex human needs. Additional confusion is created by myths that are generated after the disaster due to limited public and media awareness.

- **Transfer of responsibility from Response to R&R.** Smooth transition between the post-disaster stages from response to recovery is required. While response phase is likely to be primarily driven by the government, in the recovery phase the government should assume the role of a facilitator and gradually capacitate the community and NGOs to undertake action.

Opportunities and Challenges in Recovery

Post-disaster recovery presents great opportunities for introducing vulnerability reduction and hazard mitigation measures, which can create more risk resilient communities and nations. It has been observed that several countries have utilized the momentum generated by post-disaster situations for reforming their institutional setup for addressing disaster risk management. An example of this is, the Gujarat State Disaster Management Authority in Gujarat, India, established after the 2001 Gujarat Earthquake and more recently Task Force for Rebuilding the Nation (TAFREN) in Sri Lanka. It is important to identify and understand the key beneficiaries of the recovery effort, their needs, capacities and available resources, as well as the economic and financial impacts of the same on the local and national economy.

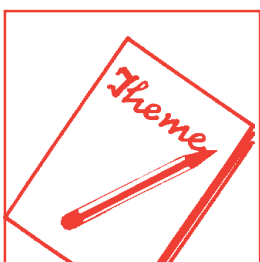
Theme . . .

- **Human factors in Recovery and Rehabilitation (R&R).** This is a key factor in R&R, given the complex and varying human needs and vulnerabilities depending on socio-economic context.
- **Problem areas in R&R.** One of the key concerns or challenges in Recovery and

Recovery and Rehabilitation Policy

Local level and National Disaster Management Plans, which currently address primarily the issue of preparedness for emergency response, need to integrate recovery concerns for guiding formulation of a recovery and rehabilitation policy. They should include baseline data on physical, social, economic and environmental context, so that immediately after the disaster an assessment of relative impact may be made, which will guide the identification of additional financial, material and human resources required for catalyzing recovery. Post-disaster recovery needs must also be integrated into the response-planning framework. An analysis of impacts of past disasters over the long-term, is also essential in guiding the planning process for recovery in terms of identifying priority sectors for economic intervention, which have traditionally been more vulnerable.

The national DM plans must therefore provide enough information for guiding the recovery and rehabilitation policy after a disaster that is responsive to the community needs and local context. The recovery process must extend across all affected sectors, such as shelter, infrastructure, economic and social development. Policies in relation to R&R need to recognize the prime responsibility of govern-



ments to facilitate, at the national and local level, to direct and allocate resources to disaster rehabilitation and recovery. The policy needs to:

- State the main measures involved in recovery and rehabilitation,
- Include a shared long-term vision for the affected community,
- Clarify responsibilities for the implementation of the policy and R&R program for individual departments, agencies, and the affected population,
- Encourage and enhance the possibility of locally based efforts at R&R,
- Build local capacity for sustainable economic, social, and physical development long after the disaster,
- Undertake to involve all relevant stakeholders in the process, namely communities, private and public sector, NGOs, media, etc.,
- Prioritize community recovery needs and services,
- Provide guidance on possible options for integrating mitigation and preparedness measures into recovery and rehabilitation , and
- Incorporate a detailed plan of action, including an exit strategy for gradually reducing intervention in recovery.

ADPC Initiatives in Recovery

ADPC's interventions in the recovery program support are aimed at advocating the need for integrating disaster risk reduction measures in the design and implementation of recovery programs to enhance resilience of the affected communities in future disaster. In this regard, ADPC, as a regional resource center continues to provide technical assistance to the governmental recovery institutions, UN agencies, NGOs, private sector and donor organizations. Since immediately after the disaster in December 2004, ADPC has been involved in assessments and providing support to the recovery processes in several of the affected countries, working with governments, planning and recovery agencies, taskforces and authorities, UN Agencies, bilateral donors, and the World Bank and ADB.

ADPC has been involved in conducting assessment of damage and recovery needs in several of the affected countries. Specifically:

- In **Maldives** and in **Indonesia**, ADPC members worked with UNDP towards determining recovery needs in the area of disaster risk management, as part of the wider joint IFI-UN system assessment;
- In **Sri Lanka**, ADPC conducted an independent assessment of recovery needs (with emphasis on reconstruction) in collaboration with National Building Research Organization in January;
- Through UNDP, ADPC extended support for the design of a joint IFI-UN System-Government of Sri Lanka workshop for the second phase of district level planning for recovery in **Sri Lanka** and presented key considerations in recovery planning & design. ADPC upon the invitation of the Sri Lankan Government conducted a needs assessment for the design of the national early warning system.
- In **Thailand**, ADPC has been working closely with the government to meet the region's needs of establishing and strengthening its Early Warning System using an end-to-end multi-hazard approach, and in the planning of the country's recovery.

ADPC has also initiated a World Bank funded study, on Regional Analysis of Socio-Economic Impacts of the Tsunami, using the ECLAC methodology for estimation of socio-economic and environmental impacts. This is expected to provide useful insights into financial risk transfer mechanisms for recovery.

Post-disaster recovery is a critical stage in the disaster management cycle, where mitigation and risk reduction, if effectively integrated, can lead to safer and sustainable communities. This will make them resilient in the face of future disasters and will also lead them towards unobstructed economic growth and sustainable development.

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Incorporating Disaster Risk Reduction into Recovery: UNDP, Bangladesh Experience

Every year Bangladesh faces a number of calamities from cyclones, floods and other natural hazards. Although the impacts from these hazards in terms of loss of lives have considerably been reduced over the years, the threats on economic losses continue to loom. It has therefore become imperative to incorporate elements of risk reduction into every development activity, including the response and recovery phase.



The UNDP, along with the Government of Bangladesh, and the Department for International Development - DFID (UK) launched the "Comprehensive Disaster Management Program", in 2003, which marked a shift in paradigm by introducing disaster risk reduction into its programs and activities. This was demonstrated in the post disaster assistance during the series of floods that affected Bangladesh from July to September, 2004.

Risk Reduction during Emergency Phase

During the 2004 floods, risk reduction was initiated right at the relief and response phase itself. Along with providing basic needs such as water and sanitation, health care, clothing and other household essentials; crop seeds were distributed among 36,835 families, vegetable seeds among 226,199 families and seeding among 7,647 families, under its non-humanitarian food program. The objective was to ensure that the farmers did not lose the crop season, which in turn would have affected food security and increased poverty among sections of population already poverty stricken. Apart from the non-humanitarian food program other assistance included; provision of materials for repairing houses to a total of 36,012 households, paying the board fees for 1000 female students, enabling them to sit for the Secondary School Certificate Examination, thereby ensuring the continuity of their education and avoiding the threat of an early marriage.

Risk Reduction during Recovery Phase

Assistance in the recovery phase was two-fold; construction of houses for those whose houses were washed away during the floods and cash for work (CFW) to help the economic recovery. Both the projects under the recovery phase introduced a number of long-term risk reduction initiatives.

Flood resistant construction was employed while designing these new houses. This included simple and cost effective methodologies, such as: stabilizing the earthen plinth with cement additive capping, making them resistant to erosion,

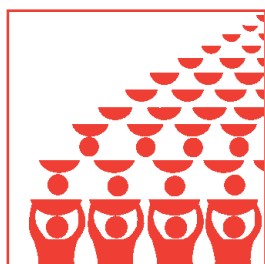
building concrete footing, locally known as "kaatla", to protect the bottom of the bamboo poles by raising them above the plinth level, making it long-lasting. In addition to the traditional methods of seasoning, the bamboos used in these new dwellings were further treated with local sump oil, kerosene and bitumen, thus making them more durable. Rainwater gutters made of spilt PVC pipes were used to prevent dampening of the lower parts of the house. They also help to collect rainwater providing an alternate source of arsenic free water. The houses were relatively cheap and affordable to maintain. Local material and craftsmanship was used and had a demonstration value, as was evident by neighbors visiting to observe the construction work. Women were employed in the construction giving them a sense of ownership.

The Cash for Work (CFW) project provided employment opportunities for a total of 87,234 flood affected people, enabling them to rebuild their lives. It also helped to mitigate the adverse impacts of future floods on the poor, by rebuilding the community facilities. This included - building of embankments, re-excavation of canals and ponds, raising of mounds, community places, homesteads, market places, flood shelters, harvesting grounds etc above the high flood level, through turfing and compaction in 500 unions of 24 hard-hit districts. Due to this embankment, about 185 metric tons of paddy was saved from the flash floods in early April. Women are said to have benefited most from the CWF project.

