CHAPTER- VI
COMMUNITY PARTICIPATION AND DISASTER MANAGEMENT

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“Empowering families and communities to take preventive action on their own behalf, without being dependent on external support, is one of the clear, unalterable lessons learned from the tsunami experience. The aim is always to leave people better off, to reinforce their existing coping mechanisms and to build their resilience to whatever the future holds. This is the true legacy of the tsunami operation”

- (International Federation of Red Cross and Red Crescent Societies, 2009).

1) Introduction

Much of the literature on participation in emergencies focuses on the role of community engagement in disaster preparedness. However, the literature that does address participatory approaches in disaster-affected contexts highlights the advantages, which include better analysis, effective programming and implementation, and increased accountability. In addition, such participation creates linkages between relief, rehabilitation and development work, and allows members of affected populations to emerge as social actors in their own right, with valuable knowledge and insights on their situation, as well as competencies and ideas of their own (ADRRN, 2007).

Thus, there is general agreement that while it may be unrealistic to aim for community participation in the initial relief phase, it is important that communities are included in the design and implementation of assistance programmes, to ensure greater ownership over the recovery process.
However, there is no standard participation model. Any approach must remain flexible, and sensitive to the local context. Aid agencies should take local coping strategies into account and build upon them instead of imposing their own “ready-made” interventions. Important ways of ensuring community engagement include providing timely and regular access to information, and recognizing the capacity of local community organizations. Much of the literature shows that while there is widespread theoretical recognition of the importance of community participation, this has rarely translated into reconstruction practice, and grassroots participation in recent crises has remained insignificant (Asian Disaster Reduction & Response Network, 2007).

Supporting meaningful participation by ‘vulnerable groups', in disaster response is another challenge. Past experience has shown that local participation can often be captured by local elites, and the vulnerable left out of the process. Some commentators argue (ADRRN, 2007) that the long-term strengthening of local communities that is needed in this respect requires a lengthier commitment from aid agencies than their funding and staffing cycles currently allow. In the short-term, however, the literature below highlights that aid agencies should learn to see these groups less in terms of their vulnerability and more in terms of their resilience and potential to contribute. Agencies should recognize and build upon the ways in which local and vulnerable groups are independently responding to the crisis. This query includes materials from both academic and operational perspectives. Literature on sectoral issues has been included as it illustrates the more general recommendations and may provide more widely applicable lessons learned. Some materials offering practical guidelines, toolkits and approaches to facilitating community participation have also been included. Nevertheless to say that a true community-based approach
requires a different programming flow, one that begins not with assessment, but with mobilization of social groups and communities, which is then followed by a community-based assessment. This mobilization may be done by the community on its own initiative or as a response to signals from government about how reconstruction will be undertaken.

2) Community Participation in Disasters: The General Perspective

The first people to respond to a disaster are those living in the local community. They are the first to start rescue and relief operations. Many of the international agencies were keen in working with the affected community to a certain extent. The Red Cross and Red Crescent National Societies, focus on Community-Based Disaster Preparedness which assists communities to reduce disasters and strengthen their capacities to resist them. When the capacity of a community or country to respond and recover from a disaster is overwhelmed, and upon request from the National Society, the International Federation uses its regional and international networks, assets and resources to bring assistance to the communities to extend support to the relief programmes (IFRC, 2009).

National Red Cross Red Crescent Society is considered as one among them which is assisting their own international association during emergencies and similar kind of events. At an international level, the International Federation advocates with Governments, international organizations and humanitarian donors for better practice and accountability in disaster management and greater respect of the dignity of the vulnerable people (IFRC, 2009).

There is a fact that community input and participation are crucial to the success of disaster response and development programmes. Consulting with
community members is intended to ensure that programs are aligned to their needs, but does it go far enough? In the year of 2007, Oxfam collaborated with the Institute for Participatory Interaction in Development (IPID) \(^2\) in Sri Lanka to carry out a review of post-tsunami capacity building programs for disaster preparedness. The research served a joint impact assessment of community capacity building efforts in disaster preparedness by participating governmental and nongovernmental organizations (NGOs); it also provided an opportunity for community members to articulate their observations and needs and to develop their confidence as analysts. Both the findings and the participatory process of the IPID study point the way to a fuller and more equal partnership between aid providers and affected communities (Oxfam International, 2008)\(^3\). As disaster experts suggest: “There is difference between consulting with communities about a program, which most aid providers already do, and really engaging those full partners. Without full and active partnership, there is a risk that the program might not turn out to be suitable or sustainable” (Mallika Samaranayake/Atul Loke/Panos, 2009).

In order to get populations back on their feet as quickly as possible and to allow organisations to tailor appropriate responses to the needs of different categories of people, the genuine involvement of local communities is fundamental. Participation and early national and local ownership in the design and implementation of programmes is essential to ensure that aid is distributed fairly and impartially. Local communities have contributed immensely to relief and reconstruction efforts in Tsunami affected areas to date.

Participation empowers communities; however, the outcomes of that participation can be unpredictable. The participatory process may give rise to new actors or interests or may create conflicts between organizations that
had previously worked together harmoniously. Guiding the participation process includes making sure that people’s expectations are realistic, especially if they believe that large amounts of funding are available. At the same time, an agency may observe a multiplier effect from its support of a participatory project, as the community realizes its capabilities and new ideas for activities and projects. The organization and facilitation of community participation should not be done on a purely ad hoc basis. Trained facilitators and other experts in community participation should be part of the management team for any project that entails participation (World Bank, 2010).

Community participation is seen by some as a way for stakeholders to influence development by contributing to project design, influencing public choices, and holding public institutions accountable for the goods and services they provide. Some view participation as the direct engagement of affected populations in the project cycle assessment, design, implementation, monitoring, and evaluation in a variety of forms. Still others consider participation an operating philosophy that puts affected populations at the heart of humanitarian and development activities as social actors with insights, competencies, energy, and ideas of their own.

Community engagement has numerous benefits and is critical in every stage of post-disaster recovery and reconstruction. It encourages agencies involved in reconstruction to offer affected communities a range of options for involvement in reconstruction. It addresses the organization of affected communities and participation by individuals, communities, and community-based organizations (CBOs). Incorporating participation by the community in reconstruction projects funded by local and international nongovernmental organizations (NGOs) is largely voluntary, yet the commitment to participation is generally quite high. However, the level of
this commitment may vary in projects sponsored by the public sector. In their decentralization framework, planning law, or local government ordinances, some countries require community participation and information disclosure for publicly supported projects. This participation may include anything from public hearings on project budgets to comment periods on procurement documents to “sweat equity” contributions in community infrastructure projects. Compliance with these laws may at times be pro forma; this is even more likely to be the case if government is operating on an emergency footing and fears that projects will be delayed. Under these circumstances, the pressure even from the communities themselves may be to act quickly and to impose top-down, technocratic solutions (World Bank, 2010).

Experience is increasingly demonstrating that an emergency is the time to expand, rather than reduce, participation, even if there is no formal policy framework for participation in place. By including properly structured community participation mechanisms, physical outcomes and the quality of oversight can actually be improved, especially when large sums of money are involved. Local and international NGOs and other agencies involved in reconstruction can help operationalize these mechanisms. Or local government may be able to establish the guidelines and coordinate community participation in reconstruction. The role of local government is especially critical when local land use decisions and infrastructure reconstruction are involved. Thus the vital role of the involvement of the affected community in all aspects of the disaster management is not only a requirement but also gives a positive and right direction in all the efforts of the disaster management activities (World Bank, 2010).
3) NGOs Lead the Way to Community Participation in Disaster Management

The purpose of NGOs[^4] is not to supplant the governmental relief agencies but to act as a coordinating mechanism between the government apparatus and the affected populace. The role of NGOs assumes significance in view of their wider engagement in civic and development initiatives. Factors such as disillusionment with centralised structures; emphasis on pluralism, expanded civic engagement; and collaboration amongst multiple actors explain this change in perception. The growing importance of NGOs can also be attributed to the realization that neither the state nor the market can fully address enormous problems facing the world today. Over the last few decades, NGOs have become important players in the development process across the globe, engaged in wide ranging activities starting with community development to training, policy research, and advocacy. Their organizational flexibility, informal work style, and close engagement with grassroots communities enable them to deliver services to people at lower costs. They supplement government initiatives by acting as a conduit between development programmes and beneficiaries, informing and sensitizing people about their rights and entitlements. Their ability to mobilize people and understand people’s concerns enables them to better articulate problems encountered by people (*Aurobindo Behera, 2002*).

Today, NGOs play an important role in disaster response and mitigation in different regions. Many international NGOs specifically focus on providing humanitarian aid to disaster victims. Local NGOs in South Asia have also played an active role in disaster management in recent years. In India, NGOs played a significant role in emergency response and rehabilitation following recent disasters: the 1993 earthquake at Latur, which killed 7601
people, the 1999 Orissa super cyclone which killed 8931 people and the 2001 Gujarat earthquake which killed over 13,000 people.

Action Aid, an international aid agency, tried to ensure a people centered approach in the assessment and more qualitative and people participation based tools were used to assess the needs of the affected populace. In keeping with their global objectives for work in early recovery, Action Aid Bangladesh focused their interventions on livelihood, psychosocial, gendered impacts of Strategy for International Disaster Risk Reduction impacts on diversified ethnic and occupational minorities, and disaster risk reduction aspects (UNISDR, 2005). Action Aid – India in the immediate aftermath of the Tsunami, distributed relief, including food packets to survivors of the Tsunami. Amid reports of “dumping” of unsuitable aid by a proliferation of agencies, Action Aid then began to focus on coordinating efforts among areas through the instigation of the “Tamil Nadu Peoples Forum for Tsunami Relief”. In the longer term, ActionAid is working with fishermen in Tamil Nadu, to preserve traditional fishing methods and is engaged with specialists in coastal areas around the Indian Ocean to advice on the lengthy process of desalinating land. As in some areas it could be years before land is again fertile for cultivation, ActionAid has responded with cash for work programmes, in which local people rebuild and reconstruct their local environment in exchange for a daily wage. Participation of women has been encouraged through the provision of crèche facilities. ActionAid is also engaged in advocacy programmes with affected communities to work on allowing them to realize their rights in the reconstruction effort (CONCORD, 2005).

In India, Cordaid 5 (Dutch Caritas) had a large network of local partners working in development programs. After the Tsunami struck, many of these
partners turned to Cordaid for support in their emergency activities. As local NGOs were familiar with the area and the communities, Cordaid decided to concentrate on working with them and not to look for other partners. Because of existing relationships and mutual trust, Cordaid was able to disburse funds for emergency relief to them very quickly. However, Cordaid realised that many of these NGO’s did not have much experience in emergency and rehabilitation work. Cordaid immediately put in place a team of 4 Indian consultants with different expertise that worked side by side with these partners from the start, advising them and building their capacity step by step. In addition, Cordaid agreed with a partner from Gujarat to work with a couple of smaller NGOs in Tamil Nadu to share the experience gained in the Gujarat earthquake. The immediate guidance of a team of Indian consultants has stimulated Cordaid’s local partners to be more involved in coordination and has also enhanced both the quality and added value of the rehabilitation projects that followed the emergency work (CONCORD, 2005).

Local NGOs in Thailand were indispensable in organizing operations and in calling attention to those who might have otherwise have been neglected (such as Burmese migrant workers or the Moken, one of the last sea minorities leading a traditional existence). Countries around the globe have recognized the impact of collaborative efforts in disaster recovery. For instance, Sri Lanka has very low insurance coverage for disasters. The Sri Lankan Reconstruction and Development Agency has worked with the private sector to launch a micro-insurance program to help the poorest people to recover after natural disasters. For example, companies may work with NGOs or the government to pay insurance premiums on behalf of low-income households. Additionally, the documentation process for claims needs to be simplified, and the industry needs to promote risk reduction.
awareness. However, the real challenge ahead will be to make micro-insurance more profitable and sustainable.

In another notable experiment, a case study approach was used to accomplish to study the response programmes in the two affected communities in Thailand, namely Ban Namkem and Ban Tungwa. Experiences of the two communities were presented and analyzed through document review, participant observation, and semi-structured interviews. Interviews were also carried out with key informants from the Thai government and international and national non-government organizations that assisted in the tsunami response and recovery efforts. Results show that there was no consensus on the success of the tsunami disaster response in Thailand. The rapid response of the Thai government was effective for the search and rescue operations, but in terms of aid distribution and relief operations, errors were made that should be examined. The Thai government immediately formed a chain-of-command and distribution of responsibilities to different ministries. The response phase focused mainly on assisting the victims with search and rescue teams and basic necessities. Donations and volunteers came from aid organizations as well as the Thai citizens residing within and out of Thailand.

Community participation during this phase was shown in the establishment of temporary relief camps for the victims of Ban Namkem and Ban Tungwa communities provided by local NGOs. Overall, there was, however little involvement of the impacted public in the response despite the fact that those affected were in fact the first responders (Wannasorn 2008). The tight timeframe and overwhelming number of tasks carried out by field staff, as well as the strict criteria for aid, prevented the government from reaching out to all victims. These factors discouraged field staff from implementing
programs that would enable the community to participate and voice their concerns during the recovery effort. Failure to involve the affected communities or lack of meaningful public participation led to time consuming and costly delays and development projects which were not popular with the affected community. In fact, a housing project implemented without community input was abandoned due to its low quality and failure to meet the affected community's lifestyle. Findings show that the two communities studied were capable of making their own decisions and organizing themselves to assist each other as early as possible after the disaster struck. It was also clear that community participation in the decision-making process could empower and promote the solidarity of the community, which in turn enables community members to protect themselves from outsiders' exploitation, as shown in the fight for land rights that ensued in Ban Namkem and Ban Tungwa communities (Wannasorn, 2008).

Obstacles that either prevented or decreased the capacity of community members to participate arranged from a general lack of opportunity to participate in any of the response or recovery decisions to low expectations within the affected communities regarding government assistance and/or any call for their involvement in the decision-making process. The overwhelming number of responsibilities placed on field staff also impacted their ability to involve people in a timely way (Wannasorn, 2008). Though many aid providers involved communities in some respect on shelter construction, their participation was usually limited. Respondents know best what they need to restore their livelihoods, rebuild their lives, maintain their community networks, and stay out of harm’s way. They should be brought into genuine partnerships with aid agencies at every step of the way (Oxfam, 2008). As aptly noted by a community member in Sri Lanka, “If
any aid organization comes to this village, we would like them to realize that even in the village, even in rural area; we have our own traditional knowledge and methods of doing things’. Before, implementing aid agency plans here, we would rather listen and understand the rural villager’s traditional knowledge and methods (L.W.Sunil Edward, 2008).

In their reliance on community participation for disaster management, the Honduran and Nicaraguan projects are building on experiences pioneered by NGOs. Following Hurricane Mitch, CARE, Catholic Relief Services, The Red Cross, CATIE, and the Cooperative Housing Foundation, to name a few, worked with affected communities to develop strategies for recovery and for facing future disaster events (Tova Maria Solo, Myriam Godinot, Osmar Velasco, 2010).

CARE’s approach emphasizes risk prevention and mitigation through community participation with the objective of reducing the probability of life and property losses (CARE International, 2009). CARE’s methodology was piloted in twenty communities in three Honduran municipalities and adopted by the Nicaraguan Executive Secretariat for Disaster Prevention, Mitigation and Response. In Guatemala, as part of its Mitch Recovery Program, CARE created Local Emergency Committees, which are now in place and ready to respond to any event. The Catholic Relief Services developed a regional program for disaster mitigation which includes building disaster response capacity in local communities through, for example, the identification of emergency shelters and procedures. Participating communities provided labor and a portion of the materials needed to implement mitigation measures. CATIE has promoted risk management capacity building in two groups of Honduran municipalities (man comunidades) six in Copán and ten in Reitoca. In each case, CATIE
worked with municipalities to ensure that preventive measures are a part of the municipal development plans. CATIE has also established local environmental funds, financed through tourism, taxes, and by donor grants, to cover costs of mitigation measures.