The projects are currently being implemented in partnership with several international, national and local NGOs, along with the local elected bodies, disaster management committees and local administration, and with the effective participation of community people. The project is progressing through intensive consultation and knowledge sharing between UNDP and the partner NGOs for efficient, effective and transparent management, coordination, implementation, monitoring and reporting processes. "Therapeutic recovery" is a unique aspect of this recovery program, as the affected community fully participated in rebuilding their community, fast-tracking their recovery. The CFW program also bolstered the economy of the rural people. Local markets also benefited as materials for construction was bought locally. Local masons also found employment. The involvement of the local partner NGOs is ensuring long-term benefits of the project.

Although the UNDP approach of incorporating disaster risk reduction into recovery has been unique and has been well accepted by the partner NGOs and the communities, it posed a big

From the grassroots



challenge to properly translate the plan into action. UNDP had difficulty in introducing the concept of risk reduction in the recovery phase to its partners who were reluctant in trying new ways of operations. Inadequate monitoring of the field level NGOs resulted in poor communication with the beneficiary community. Issues of quality control of materials used, differences with the partners in the employment of beneficiaries - employment of male and female staff, poor financial reporting etc. leading to delays in financial transaction and disbursement of funds, further delaying the project implementation.

Though the recovery programs are not completed, it provided a lot of insights for

UNDP. Several lessons are learnt from the implementation of the project. For the sustainability of the benefits of the program it is recommended that donors fully support the recovery needs to maximize the fund utilization. It is also recommended that implementing partners share a common understanding of risk reduction issues to avoid issues during the implementation. Since the program is still ongoing, it is yet to be seen if introducing risk reduction aspects into the UNDP recovery program actually provides the desired dividend.

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Forest Fire and Plant Diversity: A Case from Northern Thailand

Forest fires have increasingly become a frequent and problematic hazard in Thailand. Fires are a major element of risk particularly on national parks - areas marked for protecting and preserving the flora and fauna and their habitats. Therefore, studies on vulnerabilities to forest fires are essential in properly managing the biodiversity of a region.

Thailand has suffered a rapid decline in forest cover over the past three decades, losing more than half of its forested area. With a total forest cover of 60% in 1953, Thailand has only about 25% cover remaining now. Recent satellite images show even less cover. This rampant destruction of forest cover is due to logging concessions, encroachment and development of infrastructure such as roads, hydropower plants and mining. The practices of shift-cultivation and slash and burn are still prevalent in northern Thailand, where forests are estimated to cover more than 40% of the land area. A strong link has been established between forest cover and plant diversity. In order to find the changes in plant diversity, and the level of vulnerabilities to forest fires a comparative study of two locations: a two-hectare plot of a deciduous dipterocarp-oak forest, in Doi Suthep-Pui national park of northern Thailand, protected against fire for 28 years and a similar, but frequently burnt forest nearby was undertaken.

A total of 130 plant species, with 29 trees and 101 ground flora species was recorded from the sampled area. The protected area supported a richer ground flora community compared to the burnt area although the species richness of tree community was very similar in both areas. The protected area contained slightly more unique and exclusive species, in comparison to that of the burnt area. It was found that the greater the density of tree population in the protected area the direct consequence of fire protection was more. The protected area contained 25% more individual trees than the burnt area. Also, it has more young trees of DBH (diameter at breast height) 10-20 cm category than in the burnt area. This suggests that forest fire protection decreased the killing or damaging of trees, which ultimately leads to increased productivity and organic matter in soil, thus more favorable conditions for growing. This result also supports the facts that young plants are more badly affected by fires than mature ones. Fire protection seemed to have more impact on the herbaceous community than trees. Almost half of the ground flora species recorded was specific to each site. The majority of herbaceous species in the protected areas were typically of moist condition and some species found in the burnt area were fire resistant.

The greater influence of evergreen or tropophyllous trees and the presence of some shade-loving herbaceous flora in the protected area suggest that the forest environment in the protected area was favored by plant associated with a mixed evergreen and deciduous forest. However, no distinct differentiation was observed. The higher tree density and more young trees of 10-20 cm DBH category in the protected area adds support to the idea that the fire protection decreased mortality and damage to trees which ultimately leads to more favorable conditions for different species to grow.

This article is extracted from a paper presented at the International Symposium on Remote Sensing of Environment held in Cape Town, South Africa.

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What Do We Expect from International Platform for Recovery?

And what do we expect from this International Platform for Recovery (IPR)? In order to put the expectations from the IPR in perspective with grassroots reality, let us draw from the recent post-tsunami monitoring missions by the UK based Disaster Emergency Committee (DEC) and the long term recovery studies by the ProVention Consortium. DEC, which is going through one of the most significant institutional changes in the humanitarian sector by extending relief into recovery and risk reduction activities, in its mission covered the work of the most significant 11 international NGOs reaching out to an estimated 1.2 million victims. The DEC report brings in reality of recovery from tsunami in our expectations. Findings from the ProVention Consortium studies included the central role of local democratic institutions; gender; and livelihoods in making recovery sustainable. These three shape our expectations from IPR.

Adding a hands-on, practical dimension to further build this perspective that shapes our expectations are lessons from the Jeevika project supported by IFAD after the Gujarat earthquake in 2001, where a recovery project with sole focus on livelihood exclusively reaches out to 40,000 poor women over seven years. DMI has first hand experience of promoting risk reduction - identification, pooling and transfer - in this innovative recovery project.

The three dimensions - humanitarian, financial and operational - build our perspective to articulate our expectations from IPR. The focus is on the **recovery efforts of the poor through market forces; government institutions; and civil society initiatives**. Presented here is a summary of the expectations discussed under the three sessions of - advocacy and knowledge, capacity building and operational aspects of recovery.

1. Advocacy and knowledge: The first session on Advocacy and Knowledge identified, captured and discussed lessons; presented new initiatives; pin-pointed difficulties in disseminating learning; and anticipating challenges of moving ahead from articulating advocacy issues to actually influencing policies. Limits of networking, ambitious planning, repeated thematic events and closed circle of resource pools for recovery were also discussed. From these vibrant discussions emerged a long list of expectation. However only three key expectations have been highlighted here.

- **Match recovery messages with investments in recovery.** Messages for focus on recovery

and risk reduction are now coming from many sides - across countries, disciplines, institutions and interests - but are hardly yet matched with suitable scale and duration of investments by NGOs, bilateral, multi-lateral and international financial institutions. Expectations from IPR is therefore to improve and support the case for investments in recovery, point out with its own work and work of others, the value of such investments without which messages have no meaning.

- **Address questions of victims choices.** IPR needs to address questions such as what choices - social, political, economic-victims make to access markets, governments and civil societies; what informs these choices; what impact it has on recovery; and how these choices satisfy victims?
- **Push from publication to applications.** IPR needs to make a special effort to ensure that publications are used in HQs and in the field, in institutions and by individuals in public and private plans. Applying a good idea in itself is a step towards advocacy and worth of any idea is in its application.

2. Capacity building: The discussions set off by a consultative document by ILO threw light on the nature of the current trainings, which were geared towards response and relief, having gaps in terms of material and trainers, and were uneven across sectors, regions, and institutions. Questions such as, whose capacity is being built and who is building it? When do we build local capacity and when do we build on local capacity? How to measure the impact of such capacity building activities over years of recovery, were raised during the sessions.

- **Build on Local Level Capacity for Recovery.** Changes take place at field level. Impacts of good policies are seen at field level. Initially outside-in capacity building may be useful. But who should built this capacity? How to identify local capacity for recovery? Are accesses to markets central to such efforts? And how does one turn local capacity building activity into long term preparedness activity also?
- **Build Capacity to Integrate Risk Mitigation in Recovery.** Recovery can not be left exposed to any disaster hazards, same or new. Recovery must be safer and must be protected. For this, risk reduction must be included into recovery plans and performance. But how to do so? Who does it? How do we know that risk reduction is integrated into recovery? IPR has a lead role here.

- **Let Women Lead Recovery.** Women do take the longest route to recovery. They stay on and pay for slow recovery; suffer distorted recovery; and when given a chance can accelerate recovery. Why not make role of women central in all recovery efforts? IPR can initiate such a campaign, we expect.