The Cooperative Housing Foundation (CHF) also worked with communities in two Honduran municipalities to carry out risk assessments and to identify and implement mitigation measures under Proyecto Impacto, a post-Mitch program financed by U.S. donations. In this case, private sector groups provided technical assistance or facilities. CHF reports that prevention is such an economically justified concept that private sector participation was relatively easy to leverage. In one of the municipalities, the project resulted in the creation of a mitigation department at the municipality, showing the awareness raised locally. In both the Honduran and Nicaraguan projects, the door has been opened for more participation from NGOs and the private sector. NGOs are encouraged to offer creative methods to work with communities under the risk assessment and mitigation planning phases. The governments, both national and local, are relying on participation from civil society to develop local capacity (Tova Maria Solo, Myriam Godinot, Osmar Velasco, 2010).

In India, The National Disaster Management Authority in consultation with eminent humanitarian assistance practitioners, civil society representatives and senior administrators in the country is in process of developing Guidelines on ‘Role of Non-Governmental Organisations (NGOs) in Disaster Management’. These Guidelines have been formulated by Core Groups of eminent humanitarian assistance practitioners based on the consultation with various stakeholders, national & local level NGOs and UN Agencies in the concerned subject and officials from the Ministries and
Departments of Government of India and State Governments. The Guidelines on the Role of NGOs in Disaster Management have been prepared to facilitate greater coordination between NGOs and Government institutions during various phases of the disaster management cycle, within the framework of the Disaster Management Act 2005. These Guidelines have explored the scope, role and opportunities for NGOs to mainstream disaster risk reduction into their developmental activities (G. Padmanabhan, 2010). 

4) Community Participation - Case Studies

a. 2006 Java Earthquake, Indonesia - Organizing Community-Based Resettlement and Reconstruction:

Somewhat hidden from the world by the ongoing flurry of Aceh tsunami recovery, the 2006 Java earthquake with a magnitude of 6.3 on the Richter scale was nevertheless an enormously destructive event. Over 350,000 residential units were lost and 5,760 persons were killed, most from the collapse of non-engineered masonry structures. Using lessons learned from the tsunami experience and resources from the ongoing Urban Poverty Project (UPP), the Indonesian government was able to respond quickly and efficiently. Facilitators were recruited and villages elected boards of trustees, which later were instrumental in organizing community meetings and supervising implementation. Key activities included (1) identifying beneficiaries and prioritizing the most vulnerable; (2) establishing housing groups of 10-15 families, who chose their leaders and a treasurer; (3) developing detailed plans to use the construction grants for each group; (4) opening group bank accounts; and (5) obtaining approval of plans, disbursement in tranches, and group procurement, construction, and bookkeeping. Training was provided to community members and local
workers to ensure earthquake-resistant construction. Later, the community developed plans to rebuild village infrastructure and facilities, with a particular focus on disaster resilience. Communities conducted self-surveys, prepared thematic maps, analyzed needs and disaster risks, agreed on priority programs, and established procedures for operations and maintenance. Grants for infrastructure were also disbursed in tranches through the selected bank as work progressed. An adequate understanding of rules and a sense of ownership by the community were essential to ensuring good targeting and plans, accountability, and social control of implementation. The involvement of women increased accountability and enhanced the appropriateness of technical solutions. The role of facilitators was crucial, as they both ensured effective communication and adaptability of the program to local situations as well as compliance with program principles. In all 6,480 core houses were funded by a World Bank loan under UPP, and another 15,153 units were funded by the multi-donor Java Reconstruction Fund. This approach to reconstruction became the model for the much larger government-financed rehabilitation and reconstruction program, under which about 200,000 houses were rebuilt in Java (Probo Sudarma, 2009).

b. 2003 Bam Earthquake, Iran - Community Participation in Developing the Structure Plan (2015) for the City of Bam:

After the 2003 earthquake in Bam, Iran, a national strategy for housing reconstruction was published. For urban areas, the strategy featured (1) provision of interim or transitional shelters on existing vacant lots, including the distribution of prefabricated units to address housing needs for a 2-year period; and (2) provision of permanent shelter after preparation of a detailed city master plan and the approval of technologies and legal and procedural mechanisms for reconstruction. The provision of interim shelter in the city of Bam gave government time to revise the existing city plan.
before beginning reconstruction. The most recent Bam City Master Plan had been developed by a consulting firm and approved by the High Council of Architecture and Urban Development of the Ministry of Housing and Urban Development in the year prior to the earthquake. However, the disaster raised significant new issues, so the same consulting firm was brought back to update the plan. A comprehensive survey sought inputs from local authorities, implementing agencies, community leaders, NGOs, women, youth, and children (Victoria Kianpour, 2009).

In April 2004, the Housing Foundation of the Islamic Revolution-United Nations Development Programme (UNDP) joint housing project organized a technical consultation in which UNDP; the United Nations Children’s Fund (UNICEF); the United Nations Educational, Scientific and Cultural Organization (UNESCO); the World Health Organization (WHO); the United Nations Industrial Development Organization (UNIDO); and other UN agencies provided technical assistance and capacity building for the participatory city micro-planning process, to explain such concepts as child-friendly and healthy cities and to discuss the socioeconomic aspects of city planning. The final Structure Plan specifically addressed the need to respect the traditional architecture and urban design of the city and villages, to protect buffer zones, to minimize relocation, and to minimize expropriation through reuse of land. This plan formed the basis for subsequent detailed planning of 11 priority reconstruction areas in the city of Bam. To reduce the chance of excessive uniformity, each area had a different planning team. The modified plan and detailed plans were ratified by the High Council in October 2004, 10 months after the earthquake. Subsequently, the Ministry of Housing and Urban Development, with support from UNDP, published the results of the consultative process and the Bam Housing Typology (UNDP Iran, 2009).
c. 1993 Latur Earthquake, Maharashtra, India - Community Participation in the Maharashtra Emergency Earthquake Rehabilitation Program:

With the help of the World Bank, the government of Maharashtra, India, developed the Maharashtra Emergency Earthquake Rehabilitation Program (MEERP), which institutionalized community participation and ensured that beneficiaries were formally consulted at all stages of the post-earthquake program. Every village created a local committee headed by the sarpanch (the head of the village council), and its subcommittees included women and disadvantaged groups. Consultative committees were also proposed at the level of the taluka (an administrative unit that includes several villages) and the district. To ensure the village-level committees interacted with the project management unit at all levels; government took an innovative step and appointed two respected community organizations to carry out the process, the Tata Institute of Social Sciences and the Society for Promotion of Resource Area Centre (Rohit Jigyasu, 2002).

d. 1992 Floods, Pakistan - Grassroots NGO Introduces Measures to Engage Women in Housing Reconstruction:

Northern Pakistan’s catastrophic floods in 1992 were attributed to large-scale deforestation in mountainous watersheds, and led eventually to government imposing a ban on commercial harvesting of forests. After the floods, PATTAN, a local NGO, introduced a number of measures that specifically addressed women’s issues in the disaster recovery process. Female relief workers were engaged to assess the needs of women after the floods and to involve them in the planning, implementation, and rehabilitation activities. Local women were registered as heads of their households to help ensure efficient distribution of relief food. Village women’s organizations were established (in parallel with men’s groups) to articulate women’s needs and to take responsibility for community
development. These groups also provided a forum for discussing women’s views regarding the design and layout of new houses. As a result, women became actively involved in reconstruction activities. Later, women were made responsible for collecting money to repay loan installments on the houses. Some women also participated in construction, traditionally a male activity. Perhaps most important, PATTAN introduced the concept that married couples should own houses jointly (World Bank, Food and Agriculture Organization, and International Fund for Agricultural Development, 2008).

e. Examples of Community’s Role in and after Hurricane Katrina:
Community responses to Hurricane Katrina demonstrate the importance of local knowledge, resources, and cooperative strategies in determining their survival and recovery, that is, their resilience. These responses can also greatly inform theories and practice of disaster preparedness and risk perception planning, and help us see better how communities’ strengths and capabilities can be integrated into these processes. In this section, we present some examples of the social learning that is taking place in various communities in the aftermath of Hurricane Katrina, in the areas of preparedness, response and relief, and recovery (Olivia Patterson, Frederick Weil & Kavita Patel).

5) Civil Society and Private Sector Approaches to Disaster Management- Building Local Capacities for Disaster Response and Risk Reduction

This section presents examples of civil society and private sector activities in disaster management from the community involvement standpoint. “Without innovative local partnerships between civil society, local and central government and other stakeholders, instruments such as public
investment planning or conditional cash transfers are unlikely to be effective. Also without such partnerships, land use management policies and building regulations may actually construct risk rather than reduce it” (UNISDR, 2011). Yet, the role of community organizations and the private sector in risk reduction is often not well described in disaster management legislation and opportunities are lost to integrate their efforts into a coherent plan.

Civil Society has a vital role to play in disaster management. In connection with the pre-disaster programme, disaster preparedness, the role of Early Warning is a very important method. CTEC is a community-based volunteer organization working for emergency preparedness in the village of Peraliya, Sri Lanka. CTEC seeks to create a disaster preparedness culture through community participation and empowerment, with special emphasis on the protection of vulnerable groups and the use of information technology. CTEC is trying to create a network among community, district, and national government organizations to formulate and implement a disaster emergency plan. They attend district meetings and participate in policy discussions. Additionally, CTEC has identified village representatives and provided them with communication equipment to use during disasters. CTEC also takes responsibility for identifying and assisting vulnerable populations during disasters. Finally, CTEC conducts awareness raising programs in communities and schools to help people identify evacuation areas and routes (Oxfam America, 2006). With constant access to the Internet, CTEC receives messages from the U.S. Geological Survey. If the center learns of an earthquake in the Indonesian region, it contacts the Meteorological Department and GSMB for confirmation. Once it receives confirmation, the center immediately relays a warning to neighboring villages (Oxfam America, 2006).
An evaluation of this program revealed that CTEC appears to collaborate with the community, and people benefit by having an information center in their area. However, the Meteorology Department claims that CTEC caused a false alarm when it needlessly warned the public of an earthquake. In addition, the department logbook has no record of any calls from the center seeking confirmation of a tsunami warning, indicating that CTEC may be acting independently of the government in issuing warnings. Conversely, CTEC staff members report that the local government officers do not collaborate with them, and they are critical of the government’s top-down approach. The government and CTEC came to an agreement to remove the words “Early Warning” from the center’s name, as this role should be limited to the government; the NGO sector should only disseminate the government’s warnings (Disaster Management Policy & Practice, Oxfam 2006).

5.1. Role of Civil Society in Disaster Relief
Many critics argued that following the Indian Ocean tsunami both the Indian government and NGOs focused solely on providing infrastructure, such as boats, nets, and engines to the fishermen, rather than seeking to provide new skills or repair social connections (Aldrich, 2008). But if findings from this study and anecdotes from recent disasters like Hurricane Katrina are accurate, simply rebuilding bridges, schools, and power lines will not be sufficient. Local communities and neighborhoods need shared trust, communication, and commitment to return and stay. As the example of the Vietnamese community in Village de L’est showed, communities with deeper connections which stay in touch during and after the disaster are more likely to work together to rebuild their neighborhoods.
Policy-planners should think carefully about the ways that they can facilitate the construction and maintenance of social networks. For example, providing communities and community groups with communication devices such as cell phones and e-mail connections can help them stay in contact during the post disaster context. Further, NGOs and the government can focus on setting up not just temporary homes for people to live in, but meeting places for local community groups. Officials can also sponsor information sessions specifically for established faith-based or neighborhood-based groups and do everything possible to house relocated communities together, as opposed to separate locations. These are simple and relatively low-cost solutions, but they may have far-reaching positive consequences for communities struck by disaster (Aldrich, 2008).

5.2. Sarvodaya disaster management programs
Sarvodaya Community Disaster Risk Management Center is based in Rawatawatta, Moratuwa. Sarvodaya, the country’s largest charity, develops comprehensive medium- and long-term preparedness plans for each district in which it works. The organization creates volunteer groups to identify and rank probable hazards in the area. Sarvodaya has conducted community-based risk management trainings in 34 districts for volunteers and for officers from NGOs and international organizations. The Sarvodaya officers establish committees that network with government disaster management officers and other regional disaster management centers (Oxfam America, 2006). These relationships enable Sarvodaya to share resources and build its capacity. To maximize its resources, Sarvodaya has incorporated disaster management activities into ongoing programs. Often Sarvodaya is able to work jointly with other local and international groups on projects that reduce risk for coastal communities, such as through
identifying hazards and designing evacuation routes and small-scale village alert systems.

5.3. Private sector: LIRNE Asia and Last Mile Hazard Information Project

Although many people have televisions and mobile phones, the problem with using such technology as part of an early-warning system is that not everyone is continuously connected. The Last-Mile Hazard Information Project is being implemented by LIRNE Asia in partnership with Sarvodaya and other media and technology companies to determine how to connect people at all hours. Five kinds of radio, satellite, and mobile phone equipment are being tested to determine the best use of these technologies in early warning (Oxfam 2006).

The system will use pre-fabricated Common Alerting Protocol (CAP) messages to disseminate information in local languages. The alert system being set up is a closed user network rather than a public alert system. Sarvodaya is the first responder in the system. When Sarvodaya receives an earthquake report, it passes it on for authentication and once authenticated, the message is converted into a CAP message and disseminated among Sarvodaya personnel in villages (Oxfam Humanitarian Field Studies, 2006). The DRM Center has a help desk to respond to inquiries from villagers. The warning messages do not order people to evacuate, but rather convey information about the occurrence and location of an earthquake, its magnitude, and the likelihood of a tsunami. It is left to the villagers to decide whether or not to take action, depending on the emergency plan developed for each village.
5.4. Affected Peoples View of Disaster Management

Local communities are normally first responders and have coping strategies to mitigate and respond to disasters, such as by moving to safer locations and issuing warnings. Their input into disaster planning is critical. Housing design and construction are key to mitigating damage from future tsunamis or storms. Most informants felt that materials used to build post-tsunami houses were better than what they had used before, although others reported that the materials were worse. Approximately one-third of new houses have been designed to make them more resistant to a future tsunami (Oxfam International, 2006).

5.5. Preparedness for future disasters

Only 14 percent of the households report knowing how to react in case of a future tsunami, while 61 percent say they have some knowledge and 21 percent have no knowledge about what to do. More than 50 percent of households surveyed have identified safe places to which to evacuate, but only six percent have practiced evacuation drills; four percent have purchased insurance to protect them in the event of future disasters. However, the DMC reports that it has conducted awareness programs and evacuation drills for many households in some tsunami-affected districts, which appears to contradict the survey findings. One explanation could be that information does not filter down to all members of a household. The most important information sources are radio and television.

5.6. False alarms and distress

False alarms are a major concern: 69 percent of informants indicated that they had run out of their houses at least once after false tsunami alarms over the previous six months, and 11 percent had reacted to false alarms many times. The proportion of households that responded to false alarms is higher
in Ampara, Galle, and Trincomalee where the tsunami had the most devastating impact. In addition, female headed households seem slightly more prone to react to false tsunami warnings. In some cases, false tsunami alerts were issued so burglars could steal from the vacated houses. Feelings of distress and fear are a lingering symptom of the psychological impact of the tsunami. Among the 599 households surveyed, 14 percent of families have found it significantly more difficult to sleep at night, while 45 percent have found it a little more difficult to sleep at night. The percentage is higher for female-headed households (24 percent) than for male-headed households (11 percent). This has been a particular problem for a majority of people living in Ampara District, where 33 percent of families have faced considerable difficulties in sleeping during the night, while 51 percent have experienced slight difficulties. Children have been especially vulnerable, with 14 percent of them reportedly having more nightmares than before the tsunami. This rate was even higher in Ampara and Matara, where 23 percent and 20 percent of children, respectively, had more nightmares (Reports, Oxfam, 2006).