3. Operational aspects: The most important aspect discussed in this session facilitated by UNDP, was finding ways to finance catastrophic losses suffered by communities. Discussion revolved around finding ways to enhance the quality of recovery; tools for developing standards for recovery; and mechanisms to make sustainability central to recovery. Operational tools and guidelines were demanded.

- **Make Decent Livelihood Operational from Relief and Recovery.** Victims want work, not dole. Victims recover faster with work. Relief becomes more effective when victims work. Direct, concrete and one-to-one investments to making livelihoods work for victims in recovery are demanded. For this need assessment tools, benchmarking guidelines, institutional and project level indicators can be developed by IPR.
- **Develop Tools for Processes and Management of Recovery.** Going beyond livelihoods, we need tools - for economic recovery, health and education recovery, for basic services and community infrastructure recovery - that are effective, low-cost and

participatory. Many of these tools exist at community and project level. How to make them easily available? In real time? Simultaneously to many? We expect IPR to set up groups to work on there.

- **Develop Tools for Simultaneous Sectoral and Institutional Coordination.** This is a new area, in many but not all ways. We need institutional tools that can make this framework of sectors and institutions work at local, operational, level over time and across communities. IPR must partner with local to global key agencies to develop such institutional tools.

Let us not forget, that communities are financing recovery with their own efforts and resources. In many places it is the governments that promote recovery. Thus, role of the outside agency is secondary to the communities and the governments. Dedicated resources make this role important. The challenge is in making this role serve recovery process. We must expect that IPR supports and not replaces this primary role of the communities in sustainable recovery.

Presented at the concluding session of the International Seminar on Recovery, held on 11-13 May 2005 in Hyogo, Japan.

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The International Recovery Platform was born out of shared concerns related to promote a common vision and approach for post-disaster recovery. The initiative was first presented at the Second World Conference on Disaster Reduction; 18-22 January 2005, Kobe, Japan. Partners in the joint initiative include a number of UN, Bilateral, Donor agencies and Governments (UNDP, OCHA, ISDR, HABITAT, ILO, UNEP, IFRC, WHO, World Bank, JICA, and Government of Japan and ADRC to cite a few). The main vision of IRP is to support a more coordinated UN system approach and methodologies on disaster recovery, in order to transform disasters into opportunities for sustainable development. The Platform will promote shared vision, common approaches and standards, and strategies for its members through sharing of expertise, knowledge and lesson learned on recovery efforts from major and medium size disasters.

The three priority activities to be undertaken will be; advocacy and knowledge management, capacity building, and enhanced recovery operations. In an International Seminar on Recovery held to support the development of the platform, on 11-13 May 2005, in Kobe, Japan, the IRP was officially launched. During the seminar, a video conferencing that connected the World Bank and Asian Development Bank headquarters, JICA Ankara, JICA Hyogo, the World Bank's Delhi Distance Learning Center, ILO Rome, and the Tokyo Development Learning Center, demonstrated the effectiveness of TDLC's Global Development Learning Network. The audience of three hundred in Kobe were thereby connected to a global discussion on "How can we transform disasters into Opportunities" and "How should IRP work for reducing the time lag from the disaster to recovery."

For more information visit www.unisdr.org

The recent Indian Ocean Tsunami, saw an unprecedented flow of support in all forms from all over the world. After the immediate relief and response, a number of agencies have stayed back and are continuing to help the communities and the different governments in the recovery and rehabilitation process. Restoration of livelihoods has emerged as one of the key areas of focus for most of the organizations supporting national recovery efforts. Here we showcase a few of the tsunami recovery initiatives in the affected countries by different organizations.

<http://www.fao.org/tsunami/>

As the lead UN standard bearer in agriculture, fisheries and forestry, the **Food and Agriculture Organization (FAO)** faces the challenge of rebuilding the livelihoods of millions of coastal inhabitants, mostly depending on agriculture and fisheries. The rapid assessments done immediately after the tsunami, confirmed that the fisheries section sector was the worst hit from the disaster. Crops and livestock as well as coastal ecosystems, including mangroves and tree crops, also suffered serious damage. FAO's reconstruction efforts is to restore livelihoods and rehabilitate ecosystems to better than pre-tsunami levels. Its comparative technical advantage is being brought to bear in a holistic and integrated manner, thus ensuring the food security and livelihoods of the vulnerable farmers and fishers whose interests the Organization serves. In the coastal agriculture sector, agriculture and home gardening are major activities, which are being integrated into a multi-sector approach thus balancing increased productivity and resource preservation. In the fisheries sector FAO is advocating the protection of fisheries related ecosystems such as mangroves, coral reef and seagrass beds through zoning (restricted-use and non-use) and through fisheries management tools to prevent over fishing. The Organization is also encouraging use of resources through certain types of mari-culture such as fish pens/cages and seaweed culture. Furthermore, fishing gear and practices must be compatible with responsible fisheries, thus avoiding overcapacity and ensuring sustainable long-term fisheries production. In the forestry sector efforts to rehabilitate mangrove forests, to plant coastal shelterbelts, and to replant timber and fruit trees are being used to protect human lives and inland assets, and improve household economies are being considered. With support from many NOGs, large scale mangrove afforestation is also being planned.

<http://www.undp.org/bcpr/disred/tsunami/>

The overall approach to the **UNDP** post-tsunami recovery framework, in all the countries of operation is based on common principles such as: recovery should be nationally and local driven, short-term rehabilitation must not hinge on long-term reconstruction packages, an adequate balance between governance and participation be maintained, respect for cultural diversity and specificities, seek greater equity in access rights and the distribution of productive assets and transparent and effective monitoring of the recovery process. It was also conceived to be cutting across issues such as moving from post-disaster relief to recovery, restoration of livelihoods and upgrading of infrastructure, inclusion of risk reduction measures. This approach is designed to lead to both recovery and the expansion of opportunities for sustainable development.



About 500 Acehnese have been hired by a UNDP recycling programme that is turning tsunami debris into reusable materials

In Indonesia, the recovery process involves building the communities from the scratch, as the entire province was reduced to rubble. UNDP recovery assistance to Aceh includes rebuilding local governments, clearing debris, providing housing, restoring legal documents, and starting up the local economies through cash for work, micro-finance and restoration of assets and operations of self-employed.

In the Maldives, UNDP has been working closely with the government and other international agencies in the post-tsunami assessments of damage and needs. One of the highlights of the recovery program is the promotion of the "adopt-an-island" program to private sector entities and provides resources with reconstruction. Other support will include rebuilding homes and providing livelihood opportunities for the fishing industry and food-farms. Support is also being extended to rebuild harbors, jetties and navigational systems, an effort that will

also allow inter-island sea transport to resume. Much of the work will be conducted as part of a **Cash-for-Work** program that will also provide temporary livelihood assistance to tsunami-unemployed islanders. In Sri Lanka too assistance is being extended to clearing debris, rebuilding infrastructure, providing housing and providing livelihood opportunities for the local fishing economy, providing replacement fishing boats etc. to rebuild the infrastructure of the fishing industry. Mobile units have also been set up to help survivors free of charge to restore legal documents. In Thailand, a number of programs have been proposed for environmental recovery, livelihood and ecology restoration in nine tsunami affected coastal sub-districts, province, livelihood restoration of fisheries communities, coral reef clean-up, rehabilitation and protection, indigenous livelihood restoration, sustainable eco-tourism development, support to tsunami early warning system, disaster

prevention and preparedness etc to name a few.

<http://worldbank.org/>

The World Bank is supporting post-tsunami recovery in all the affected countries. The support net is cast based on the needs assessment done for each country. Reconstruction financing has been approved for India, Sri Lanka, the Maldives, and Indonesia.

In India, the Bank and ADB signed an agreement with the Government of India to support emergency reconstruction of tsunami hit areas. The bank is providing financial support to the rural water supply rehabilitation in Kerala, livelihood restoration in Andhra Pradesh, and housing and transport infrastructure restoration in Tamil Nadu and Pondicherry. The financing will also support studies for longer term coastal management.

In Sri Lanka the post-disaster recovery will finance the housing; roads, water supply and other infrastructure; livelihood support and capacity building for implementation. While it is anticipated that the recovery and reconstruction needs

for health and education will mostly be financed by other development partners, Bank funds will be used if gaps are identified. This cash grant money, both for housing and livelihoods, will help small local communities restart their enterprises.



Fisherman repairing his boat: on the road to recovery

In Indonesia, the most affected country under the umbrella of a Multi-Donor Trust Fund four project concepts have approved. They include; housing for a thousand villages, recovery of property rights, community recovery in rural areas and community recovery in urban areas. Under these projects, run in collaboration with the Government of Indonesia, 20,000 new houses and rehabilitation of 30,000 damaged houses along with related infrastructure in one thousand communities will be build over a period of 2 years. The projects will help sort out land ownership through urgent recovery of land records, establishment of land occupancy databases and rehabilitation of the land =administration system throughout Aceh; recapitalization of up to 6000 micro-enterprises and training of thousands of villagers, community-based infrastructure through the construction of roads and bridges, schools, water supply and sanitation, community buildings, and drainage systems. The World Bank, under the Maldives Post-Tsunami Emergency Relief and Reconstruction Project, is assisting the government in its efforts to provide social services, restore lost livelihoods, and continue to build capacity to implement the reconstruction and rehabilitation program. The project has three components: restoration of livelihoods, increased school capacity and technical skills for implementing agencies. The Government of Maldives has set up a Tsunami Relief and Rehabilitation Fund (TRRF) to be implemented by the Ministry of Finance and Treasury. The activities under the three components will include restoration of income-generating assets for micro- and small-scale enterprises in the affected islands, assisting individuals restarting businesses and thereby restore economic activity.

In Thailand too the Bank is responding to the needs of the affected communities by supporting long-term livelihood rehabilitation and coastal and marine resources restoration. Through the "Country Development Partnership for Environment" focused on the Government's environmental priorities, the Bank will also assist with an environmental monitoring study on coastal resources, expected later this year.

<http://www.e-aceh.org/>

e-Aceh.org is the Government of Indonesia's on-line portal for information sharing on the rehabilitation and reconstruction of Aceh and North Sumatra, was launched one month after the great tragedy, on 26 January 2005. A joint initiative of the Government of Indonesia, the AusAid, ADB, CIDA, Danida, DfID, GTZ, SIDA, UNDP, the World Bank and the USAID, the site supports the rapid and coordinated multi-actor response to restore the lives of the people of Aceh and North Sumatra. Information from all government agencies, international institutions, bilateral donors, international NGOs and local Lembaga Swadaya Masyarakat (LSM) participating in the rehabilitation and reconstruction of Aceh is available on the website. The site also provides mechanisms to track government budget resources, on-budget Official Development Assistance (ODA) as well as off-budget and private fund flows and link them to information on disbursements, outputs and outcomes to enable analysis of the effectiveness and efficiency of programs and projects in achieving their objectives. It supports community participation in the planning, implementation and monitoring of rehabilitation and reconstruction activities.

continued on page 17

Cultural considerations are important to ensure sustainability of interventions undertaken as part of post-disaster reconstruction. There are enough examples to show that lack of consideration given to cultural and social concerns serve to reinforce and sometimes-even increase the vulnerability of local communities.



Houses in Nangahure located far from the beach to "avoid" Tsunami, March 2001

Two cases presented here, demonstrate this important issue. The first case illustrates the impact of the relocation of 2 villages in Flores, Indonesia, following the 1992 earthquake. The second case investigates the impact of reconstruction following 1993 earthquake in Marathwada, India. In both these cases, the villages were revisited 8 years after the earthquake to study long term implications of these massive reconstruction schemes.

Relocation of 2 Villages in Flores, Indonesia, Following the 1992 Earthquake

On 12 December 1992, a massive earthquake off the North Coast of Flores, a long, narrow island extending from the east to the west, with a population of around 1.5 million residents, caused extensive damage to infrastructure and houses. Approximately 30,000 buildings were damaged by the shaking, out of which half were totally or partially collapsed. Most of these were constructed of bricks or stone masonry. Many buildings along the coastline were heavily damaged too due to the resulting liquefaction and Tsunami.

After the earthquake, the tsunami stricken areas of Wuring and Babi Island were declared dangerous for habitation and it was decided to relocate these 2 villages to new areas - Nangahure and Nangahale. Subsequently in 1993, 800 houses were built in Nangahure and 1000 houses in Nangahale for the earthquake victims. People from Wuring village were relocated to Nangahure and those from Babi Island village to Nangahale. Around 300 families originally moved from Wuring to Nangahure and 400 families moved from the Babi Island village to Nangahale. Eight years after the 1992 earthquake, many houses in Nangahure and Nangahale were abandoned as people moved back to their original village of Wuring and Babi Island, ironically, practically similar to the pre-1992 earthquake conditions. A preliminary survey in March 2001 revealed the following:

- **Ethnicity and religion.** Villagers from Wuring came from two ethnic groups - Bajo and Bugis from south Sulawesi. Wuring was their ancestral home for over hundred years. The population of Nangahure was not entirely from Wuring village. Besides those families, relocated from Wuring, there were around 500 families from Maumere. The Maumeres were devout Catholics unlike the Bugis and Bajos who were Muslims. For centuries they had lived in harmony in Flores, retaining their culture, social environment etc., since they had their own areas/villages. Moving to Nangahure they faced problems in adjusting to and changing habits, environment etc. In Nangahure, the government overlooked this problem and settled these two culturally and socially distinct groups in one village.
- **Location and type of houses.** The houses constructed for the villagers of Wuring, were 200 meters from the shoreline, in order to avoid damage from future tsunamis. The houses were constructed in military barrack style by army officials completely opposed to the traditional housing styles of the fisher folks - on poles, and therefore was opposed to their traditional lifestyle.

Despite government initiatives to build mosques, a fish auction building and other public facilities, they were unable to keep the villagers in Nangahure. The story of one village in Babi Island, which was relocated to Nangahale on Flores Island, is similar. The villagers on Babi Island were mainly fisher folk. The village also consisted of farmers, who grew crops in the hillside. Both communities lived in the same village in similar kind of dwellings constructed on poles in order to protect the houses from flooding during high tide. After relocating to Nangahale the villagers had to cope with changing cropping patterns and moving away from the sea- their source of livelihood, making their life difficult. Religion was another aspect as most native villagers from Babi Island were Muslims, while the local residents of Nangahale were Catholics.

Reconstruction Program Following Marathwada Earthquake of 1993

As a result of the 1993 Earthquake that shook Marathwada region of Western India, traditional rural settlements in this area characterized by vernacular housing suffered enormous damage. This was primarily due to heavy roofs (mud) and

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Insight

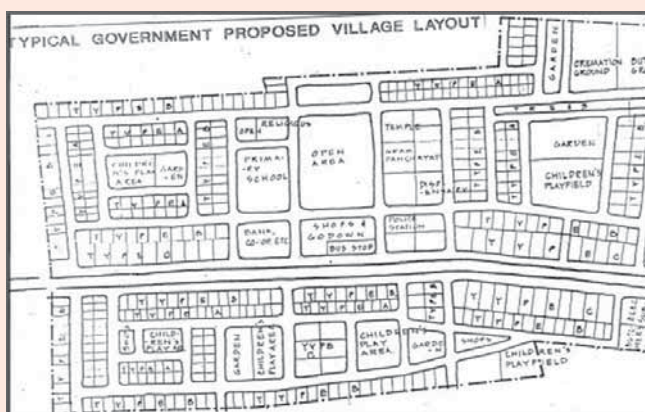


Disaster Recovery: Challenges for Post-Tsunami

walls with weak bonding, at joints, which caused huge loss on the basis of quick damage immediately after the earthquake, traditional techniques of vernacular are deemed to be the major cause. All local construction practices are discarded by the 'official expert agencies'. The people who saw their loved ones die

Traditional the artisans are believed to act as a support system for the village and not supposed to cultivate their land, they remain landless or as marginalized farmers. As a result, the houses occupied by artisans are smallest. An interesting example of this is the provision of attached toilets in houses. Traditionally, these people are not even used to having toilets

groups and communities were physically located in certain neighborhoods and places. Such physical placements were the result of very complex and historically rooted natural and social forces. As mentioned earlier, relocation needs very careful planning, thorough analysis because it concerns setting up a new community. Relocation involves movement of communities and not only families and people. In short, we are dealing with a principle matter, namely "moving a way of life". It implies moving the place where people live, work, the place where the children play, and many others integrated social functions that are part of the social life of a given community. This is more so in developing countries, where the "network" of social life at the village or community level is very complex and there are a number of highly interrelated physical and social elements. It implies relocating a collective way of life. Therefore, before undertaking relocation as part of post disaster rehabilitation, it is suggested to analyze the characteristics of the population targeted for relocation. From this analysis it will be possible to assess the real needs of the people, to ensure long-term sustainability. Moreover, localized means suiting the local socio-cultural settings should be used. Developing countries, in particular, should avoid using social technologies universally known but inappropriate for their own socio-cultural settings.