5.7. Women and Vulnerable Groups

Because of their unequal social, political, and economic status, women are more vulnerable in conflicts and natural disasters. Men, women, boys, and girls experience disasters differently due to asymmetrical power relations based on gender. In the South Asian context, men’s greater access to information and decision-making structures give them more opportunities to learn about and prepare for disasters than women. After the tsunami, gender roles influenced how men and women experienced the relief and reconstruction phases of the disaster. Although assessment of the separate needs of women and men is essential to the overall success of the relief and reconstruction effort, there is little gender-specific, quantitative data to
inform policy in Sri Lanka. Programs must address gender issues so that women can get the assistance they need (Oxfam Field Studies, 2006).

5.8. Gender and the tsunami: How women fared
This section highlights the ways in which women were more acutely affected by the tsunami and were neglected during the relief and reconstruction process.

5.9. High death toll of women
Available disaggregated data from districts like Ampara show that more women died than men, and in this study, people reported similarly skewed patterns of survival. Analysts have attributed this disparity to socio-cultural and economic factors. For example, women might have had difficulty fleeing the waves because they carried children or were hampered by their clothing (Reports, Oxfam, 2006).

5.10. Inequality in access to relief grants and property
In most cases, the relief grants that were paid to all households were given to the husband, unless a woman headed the household. However, women are more likely to use the money for household expenses, while men are reportedly more likely to spend it on alcohol or other personal consumption. Additionally, houses reconstructed by the government and NGOs are typically given to the husband. However, as much as 75 percent of the property in the North and East was owned by women before the tsunami.

5.11. Low participation in post-tsunami decision-making
Women’s involvement in policy planning and implementation is critical. In Sri Lanka, few women typically participate in decision-making processes in
their communities and in elected government, although there is significant variation among districts (Oxfam, International, 2006).

5.12. Domestic violence and sexual harassment
Participants in this study reported that the close living conditions of camps and the mental stress and financial and physical insecurity after the tsunami have led to an increase in domestic violence and sexual harassment of women and girls, although little data on these issues are available. Alcohol consumption by men and some women seems to have increased, as well.

5.13. Livelihoods
Women face many barriers to restoring livelihoods after disasters. They often bear the burden of ensuring that the household gets water and other supplies each day. Additionally, women often engage in low-wage, repetitive income-generating activities such as coir production, weaving, and sewing. This work is flexible, which enables women to also carry out child care and household labor. Other barriers to business activities that they face after disasters include disrupted markets, loss of assets, and lack of credit, limited access to raw materials, increased competition, and reduced profits.

5.14. Other vulnerable groups
While everyone living in disaster-prone areas is vulnerable, some groups such as children, the elderly, and people with disabilities are more vulnerable than others. Therefore, the needs of vulnerable groups should be addressed specifically in preparedness and relief operations. In Sri Lanka, district committees and NGOs have prepared lists of the elderly and disabled people in their areas, and some NGOs have formed groups of volunteers who are responsible for caring for the elderly during
emergencies. The Department of Meteorology is conducting several programs to improve disaster preparedness in coastal schools from Panadura to Hambantota (BEDROC, 2006). These programs teach children how to identify evacuation routes and prepare for disasters. Children then share this information with their families (Oxfam Field Studies, 2006).

Building Local capacities for disaster response and risk reduction A study jointly conducted by Oxfam International and bedrock, on communities perceptions of disasters, aid and their own response capacity. Bhagat Singh, Additional Secretary, Ministry of Agriculture had suggested various ways to reduce disaster impacts. While occurrence of these natural disasters cannot be prevented altogether, their adverse impact can be reduced substantially by undertaking various preparedness and mitigation measures by community involvement. Minimizing the loss of precious human life is the first priority in disaster management. Significant achievement has been made in designing of disaster resistant houses and inventing quality building materials to withstand the fury of natural disasters (Kumar, 2010).

5.15. Awareness and Peoples Participation

“Prepare disaster and community action plans, involve community for the purposes of planning to development action plans”, says Kobe Town Mayor. What is needed for construction are three things; money, technical skills and the understanding of people in the community, the most important is the latter. Therefore it is required that we must train and educate the community on pre and post disaster situations. Community is required to be better informed through awareness and education programmes. At the same time, the community volunteers can play an important role as they are flexible and that official authorities are not.
6) Community Participation in Post-disaster Reconstruction

Community participation in the rehabilitation received greater acceptance. While project management unit officials were initially skeptical of the community participation process, they later came to recognize it as an effective tool for dealing with difficulties that arose during implementation. Participation also had a positive psychological effect on communities. Involving local people in the reconstruction process helped them to overcome their trauma. Recognizing the psychological importance of the reconstruction program the government began reconstruction in small villages even before the rehabilitation program began, appealing to donors, corporate bodies, NGOs, and religious organizations to "adopt" villages for reconstruction. Some of these organizations also worked on social issues, such as schooling for children and campaigns against alcohol consumption. Over time the MEERP became a people's project. The participatory process opened many informal channels of communication and accessibility between the people and the government, helping to narrow the gap between the two. Beneficiaries became extremely conscious of their entitlements and worked hard within the process to secure them. Individuals who felt their grievances were not addressed appropriately at the village and taluka level could approach the district authorities and the government in Mumbai. Information on the program, its processes, and mechanisms for redress was accessible, and the level of awareness was high (Thangaraj Mano, 2011).

6.1. Community Participation in Planning and Implementation – Post-disaster Reconstruction

The active participation of community in planning and implementation will enable them to understand problems and capacities in a reliable and qualitative manner. Also the local communities can easily understand the realities and contexts better than outsiders. Disaster preparedness covers
activities to enhance the ability to predict, to issue warnings, take precautions and facilitate a rapid response and cope with the effect of a disaster. It includes pre-cautionary activities by households, communities and organizations to react appropriately during and following the event. Commonly they are used to categorize the main methods of protecting communities against hazards and disasters. Disaster mitigation and preparedness have tended to fall into the gap between development, cooperation and humanitarian assistance. Disaster preparedness is closely linked to emergency response, whereas mitigation approaches tend to have much in common with developmental processes (Thangaraj Mano, 2011).

6.2. Sustainability and stakeholder’s participation in Post-disaster Reconstruction

Government Agencies, NGOs, and international organizations implement various programmes both before and after disasters. Most of these are very successful during the project period, but gradually diminish as the years pass. There are many reasons for the gradual decrease of people’s involvement in a particular project. The most common elements are lack of partnership, participation, empowerment, and ownership of the local communities (Thangaraj Mano, 2011). All projects should have very broad stakeholders’ participation in order to have sustainability. Stakeholders of a CBDM program can be broadly defined as anyone, individuals or institutions, who may have contributed to the configuration of the disaster management or those who are normally affected by impacts of disasters in a locality, and thus have interest in participating in CBDM.

Under this section, it is important to establish the extent of social support systems including their roles and contribution by respective persons. The inter linkages of GOs, NGOs, academic and international organizations
should be reflected in terms of concrete projects and initiatives, and a model of cooperation should be devised. This also includes, individuals at risks, women’s groups; informal and formal leaders at the village level; volunteers with specific roles, such as in warning and evacuation; villagers with specializations like those who are mobilized to protect dikes and masons who can build earthquake-resistant structures; local business sectors, schoolteachers and administrators, district and local government authorities, research groups, people’s organization, NGOs, civil societies, technical resource groups, central government, national universities, UN agencies, and international donors. This exhaustive list indicates that for a CBDM to be successful, implementers should be adept in identifying and mobilizing as many stakeholders as necessary. In some countries relationships among stakeholders are formal and legislated, but some cases also show that informal relationships do not hinder partnership arrangements at the community level. It would seem that the choice is dependent on the political structure in a particular country and the perceived level of governance in the area. Experience, however, shows that formal institutional arrangements among stakeholders improve accountability and transparency, which is important for sustainability of CBDM. Likewise, based on the experiences, role allocation among stakeholders is highly necessary (Thangaraj Mano, 2011).