Traditional and Reconstructed Villages

the heap of stone rubble also caused an acute fear. Modern technology used over traditional techniques, are considered to be 'unsafe' for habitation. Massive reconstruction were initiated and many villages were built using new designs and technologies. However, eight years after the reconstruction process began; many problems were being encountered in these villages, most of which were the location itself. Some of the findings of the survey were:

Location of houses: The people were relocated on agricultural land acquired from other villages. As a result, some of the relocated villagers, either lost their land or the relocation of other villages, thus making them landless forever, or they were forced to relocate far from their agricultural lands, sometimes more than 10 km away.

Design plan. The new designs of houses and the spatial plan of villages were completely incompatible to the traditional way of life. Traditional settlements were replaced by a complete "city like" layout with wide streets forming grid and row housing, leaving little or no space for several traditional activities, especially for the artisans. Villages were many-fold larger in area. This expensive infrastructure and relocation, unaffordable to the villagers.

Allocation of house allocation. The criteria for allocation on the basis of size of buildings created new "economic zones" and completely destroyed the traditional social systems based on neighborhood units and "dependencies measured mutual sustainability".

(they use the fields). Now we find these toilets being used to store grain.

- **Lack of local participation.** The appreciable efforts of some agencies/ individuals such as HUDCO (Housing and Urban Development Corporation) towards incorporating traditional patterns in the new village-plan do need to be mentioned. However, in all these efforts there was little or no involvement of the locals in the process. The attitude was that of 'adoption and provision' rather than 'facilitation'. This made villagers dependent and raised their expectations.

As a consequence of the above, many people decided to vacate these relocated villages and move back to their old site. In fact, people cleared the old site of vegetation and debris, and started to re-construct their old houses employing traditional techniques in their entirety. Unfortunately, they have not employed any 'earthquake-resistant' features in their new 'traditional' constructions. So again, all the efforts of the Government and various NGOs towards 'information dissemination' and 'technology transfer' were wasted. It is saddening to note that similar mistakes were repeated after the 2001 Gujarat earthquake.

From the two cases presented here it is clear that lack of cultural continuity and compatibility is certainly a key issue resulting in increasing disaster vulnerability after post disaster reconstruction.

Relocation - Is It Sustainable?

From histories of ancient cities, towns etc, it is obvious that it was not a matter of mere coincidence that populations, families,

We are confronted with similar challenges in the aftermath of devastating Sumatra Earthquake and Indian Ocean Tsunami and massive relief and recovery operations are underway following this tragedy. It is important that as responsible professionals we raise our voice against destruction of harmonious relationships that have been developed by the local communities over generations and address the issues of recovery and development with a cultural perspective. It is about time that we influence the decision makers to be culturally sensitive, so that past mistakes are not repeated and reconstruction initiatives help in reinstating the way of life of the local people, which truly represents the culture than merely a few historic buildings.

This article is an extract for a paper co-authored by Mr Teddy Boen and Mr Rohit Jigyasu. The complete paper is available for download at www.adpc.net/infores/newsletter/newsletter.html

Mr Teddy Boen is a structural and earthquake engineer with over 30 years experience in earthquake damages in Indonesia. A senior advisor of WSSI, associated with several international organizations, he can be contacted at tedboen@cbn.net.id.

Rohit Jigyasu is an architect, planner and conservation consultant based in India. He can be contacted at rjigyasu@hotmail.com

ADPC to Support the Implementation of the Hyogo Framework of Action (HFA)

The Asian Disaster Preparedness Center is committed to play its role as a regional organization to support implementation of HFA. A plan was presented to the ISDR Secretariat during the 11th meeting of the UN Inter Agency Task Force (IATF) of Disaster Reduction, held on 25-26 May 2005 in Geneva. ADPC's support arises from its responsibility as a regional member of the IATF, a founder member of the ISDR Asia Partnership (IAP) and the secretariat on one of the first post WCDR partnerships, the RCC programs on mainstreaming disaster reduction into development.

The support ADPC plans to extend in the implementation of the Hyogo Framework of Action are:

Support to countries in the region involving planning and implementation of HFA

This would involve supporting National Governments in convening national workshops of all key stakeholders, namely, concerned Government ministries and departments, scientific and technical institutions, NGOs, UN agencies, donors and the private sector; especially those who have a keen interest in disaster management. Anticipated outcomes from the national workshop are harmonization of identified priorities with ongoing programs and projects, and establishing a task force to meet periodically to review progress.

Support to establishment of national platforms for disaster reduction in interested countries

Based on the concept of national platforms in the HFA and other ISDR documents, support would be given to those countries requesting it, to take steps to set up such platforms. Where such a platform or committee already exists, support would be given in making them functional and result oriented. This is envisaged as an activity where ADPC will work closely with UNDP country offices in their capacity as head of the UN System country teams, ISDR Regional Advisers, UNDP-BCPR regional advisers and others who are interested. A major partner would be the members of the ISDR Asia

Partnership, and the Partnership itself.

RCC program on Mainstreaming DRM into Development policy, planning and implementation (MDRD)

The RCC program on MDRD has already been registered prior to the Kobe conference as a post WCDR partnership with the UN Commission for Sustainable Development (CSD). The activity is under way with Priority Implementation Projects (PIPs) planned in several RCC member countries. The PIPs cover mainstreaming disaster risk management into both national development processes, as well as specific initiatives by NDMOs to work with partner ministries on mainstreaming DRM into specific sectors (Agriculture, Infrastructure and Housing, Health, Education, and Financial Services). This work will also include mainstreaming into country Poverty Reduction Strategy Papers (PRSPs), country Assistance Strategies of the World Bank and ADB, and the UN System Common Country Assessment and UN Development Assistance Framework (UN CCA and UNDAF). In this part of the RCC program, active partnerships are being built with the Banks, and UN Agencies - particularly UNDP and ISDR.

Joining with other regional agencies and regional offices of UN Agencies to develop a system of structured cooperation and technical assistance to countries of the region on HFA implementation as well a system of monitoring progress and creating platforms for sharing of lessons learned.

In this, ADPC sees great potential for the role of the ISDR Asia Partnership, the ISDR Asia Informs newsletter, and a possible institutional convening of the Regional IATF. This will build on past efforts to develop coordination among these regional partners, such as the first three meetings of Regional Organizations and Regional Offices of UN Agencies held in Kathmandu (July 2001), Bangkok (June 2002) and Manila (February 2004); co-organized by ADRC, ADPC, UN-OCHA and WHO.

Fifth Meeting of the ADPC Regional Consultative Committee on Disaster Management

The 5th Meeting of the ADPC Regional Consultative Committee on Disaster Management was held in Hanoi, Vietnam on 18-20 May 2005, in collaboration with the Government of the Socialist Republic of Vietnam. The meeting was inaugurated by the Honorable Deputy President of the People's Socialist Republic of Vietnam, Mr Vu Khoan, and was graced by an overwhelming audience of 250 people comprising of Ambassadors and Counselors from embassies in Hanoi, Senior Officials from the Ministries of the Government of Vietnam and the National Media. The meeting itself was attended by 64 representatives from 18 RCC Member Countries and observers from regional organizations, UN agencies, bilateral and multilateral funding agencies and ADPC partners.

The main objectives of the 5th meeting were to enlist inputs from the members and observers on the RCC Project on Mainstreaming Disaster Risk Reduction into Development; and their expectations





Participants and Dignitaries at the 5th RCC Meeting

on the implementation of the HFA. The three days of deliberations covered seven substantive sessions and included sessions showcasing Vietnam's achievements on disaster management, presentations from the member countries on their responses to the tsunami disaster, ADPC initiatives in responding to the challenges of post-tsunami response and recovery and improvements to early warning systems etc. Highlights of the meeting were, a special session on the progress of the RCC Initiative on MDRD, including the showcasing of MDRD in RCC Member Countries and a special consultative session for the Asian Region in on the implementation of the Hyogo Framework for Action (HFA). The meeting concluded with an evaluation of the meeting, drawing up actions for the coming year and the signing of a statement on mainstreaming Disaster Risk Management in Development (MDRD) in Asian Countries and ADPC plans to support the implementation of the Hyogo Framework of Action. The complete statement is available on the ADPC website at www.adpc.net

For more information on the different activities under the RCC contact Mr Loy Rego, Director and Team Leader, Disaster Management Systems at ajrego@adpc.net or Dr Kai Kim Chiang, Program Coordinator at kaikim@adpc.net

Coastal Risk Analysis of Tsunamis and Environmental Remediation (CRATER)

Coastal areas are by far the most vulnerable to the impacts of tsunamis and tidal waves. This was demonstrated again in the recent tsunami, when vast areas were washed away in a matter of minutes and the population had little or no time to escape from the wrath of nature. A recently launched project - CRATER, with core funding from the Italian Ministry for Environment and Territory (IMET) tries to remedy just that. The project uses approaches to develop tools for managing emergencies following tsunami events by analyzing the coastal risks to tsunami impacts.

The CRATER approach consists of three modules:

MODULE 1 - RAPIDO/Real time tsunami Alarm Program for the Indian Ocean, consists of a preloaded database of possible tsunami simulated events. It is an immediate action program for pre-early warning and forecasting of tsunami events, which can be immediately implemented and used before the activation of the early warning system. Within the CRATER project, the feasibility of the RAPIDO module will be investigated in order to analyze its applicability, efficiency and reliability.

MODULE 2 - SAVE/Study Atlas on the Vulnerability of coastal areas required by rescue plans, performs a detailed analysis of tsunami effects on coastal areas. It calculates water levels and speed associated with possible tsunami floods, allowing for the evaluation of vulnerability maps and providing the data necessary for the management of rescue plans.

MODULE 3 - DATE/Damage Assessment of Tsunami events on the Environment will evaluate the short, medium, and long-term environmental and structural damages caused by tsunami events along the coastline.

CRATER will be applied to the analysis of the Indian Ocean and Southeast Asian coastlines, through:

- A feasibility study on the RAPIDO module development, and
- A pilot application of the SAVE and DATE modules at the Kamala Beach and Laem Pakarang in Phuket and Phang Nga provinces respectively.

Initial data collection for the first module was undertaken in a recent start-up mission to Phuket, Thailand.

For more details on the projects contact Mr Aloysius Rego, Director and Team Leader, Disaster Management Systems at ajrego@adpc.net and Ms Supriya Mehta, Program Manager at supriya@adpc.net

Building a Cadre of Landslide Specialist in the Region

In early June, Sri Lanka witnessed two important events on landslide risk mitigation, with the hosting of an "International Seminar on Landslide Risk Management" in the capital - Colombo and a "Regional Training for Landslide Risk Mitigation", in Bandarawela. The seminar and training was

held under the Regional Capacity Enhancement for Landslide Impact Mitigation (RECLAIM), jointly being implemented by ADPC and the Norwegian Geotechnical Institute (NGI), with funding support from the Norwegian Ministry of Foreign Affairs.

The seminar was held on 6 June 2005 and covered two important aspects of landslide risk management - landslide risk assessment and risk mitigation, through early warning and structural mitigation measures. The seminar ended with a panel discussion on challenges for landslide risk management. Representatives from the six program countries, partner agencies and invitees attended the seminar. A five day interactive training commenced on the 8 June 2005 at Bandarawela a hilly region in the Uva province, located around 192 kms from the capital. Land use planning, approaches for risk assessment in different countries, hazard zonation etc. were among the many topics covered during the training course. A field study included the



Participants Observe the Demonstration of the Global Positioning System at Diviyatalawa

investigation of landslide prone sites of Kahagalle, Koslanda, and Watawala. Participants also visited the National Institute of Survey and Mapping at Diviyatalawa.

RECLAIM is a three-year regional program being implemented in Bhutan, India, Indonesia, Nepal, Thailand and Sri Lanka. During the course of the project implementation, it is expected that a cadre of specialists and decision makers with up-to-date knowledge of landslide disaster mitigation practices will be built, through the different capacity building activities and promoting dialogue between decision makers and professionals about the theoretical and practical aspects and issues related to landslide hazard mitigation.

For more details write to Mr N M S I Arambepola, Director and Team Leader UDRM Team at arambepola@adpc.net or Mr Rajesh Sharma, Project Manager at rajesh@adpc.net or visit the website at <http://www.adpc.net/udrm/reclaim/introduction.html>

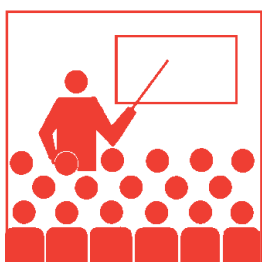
Fifth Inter-Regional Training Course on Public Health and Emergency Management in Asia and the Pacific (PHEMAP-5)

ADPC in partnership with the World Health Organization (WHO) will be conducting the fifth inter-regional training course on Public Health and Emergency Management (PHEMAP), in Asia and the Pacific in Bangkok, Thailand on 4-15 July 2005. The course will help countries of the region to develop more effective policy, procedures, plans, guidelines and standards of best practice for health sector emergency management.

The course was initially conceived, designed and delivered by ADPC with support from the Japan International Corporation of Welfare Services (JICWELS) & WHO, in 2002 in order to promote awareness and skill to health service planners and managers at the national level, on issues related to public health in emergency situations so as to be able to make effective public health policies.

The current two-week long interactive course covers a range of topics related to public health, including risk management, health sector damage assessment and needs analysis, management of mass casualties and hospital planning, managing essential drugs and medical supplies in emergency situations, recovery and rehabilitation issues, public information, media etc.

Aimed at senior public health management officers from national, provincial and district level staff from the Ministry of Health, health sector emergency managers and other relevant health professionals, it is expected to provide the participants with skills and knowledge to effectively manage public health problems in emergency situations.



Third International Course on Hospital Emergency Preparedness & Response (HEPR-3)

The third HEPR is scheduled to be held on 22-26 August 2005 in Bangkok, Thailand. The course is being organized by ADPC and is designed to assist health service providers - both administrative and medical, skills to enable them to prepare the facility and themselves effectively to respond to emergencies that involve large number of casualties.

The course will provide participants' skills apply concepts to on-site medical care to specific emergency situations, prepare an outline on hospital disaster preparedness plan including response and recovery.

First National Training Course on Management of Public Health Risks in Disasters and Complex Emergencies in Iraq (MPHR-I)

Upon the invitation of the World Health Organisation-Eastern Mediterranean Regional Office (WHO-EMRO), ADPC's Health Team conducted the MPHR course for the first time for the Iraqi participants, in close collaboration with WHO-EMRO, WHO-WR, and WHO-EHA Jordan. The intensive training program was conducted in Amman, Jordan on 14-26 June 2005, and was designed to fill the gap in the currently available international training courses in the Eastern Mediterranean Region. It covered a range of emergency health related issues including: policy making and guidelines issuing, national health sector disaster plan, community risk management, damage analysis and needs assessment in natural disasters, emergency planning process, mental health and psychosocial support programs in natural disasters and complex emergencies, epidemiology in natural disasters and complex emergencies, search and rescue, chemical incidents and CBRN, recovery & reconstruction, international assistance, management of dead and the missing etc to name a few. It introduced the concept of risk management as a framework for policy making and planning within the national development process. The capacity building process of the health sector to prepare for, respond to and recover from disasters and the intersectoral dimensions were highlighted throughout the course.

For more details contact Dr Marcel Dubouloz, Director and Team Leader, Public Health in Emergencies Team at marcel@adpc.net or Ms Janette Lauza-Ugsang, Course Manager at janette@adpc.net or visit the website at <http://www.adpc.net/phe/phe.html>

Regional Study on the Socio-Economic Impacts of the Indian Ocean Earthquake-Tsunami in Asia

A regional study to analyze the socio-economic and environmental impacts of the 26 December 2004 earthquake and tsunami is currently underway. The study is being implemented by ADPC under the umbrella of the ProVention Consortium, with support from individual international consultants, ECLAC and the World Bank's Hazard Management Unit. The affected countries being reviewed under this project are Indonesia, Thailand, Sri Lanka, Maldives and India. The study will also identify actions undertaken jointly by the countries and is expected to result in significant economies of scale, particularly in relation to financial risk transfer.

Two key activities of the project will be:

- assessment of immediate and medium term impact of the disasters in the region, and
- the conduct of a regional meeting of key personnel from the Planning and Finance Ministries of affected countries to discuss findings of the study.