The methods for participation and empowerment that seek to sustain and institutionalize the process are, use of participatory approaches (PRA/PLA) involving communities in hazard; vulnerability, capacity and resource assessment as a basis for community planning; formation of informal organizations which would represent the community in coordination activities with formal local authorities; institutionalizing mechanisms such as a formal committees or councils with legal tie-ups with local government
Most of the projects under study promote tangible accumulation of physical and economic assets to reduce vulnerability. These are in the form of village contingency funds, and availability of credit for income generating activities, micro-solutions, small and medium-scale infrastructure projects that reduce impact of hazards; equipment and materials such as for latrines, water supply, early warning systems, rescue and evacuation facilities. Some focus on providing intangible “assets” such as technology in disaster resistant construction and access to information centres. Successful CBDM ventures have resulted in, increased willingness of individuals to work for a common purpose; use of collective action to solve community problems and decreased dependence on external assistance; increased awareness of possible individual and community disaster preparedness measures; and inculcation of positive attitudes among villagers in terms of their abilities to initiate changes towards the improvement of their communities (Thangaraj Mano, 2011).

7) Post Tsunami Recovery and Reconstruction in A & N Islands: Community Perspective

The post-tsunami period in the Andaman and Nicobar Islands offered an opportunity to restore affected housing and living conditions of the large number of people whose homes were destroyed or badly damaged. Such a process of restoration of people’s lives needed to take place, keeping in mind basic human rights principles of gender equality, nondiscrimination and participation. It was clear, however, that even one year after the
Tsunami, many shortcomings remained in the process of resettlement and rehabilitation. One important lesson learnt was that all actors involved in relief and rehabilitation work must undertake efforts to make sure that the grave mistakes made in post-disaster experiences of the past are not repeated. Failure to comply with human rights standards immediately will deepen the human-induced tragedy already afflicted on the survivors of the Tsunami. The resolve shown by states and the international community in the immediate aftermath of the tsunami must not be allowed to dissipate. In the process of rebuilding the lives, livelihoods and homes of those affected, it is vital that immediate humanitarian needs be complemented with long-term rehabilitation and reconstruction based on international human rights standards which uphold survivors’ rights to dignity, equality, livelihood, and adequate conditions of living.

The feedback which the author collected from various stakeholders especially disaster survivors from Bamboo flat, Tushnabad, Vandoor and other parts of the South Andaman points out in detail that the inadequacy of response from the authorities, evident during the initial relief efforts period to the reconstruction phase, keep promising without utilizing resources and efforts, continues to mark the landscape. (Amrita SREE, 2010) Clearly, the opportunities that the post-tsunami phase offered have been squandered by the authorities. One distinct human right, essential in any rebuilding process, is the right to adequate housing. A key element of this human right is ‘cultural adequacy’. As stated by the UN Committee on Economic, Social and Cultural Rights: ‘The way housing is constructed, the building materials used and the policies supporting this must appropriately enable the expression of cultural identity and diversity of housing. Also vital to the success of any rebuilding process, and related to the element of cultural adequacy, is that authorities grasp the opportunity to train local masons and
utilize local building materials and respect local traditions of space usage and layout. Another crucial point which came from the survivors is the implementation of the right to adequate housing, including the standards of cultural adequacy, have been ignored in the reconstruction phase (DRVC, 2010).\(^8\)

The A&N Islands government reconstruction programme to replace nearly 10,000 homes that were destroyed has thrown up many important issues. Major concerns voiced by communities include the design, location and cost of proposed housing and the lack of scope for them to be involved in the process. The livelihood and medical concerns of the affected ones are not met and often neglected. From the southern-most and the hardest hit island of Campbell Bay which is home to people from the Nicobarese tribes, to Little and South Andaman, the number of deaths was fewer but damage to homes and livelihoods extensive. Interviews were also conducted with officials and contractors (Dharam, 2007).

7.1. Relief Phase – Community Responses- A& N Islands
Housing: Related to the housing design and plan, though the traditional houses have withstood earthquakes very well and communities say they prefer them, the Government has decided to construct houses using pre-fabricated materials. These would be imported from mainland India through contractors at an apparently exorbitant average cost of approx. Rs.10 lakh per unit. People have rejected this type of houses. The anger of the marginalized communities of A & N Islands recently was manifested in a protest against the Government in Little Andaman which left more than 100 people injured in police action. Similar sentiments continue amongst inhabitants of other islands as well (Vivek R, Rajendra D, & Dharmesh J. 2006,)
Despite the diverse backgrounds and wide range of lifestyles of communities in A & N Islands, government plans propose a single type of house for all 9714 families. The only variation is that the same houses will be on stilts in Car Nicobar. The reconstruction programme guided by the Indian Planning Commission and Empowered Group of Ministers has been entrusted to central and local government agencies (CPWD and APWD) and NGOs. All the houses are to be built as per the design, specifications and technology finalized by CPWD whether being constructed by CPWD (7889 units), by APWD (1066) or NGOs (759).

The houses have been planned as twin units like government quarters – two homes together with a dividing wall rather than free standing. The communities however, say that such houses do not meet their needs. Traditional houses vary for tribal families and non tribal families, for agriculturist families and fisher families, from one island to the other island, depending on their lifestyle, occupation, customs, local resources and skills. The ecological significance of Andaman and Nicobar Islands need not be reiterated here. In such fragile eco-system, houses are being built with reinforced cement concrete (RCC) isolated footings, steel structures, corrugated galvanized iron sheets (CGI), bamboo boards and aero-con blocks, all imported from mainland India. These are projected to be alternative eco-friendly materials. But, the prototypes based on these materials were rejected by the community. The only significant change the Government made was that aero-con panels on the external face were replaced with timber planks. However, final specifications are not reflected in any model on the islands and are shown only in a model erected at the Chennai office of CPWD. Communities on the islands have been using timber structure houses which they know how to maintain, repair and
extend as per their needs. Extensions that are securely connected to the new house would be difficult due to incompatibility between proposed structures and the traditional way of building.

The learning in all past disasters has been to involve the communities in reconstruction work to achieve any satisfactory level of recovery. This has been disregarded in favour of construction through large contractor companies. A & N communities feel that reconstruction could have provided them opportunities for local employment, particularly for the carpenters and other highly skilled builders amongst them, but all this work has been awarded to contractors. Information is the first pre-requisite for any effective participation but communities have little information about their inclusion in the programme, location of the settlements, their own plots, house designs, materials that are being used or the roles and responsibilities of contractors and implementing agencies. Effective community participation needs to be planned through the whole process of design, procurement, implementation, monitoring and supervision (Kumar & Shikha, 2007).

7.2. Participation of the Affected Community: Despondently, community involvement was limited to only a few consultations at the design stage. The ineffectiveness and inadequacy of these consultations is reflected in the fact that only one type of design is being built for 9714 families across eleven different islands. Clearly, the prefabricated steel structure houses with RCC footings have been conceived more on the basis of capacities of delivery agencies rather than community needs and priorities (Amrita SREE, 2009). Another crucial point was that the affected communities have no information about the proposed site, location or specific plots for their new homes. Though few people have seen the prototype houses built

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by the government, they have rejected it. The final design, materials and specifications is not known to them. Non-tribal communities have rejected the house because it does not suit the location for their agriculture or fishing activities. Tribal communities in locations like Harminder Bay have also made it clear that any location other than where they presently stay is not acceptable. All families are being relocated on the land identified by the government officials.

7.3. Relocation: Many families will be relocated on some different islands now. After the discussions with communities across the islands, it was noticed that a large number of houses are going to remain vacant and unoccupied. At Loknath Pahar and Namunaghar in South Andaman and Machhidera, Netajinagar and Harminder Bay at Little Andaman, agriculturists, fishers and tribal community were not keen to move to any of the proposed relocation sites. The place of residence has always very critical linkages with their livelihoods. It is very likely that the tribal community will build its own traditional houses using their own traditional materials procured from the forests at a later stage though they will wait to ensure their entitlement from the Government.

7.4. Land rights: Use of land around the home is crucial to securing the housing rights of tsunami Survivors but it is not clear whether the affected families will be provided any ownership to the homestead plot. Though some local government officials claimed that it could not be allowed, the higher level A & N officials in Port Blair said the policy in this regard is still being worked out. The future growth of the house is critical in the local context as the house being provided is only basic essential space and not sufficient for the families, particularly when the family size grows with time. In a nutshell, the communities we spoke with are not in favour of the
declared reconstruction programme but feel vulnerable due to dependence on the government and many feel unable to voice their concerns. People prefer the traditional house design and materials and would have preferred if cash or material support was provided. They would have built a larger-sized house of their own choice in a lesser amount. But the present construction plan does not allow that (Vivek, Rajendra, & Dharmesh, 2006).

However, the extent and quality of participation and acceptance of the housing designs by the local communities is questionable. One of the most important things that has emerged in discussions with the communities is that of livelihood. The complexities of the post-tsunami recommendations regarding reconstruction situation are quite clear. There is no clear policy framework and instead, merely a reconstruction project has been formulated. CPWD is steering the implementation under the patronage of MoUD and has already awarded contracts to two big corporate companies. APWD and NGOs are also implementing small number of houses as per CPWD directives. One type of design is being built for all types of the communities, irrespective of their occupation and lifestyle. The proposed cost of each house is estimated to be Rs 6.5 lakh in South Andaman to Rs10 lakh in Car Nicobar and Rs12.5 lakh in Nancowry. There is a huge gap in information with the community about how, why and what decisions have been taken. Finally, it is very clear that the current framework of the reconstruction programme is not people-friendly and raises serious issues. Following recommendations are made by the different expert review team to ensure adequate and dignified housing to the tsunami affected communities (Vivek, Rajendra, & Dharmesh, 2006).
8) Lessons from Cyclone Nargis for the Environment, Sustainable Livelihoods and Disaster Risk Reduction

The aftermath of Cyclone Nargis and the enormous challenges of rebuilding communities illustrate the linkages between the environment, livelihoods and disaster risks. Pre-existing environmental degradation, as a result of inadequate land use and poor resource management, increases the vulnerability of communities, turning a natural hazard into a major disaster and resulting in additional environmental damage (UNEP 2009). Long-term recovery and development plans must, therefore, recognize the key role of sound natural resource management in attaining sustainable livelihoods as well as in minimizing or avoiding the adverse impacts of natural hazards. Lessons learned from Cyclone Nargis point out the necessary conditions for the sustainability of ecosystems and livelihoods as well as for disaster risk reduction, as elaborated below.

8.1. Lesson 1: Promoting an integrated approach towards sustainable livelihood development, environmental management and disaster risk reduction

As discussed in this case study, poverty is the root cause of environmental degradation in Nargis affected areas, which in turn has increased vulnerability to natural hazards. However, protecting the sustainability of ecosystems can only be achieved if local livelihoods and household food security is assured. The poor cannot be expected to have an altruistic attitude towards protecting the environment, without having tangible benefits in return.
Recovery efforts should therefore focus on community-based livelihood initiatives through improved management of natural resources. The government’s recovery and reconstruction plans as well as PONREPP emphasize the need to restore livelihoods, which create a window of opportunity for integrating environmental considerations as part of long-term recovery and development interventions. Moreover, as a result of the impacts of Nargis, there is now increased awareness of the need for disaster preparedness and risk reduction. A unique opportunity now exists to integrate DRR into the livelihoods environmental management equation. It is essential; for example, that DRR planning processes such as the Myanmar Action Plan for Disaster Risk Reduction (MAPDRR) recognize that sustainable livelihoods development and risk reduction should be based on improving natural resource management, particularly in communities that are vulnerable to natural hazards such as those in the Delta (UNEP 2009).

This integrated approach towards sustainable livelihoods development, natural resource management and DRR should be built into and further enhanced in the government’s Post-Nargis recovery and reconstruction plans. These plans should not only focus on the restoration and protection of the environment but also need to ensure sustainable livelihoods and food security for communities in affected areas. More integrated plans will be able to maximize the benefits of allocating government resources in Nargis affected areas in the future. Similarly, it is equally critical to integrate environmental components across different PONREPP sectors, in particular into the “productive lives” component, since PONREPP will guide the allocation of donor resources to support government initiatives (UNEP 2009).
8.2. Lesson 2: Developing alternative livelihoods

In order to reduce pressures on natural resources, it is necessary to provide communities with alternative but viable sources of household income, food security and fuel. For instance, as shown in the case study, mangrove deforestations mainly due to agricultural expansion as well as servicing household needs and income generating activities (i.e. firewood and charcoal production). Therefore, development initiatives designed to introduce more sustainable natural resource management practices must also provide alternatives for securing food needs, income and household energy, which do not rely on the over exploitation of resources. Small-scale efforts in this direction have been undertaken by NGOs such as FREDA. Both PONREPP and the government should take a more pro-active role in promoting the use of renewable energy sources for household fuel and small-scale income generation. Alternatives for renewable energy currently being explored include biogas, use of fuel-efficient stoves and solar energy. Current government plans to supply natural gas from the Andaman Sea to generate electricity for the Ayeyarwady Delta would, for example, reduce the pressure on mangrove forests.

In addition, other sources of achieving household food security and income also need to be identified to shift dependency away from rice cultivation. This is currently being pursued by NGOs such as FREDA and Mingalar Myanmar on a small-scale, as well as by funding agencies through their development programmes, i.e. JICA’s mangrove project, Pyopin (funded by the United Kingdom’s Department for International Development) and the FAO project on mangroves and sustainable small-scale fisheries. Proposed pilot projects as part of PONREPP to be managed by the United Nations Development Programme should also help develop workable models for sustainable resource management and livelihoods which can be replicated in
other villages. It is equally important that the government develops alternative socio-economic opportunities for communities as part of their long-term plans for forestry and agricultural development in Nargis affected areas (*UNEP 2009*).

**8.3. Lesson 3: Establishing an enabling policy and legal environment**

(i) Formulating and implementing policies and laws that promote environment and livelihoods National government agencies, including the National Commission for Environmental Affairs (NCEA), need to ensure that their policies and programmes support environmentally sustainable development. There is an equal need to enforce policy and legal frameworks as intended by the government and translate these instruments into timely and responsive programme interventions. This will require capacity-building and institutional strengthening of sectoral ministries as well as for the NCEA as the central environmental coordinating body within the government. In particular, it is critical that the government enact the National Environment Law, which would help guide the formulation and implementation of policies to support sustainable development priorities and sound environmental management. In addition, a national land use policy is needed to provide the overall direction for land use planning in the country, which takes into account environmental and livelihood priorities within the context of adapting to climate change and reducing disaster risks. This policy would set national priorities for land use, while devolving decision-making powers to local administrations to develop their own specific land use plans which would articulate local needs and priorities within the national framework (*UNEP 2009*).

(ii) Improving coordination in the implementation of government policies

Effective implementation of government policies will require improving
cross-sectoral coordination in order to balance development and environmental priorities. Increased collaboration across sectoral ministries and agencies (horizontal coordination) as well as between different levels of government (vertical coordination) is needed to ensure a coordinated approach to policy implementation. This would achieve the coherence necessary for implementing an integrated approach to environmentally sustainable development.

**Enhancing community access and control of natural resources**

Farmers and fishers must have long-term use rights over their natural resources in order to provide them with incentives to manage these resources in a sustainable manner. This is possible within the spirit of Myanmar’s land tenure and fisheries licensing laws. In practice, however, the actual implementation of these laws generally does not provide farmers and fishers long-term access and control of land and fisheries. At the same time, there is a need to strengthen community participation in decision-making over the management of natural resources. Presently, 50 percent of the local population remain landless and require sources of income and food security, especially those that also do not have access to fisheries. Although they earn cash incomes by working as agricultural labourers, it is not sufficient to meet household subsistence needs. Landless farmers need access to alternative livelihood sources, including community forestry schemes and subsistence fisheries, in order to minimize illegal encroachment of reserved or protected forests.

**8.4. Lesson 4: Raising awareness and building capacity for improved environmental management and risk reduction**

Limited awareness and capacity to apply appropriate and sustainable resource management are another important factor driving environmental
degradation. This problem has been recognized by the government as well as the international community in Myanmar in their recovery plans. Any initiative to boost livelihoods and provide alternative employment options, therefore, will need to provide capacity-building support (UNEP 2009).