For more details on the projects contact Mr Aloysius Rego, Director and Team Leader, Disaster Management Systems at ajrego@adpc.net and Ms Supriya Mehta, Program Manager at supriya@adpc.net

Early Warning System for Tsunamis and other Natural Hazards in the Indian Ocean and Southeast Asia

The devastating impact of the December 26th tsunami event impelled countries in the Indian Ocean region to take concerted action in addressing tsunami threats. Subsequently a number of regional, inter-governmental, international and ministerial level meetings were held to discuss the establishment of a regional early warning system for tsunamis in the Indian Ocean. Emerging from the discussions at the different forums, was a consensus to establish an early warning system comprising of a network of national or sub-regional arrangements, connected to a regional coordination center within a common platform, and linked to future global early warning arrangements. At the Ministerial Meeting on Regional Cooperation on Tsunami Early Warning Arrangements on 29 January 2005 in Phuket, H.E. Prime Minister Thaksin Shinawatra proposed that ADPC be a regional center for a multi-nodal tsunami early warning arrangement in the region, under the coordination of UNESCO's Intergovernmental Oceanographic Commission (IOC). The Meeting also recognized ADPC's readiness to take on this role, and was supported by several countries in the region. At the meeting ADPC presented its vision of the regional center, which would:

- coordinate with the international warning system, regional centers in other oceans, and national warning centers;
- provide early warning information on distant tsunamis to national centers;
- build capacities of national warning centers on the end-to-end multi-hazard early warning system;
- provide back-up support to national warning centers;
- act as a resource center and clearinghouse for tsunami preparedness and mitigation activities; and
- integrate tsunami early warning into existing national warning systems for other natural hazards to ensure sustainability.

In establishing the end-to-end early warning system in the Indian Ocean and Southeast Asia, ADPC is working in close collaboration with the Ministry of Foreign Affairs and the Ministry of Information and Communications Technology, in Thailand. Support is also being extended to develop Thailand's national tsunami early warning capacities. A consultative process involving all the stakeholder countries in the region was adopted. Two consultative meetings of experts from countries in the region have been held so far, to assess needs as well as to design the system. The meetings confirmed agreement and support of all the participating countries for an organizational and functional partnership among the countries of Cambodia, Lao PDR, Myanmar, Thailand and Vietnam, with the assistance of China and the Philippines. The second experts' consultation meeting held on 20-21 April 2005 was conclusive in that the members:

- accepted the minimum required number of observation stations for the Southeast Asian system as consisting of: 30 strong-motion accelerographs; 15 broadband seismographs; 6 deep-ocean buoys; and 20 sea level gauges;
- agreed that efforts to establish the require observation system should be in coordination with: national plans; and global systems; and
- drew the implementation plan, which details activities for implementation in the immediate, and within 3 months, 6 months - 1 year, and 2-3 years, covering the seismic, deep-ocean, and sea-level sub-systems, prediction, information and communication, including personnel requirements.

Following this, the implementation of establishing an end-to-end multi-hazard early warning system in Southeast Asia, with initial focus on tsunami warning, has been initiated. The progress made so far includes, agreements by IOC/GLOSS to install 2 sea level stations in Thailand (at Koh Miang, Koh Taprao Noi) by end of June; and 3 others (at Yung Tao, Vietnam; Myanmar; the Philippines) by end of August. Arrangements for training ADPC personnel at Pacific Tsunami Warning Center in Hawaii, is also underway.

For more details contact Mr Subbiah, Director and Team Leader, Climate Risk Management Team at subbiah@adpc.net or Ms Lolita Bildan, Project Manager, Climate Risk Management Team at lolita@adpc.net



continued from page 9

<http://www.sarvodaya.org/>

Sarvodaya, a leading, non-governmental development organization in Sri Lanka has been at the forefront of providing humanitarian assistance both in the relief and the recovery stages in the tsunami affected areas in the country. It was actively involved in the distribution of food items and clothing to the survivors, organizing medical care for the needy and the management of several welfare camps set up for those who have lost their dwellings, during the response and relief stages. Apart from continuing these activities, it is now implementing several medium to long term programs for recovery and



Dr A T Ariyaratne laying the foundation stone for the Tsunami Housing Project in Vaddavan, a small Tamil village on the east coast of Sri Lanka.

rehabilitation of the affected population as well as the restoration of economic activity in the area, based on the concept of Deshodaya or Reawakening of the Nation. Initially working with 226 villages, the organization plans to scale it up to 1000 villages communities in all surrounding them in the coming 5-6 years and finally to integrate these into the 15000 village development program, which is already being implemented by Sarvodaya. The development programs approaches are based on principles of community self-reliance and participation.

The recovery project is planned for implementation under 12 sectors namely: women, children and orphans, water and sanitation, health and prevention care, camp / community management, environmental management and ecology, psychological and spiritual healing, housing and resettlement, livelihood support, trade and micro-finance, disaster management and mitigation, communication, documentation and legal assistance and lastly integrated village awakening. Sarvodaya is operational for over 50 years under the leadership of its founder Dr A T Ariyaratne, and is considered to be Sri Lanka's largest people's organization. It has a network of 15,000 villages, 345 divisional units, 34 district offices, and 10 specialist development education institutes.

Memoriam



Asian Disaster Preparedness Center deeply regrets the untimely passing away of Dr Raymundo Punongbayan and his colleagues from PHILVOLCS, on 28 April 2005, in a helicopter crash during an aerial landslide survey of the Luzon Province. Dr Punongbayan, a geologist by profession is lauded for having put the Philippine Institute of Volcanology and Seismology (PHILVOLCS) on the international map, as an authority on volcanological and seismological phenomenon. It was under his leadership that the Institute successfully managed the 1990 Luzon earthquake, the 1991 Pinatubo eruption, and also forecasted the 1999-2001

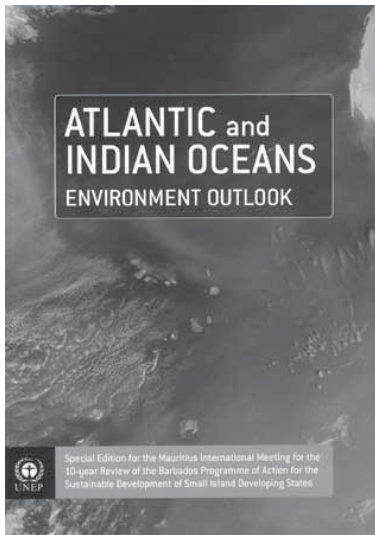
Mt Mayon volcanic eruption, averting a major disaster. He will be remembered by the Filipinos for making volcanic and earthquake hazards understandable to the common mass.

ADPC has had the good fortune of having been closely associated with Dr Punongbayan since 1991, while he was the Director of PHILVOLCS and more recently as Executive Director of EMI. In his demise, ADPC and the entire disaster management community has lost yet another mentor and leading spirit.

Recent Publications

These publications may be of interest to our readers. ADPC Library and Information Center can offer assistance in locating them.

Atlantic and Indian Oceans Environment Outlook, Special Edition for the Mauritius International Meeting for the 10-year Review of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States. UNEP, 2005, ISBN 9-2807-2525-4, 84 pages, Serial Number 05.II.D.6, USD 20.00. To order write to publications@un.org



The Atlantic and Indian Oceans Environment Outlook is part of a UNEP project to produce state of the environment assessments for the Caribbean, Pacific, the Atlantic and Indian Oceans Small Island Developing States (SIDS). The main objective of these reports is to highlight the state of the environment

in the SIDS, help identify regional environmental concerns and provide policy guidance.

Learning Lessons from Disaster Recovery: the Case of Bangladesh. Tony Beck, 2005, ProVention Consortium and the World Bank Hazard Management Unit, Working Paper Series No.11. The publication can be freely downloaded from the ProVention website at:

<http://www.worldbank.org/hazards/files/bangladesh.pdf>

This report is part of a ProVention Consortium initiative aimed at learning lessons from recovery efforts following major natural disasters. It summarizes the findings of a country case study on Bangladesh, with a particular focus on the recovery of poorer households, and lessons from the recovery period following the 1998 floods. Main lessons learned from this study address policy and planning, and best ways to supporting livelihoods.

Learning Lessons from Disaster Recovery: the Case of Mozambique. Working Paper Series No.12. Edited by Peter Wiles, Kerry Selvester, Lourdes Fidalgo,

2005, ProVention Consortium and the World Bank Hazard Management Unit, Working Paper Series No 12. The publication can be freely downloaded from the ProVention website at:

<http://www.worldbank.org/hazards/files/mozambique.pdf>

This report focuses on Mozambique a post-conflict country faced with major natural disasters. It also offers an example of recovery in an extremely poor and primarily subsistence livelihood population, but in a country favored by donors and receiving substantial amounts of both relief and recovery assistance. The review provides an overview of the recovery processes and highlights livelihoods and agriculture.

Surviving Disasters and Supporting Recovery: A Guidebook for Microfinance Institutions. Eileen Miamidian, Margaret Arnold, Kiendel Burritt and Marc Jacquand, World Bank and UNCDF Microfinance, Disaster Risk Management Working Paper Series No. 10. The publication can be freely downloaded from the ProVention website at:

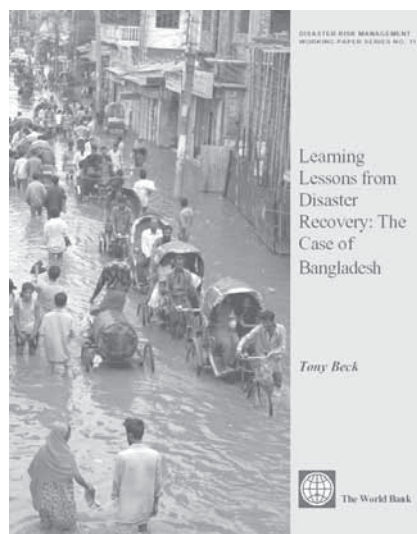
<http://www.proventionconsortium.org/files/disasterguidefinal.pdf>

This guide seeks to assist MFIs in defining an institutional strategy for disaster preparedness. It lays out the steps for assessing the potential risk of disaster, the clients' needs and the institutional capacity to respond. Organized as a series of exercises and reference tools to assist

MFIs to plan and implement a disaster management strategy, it also helps MFIs assess the risk of a disaster, their client's needs and their own institutional capacity to respond. Finally, it offers guidance for preparation, response and recovery. The guide addresses the following topics in this sequence: assessment of risk, institutional preparedness, client preparedness, emergency response and recovery.

Institutions preparing in advance for natural disasters will find this a useful guide.

Sustainability Assessment: Criteria, Process and Applications. Robert B Gibson, 2005, ISBN 1-8440-



Bookmarks. . .



7051-4, Earthscan 240pages, GBP 22.95. Order from orders@earthscan.co.uk

Many governments express commitments to sustainability, yet until now assessing sustainability in projects, plans, programs and policies has been largely limited to traditional environmental assessment (EA) with an imperfect attempt to staple on biophysical and socio-economic considerations. While traditional EA focuses on mitigating negative effects, achieving true sustainability demands that each new undertaking make a positive contribution to desirable and durable futures. This onerous goal can only be achieved if decision makers are able to consciously and publicly specify and use sustainability-centred criteria to justify options and to weigh trade-offs. Sustainability Assessment covers all aspects of the core requirements of sustainability including the creation of basic criteria, handling tradeoffs, practicalities in application, implications for process design and uses in decision-making, as well as examining the range of tools and innovative examples available to assist implementation of sustainability assessment.

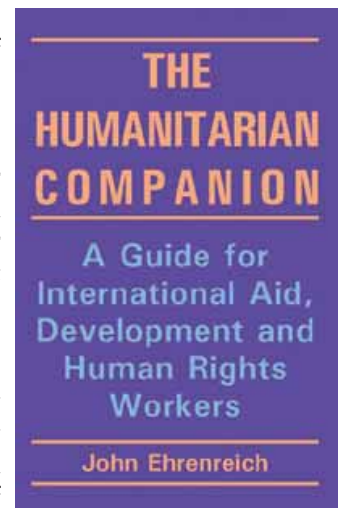
WHO Resource Book on Mental Health, Human Rights and Legislation. 2005, ISBN 9-2415-6282-X, Order No. 11500611, World Health Organisation, 197 pages, USD 45.00/ CHF 25.00 (for developing countries). Order online at <http://bookorders.who.int> or write to bookorders@who.int

Mental health laws are an essential means of promoting and protecting the rights of people with mental disorder, but despite this, countries all over the world fail to legislate effectively, if at all, in this area. The WHO Resource Book on Mental Health, Human Rights and Legislation brings together important information on international human rights standards related to mental health. It provides practical guidance on key issues that countries need to consider and

incorporate into their national mental health laws, as well as useful strategies to facilitate the development, adoption and implementation of the laws. It also contains a checklist on mental health legislation which countries can use to review the comprehensiveness and adequacy of existing mental health legislation and to help them in the process of drafting a new law.

The Humanitarian Companion: A Guide for International Aid, Development and Human Rights Workers. John H. Ehrenreich, March 2005, ISBN 1-8533-9601-x, ITDG Publishing, 224 pages GBP 16.95. Order online at <http://www.developmentbookshop.com/> or via email at: orders@itpubs.org.uk

This book will help humanitarian and aid workers, and those training them, prepare both practically and emotionally for the wide range of challenges, dangers and insecurities that are an everyday part of their work. It starts with issues to consider before you start out, then deals with safety and security in the field, staying healthy, managing stress, coping with the trauma of others, and dealing with returning home at the end of an assignment. An extensive appendix includes a checklist of 'what to do and what to take with you', a brief first aid manual, and other practical information and advice. This book will be a welcome companion for all humanitarian workers and an essential tool for those training them.



Reducing Risk Using Micro-finance Tools and Safety Nets

This year, the theme of the ISDR International Day for Disaster Reduction Awareness Campaign aims at increasing disaster resilience using micro-finance and safety nets. The objective is twofold: to sensitize the social and financial communities and institutions on their potential role in reducing disaster risk, and to raise awareness in the disaster and risk management community of the utility of existing financial tools and safety nets to reduce the vulnerability of hazard-prone populations. The rationale behind this year's theme is that hazards pose a major risk for the poor and marginalized, the most vulnerable in society; the destruction of property and livelihoods further entrenches them into poverty. Therefore investing in disaster risk reduction will result in reducing the vulnerability of people to hazards and helps break the vicious cycle of poverty.

For more information visit www.unisdr.org

Dear Readers,

We are happy to bring you this issue of the newsletter focusing on disaster recovery. Six months after the great tsunami tragedy, the countries most affected by the disaster are taking great strides towards recovery and long-term reconstruction. A wide range of agencies have come forward to help in the recovery process. ADPC too has extended its expertise particularly to Thailand, Indonesia, Sri Lanka and the Maldives in leading these countries in their recovery initiatives. The recovery phase of any disaster is a challenging one and yet it provides the most opportunities for introducing risk reduction and mitigation measures, thereby reducing future impacts of natural disasters. It is the recovery phase, where crucial decisions are taken that sets the agenda for long term reconstruction, rehabilitation and development of any country.

The post-tsunami recovery has brought to the fore some conflicting issues; such as the environmental restoration and resettlement, and the creation of buffer-zones. The buffer-zones are not an answer to either environmental restoration or the exclusion of people living on the coastal areas, when their livelihood depends on it. A "porous approach" should be developed that builds resilient communities for people to repopulate the coastal areas they have occupied for centuries. For the extreme issues of truly unsafe areas, a selected area for non-occupancy may be acceptable. Resilient communities are those that will allow and be designed for people to manage risk.

In this issue, the theme article by Loy Rego and Supriya Mehta brings out the key issues in recovery and also illustrates ADPC's initiatives in assisting the tsunami affected countries. Mr Boen and Mr Jigyasu debate the issue of relocation of communities, citing example of two past earthquake and tsunami cases from India and Indonesia. Mr Mihir's article raises the expectations from the International Recovery Platform, whilst Ms Dilruba's article demonstrates the value of introducing risk reduction in the early stages of relief and recovery. Also showcased in this issue are some of the recovery initiatives in the different tsunami affected countries.

Our sincere appreciation is extended to Mr Loy Rego, Mr Arambepola, and Ms Supriya Mehta, for their contribution on the overall theme of this issue. We hope you enjoy this issue, and as always we look forward to receiving your comments and suggestions.

Happy reading!
Earl Kessler
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Editor's corner . . .



Cover images courtesy UNDP, Sarvodaya and the www.flickr.com/photos/tags/tsunami/websites.

Theme for Forthcoming Issue of the Asian Disaster Mangement News

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