(i) Community training on sustainable resource management and DRR
Capacity-building on improved environmental management is especially needed at the community level to reduce pressures on resources and boost livelihoods. Training activities will enable people to manage their natural resources in a sustainable manner through better understanding of the linkages between the environment, livelihoods and DRR. Towards this end, government plans in the forestry, fisheries and agricultural sectors include training for communities in resource management. Capacity building activities provided by government, however, should be undertaken through collaboration between different ministries and administrative levels to maximize efficiency and effectiveness of trainings (UNEP 2009).

Capacity-building of communities would be best carried out by community-based organizations (CBOs) and NGOs, because they are trusted by local people and have the necessary on-the ground knowledge and experience. However, CBOs and NGOs should work closely with extension services of relevant government agencies such as fisheries, forestry and agriculture. It will be important to ensure that trainings are based on a careful assessment of needs and address environmental, livelihoods and DRR priorities in an integrated manner. Capacity-building programmes should be complemented by the preparation of training materials, such as guidelines and manuals, which would be developed based on the experiences of recovery and development projects (whether implemented by NGOs, the government, the UN system or others) in the Ayeyarwady Delta.
(ii) Strengthening capacities of local authorities’ Local authorities play a crucial role in implementing policies, laws and regulations to support sustainable development. They are at a level of governance closest to the people; therefore, their active engagement at the township, district and divisional levels in development initiatives is essential in carrying out coherent and responsive disaster preparedness strategies. Local authorities could also contribute effectively to undertaking local environmental assessments and monitoring as well as raising greater public awareness about the environment. Moreover, they can help address resource access issues. However, local administrations also require training on the implementation of national rules and regulations, particularly those that affect the environment and livelihoods. Trainings would be complemented by the development of guidelines and manuals on how to effectively implement national laws and policies to achieve their intended objectives.

One major area for capacity-building is in developing appropriate, environmentally sustainable local land use plans at both divisional and district levels. To ensure more locally responsive and appropriate land use plans, there is a need to devolve decision-making on the allocation of land based on local contexts and priorities, though working within the framework of national policies. However, allocating greater powers to local authorities must be accompanied by strengthening institutions within local administrations and building capacities of public officials in divisions, townships or districts (UNEP 2009).

(iii) Strengthening civil society organizations NGOs and CBOs serve a critical role in capacity building and support for community-based initiatives. They fulfill an important advocacy role with local authorities
and national government, for instance in clarifying land tenure issues and promoting greater community participation in decision-making processes. Increasing in number as a result of Post-Nargis Recovery efforts, national NGOs are often staffed by retired government officials or individuals from the private sector. Civil society engagement is officially recognized in both PONREPP46 and the government’s national recovery and reconstruction plans, particularly in the forestry sector. Funding agencies are increasingly working in partnership with civil society organizations to implement community based projects that promote sustainable natural resource management. NGOs as well as CBOs, however, need to develop skills in natural resource management, advocacy, mediation and facilitation in order to provide that essential bridge between government and communities.

8.5. Lesson 5: Developing robust information base to guide decision-making

It is essential to recognize the importance of reliable and up-to-date information in helping to formulate and implement policies and programmes for sustainable development and disaster risk reduction. This calls for strengthening systems of assessment and the monitoring of natural resources at village, township, district and divisional levels in Nargis affected areas. Not only would a reliable data base be useful for national policymakers but also would enable communities and local authorities to better manage their natural resources, for instance through appropriate land use planning or development of coastal zone management plans. For Nargis-affected areas, monitoring and surveillance of key environmental features and resources (e.g. water, biodiversity, land and forests) will need to be strengthened, particularly with respect to the potential impacts of climate change including incremental environmental changes as well as increased vulnerability to natural hazards. In addition, a strategic approach
to DRR, based on a national vulnerability assessment, should be undertaken to develop effective strategies for climate change adaptation and for reducing future disaster impacts (UNEP, 2009).

9) Disasters and Communities

Disaster risk is on the rise throughout the world. Over the past two to three decades, the economic losses and the number of people who have been affected by natural disasters have increased more rapidly than both economic and population growth. The physical, social and economic losses caused by these disasters are particularly harsh for developing countries since they have a long-range effect in the development process. The impacts of the disasters are deeply related with the socio economic conditions, tradition, culture, and climate of the communities (Bishnu Pandey and Kenji Okazaki, 2010). To minimize the damages caused by disasters, various efforts have been taken by government, international communities including donor agencies. However, in spite of participation of these sectors during the project period, it has been observed that many of the disaster management programmes have failed to be sustainable at local level after the completion of the project. Without sustainability, disaster management efforts will not preserve. A critical element of sustainable disaster management is communities’ participation in these activities.

The most common elements of community involvement are partnership, participation, empowerment and ownership by the local people. The emphasis of disaster management efforts should focus on communities and the people who live in them. Unless the disaster management efforts are sustainable at individual and community level, it is difficult to reduce the losses and scale of the tragedy. There needs to be an opportunity where people can be involved from the initial programming stage of disaster
management activities. Through these community–based activities, people should be able to participate alongside government officials and experts group as the direct stakeholders of these activities. While people should own the problems, consequences and challenges of any mitigation and/or preparedness initiative, it is necessary to take people’s involvement further, into policy and strategy. This process induces sense of ownership to the people which results in their continuous engagement and long term commitment to these activities. Involvement of communities is important in both pre-disaster mitigation and post disaster response and recovery process (Pandey and Okazaki, 2010).

10) Community Empowerment

While disasters can strike wide region or a nation, that impact is felt at the community level although it may hit one or several communities at once. These communities constitute what is referred to as “disaster fronts”. Being at the forefronts, communities need to have capacity to respond to threats themselves. It is for this reason that communities should be involved in managing the risks that may threaten their well-being.

While different community empowerment programmes related to disaster mitigation have achieved their objectives, they are often short term, and issues on sustainability in these efforts are rarely addressed. Government, non-government and international organizations implement various programmes before and after the disasters. Most of them are very successful during the project period, but gradually diminish as the years pass. There are many reasons for this kind of phenomena; however, lack of effective participation and capacity building of the local communities to peruse the program remains a major factor for lack of sustainability. It is accepted that governments have the prime responsibility for managing disasters and for
taking into consideration the roles played by different players. In the past, top-down and command-and-control approaches were oftentimes used to manage the consequences of disasters. In this approach, decisions come from higher authorities based on their perception on the needs. The communities serve as mere “victims” or receiver of aid. In practice though, this approach was proven to be ineffective. It fails to meet the appropriate and vital humanitarian needs. Moreover, it increases requirements for unnecessary external resources and creates general dissatisfaction over performance despite exceptional management measures employed. This is due to the fact that the community, as the primary stakeholder and recipient of the direct impact of disasters, was not given the chance to participate in the process of decision-making and implementation of activities. On the other hand, communities if left alone have limited resources to fully cope with disasters. In many developing and underdeveloped countries, those who suffer the most are the poor, who, in the first place have limited survival resources and do not enjoy adequate infrastructure and access to social services. Community empowerment for disaster risk management demands their participation in risk assessment, mitigation planning, capacity building, participation in implementation and development of system for monitoring which ensures their stake (Bishnu Pandey and Kenji Okazaki, 2010).

11) Community Based Disaster Management (CBDM)

Most of disaster response can be characterized as command and control structure one that is top down and with logistic centre approach. Because of this, we observe, lack of community participation that results into failures in meeting the appropriate and vital humanitarian needs, unnecessary increase in requirement for external resources, and general dissatisfaction over performance despite the use of exceptional management measures.
Recognizing these limitations, the Community Based Disaster Management (CBDM) approach promotes a bottom-up approach working in harmony with the top - down approach, to address the challenges and difficulties. To be effective, local communities must be supported into analyzing their hazardous conditions, their vulnerabilities and capacities as they see themselves. In case of disasters, the people at the community level have more to lose because they are the ones directly hit by disasters, whether major or minor. They are the first ones to become vulnerable to the effects of such hazardous events. On the other hand, they have the most to gain if they can reduce the impact of disasters on their community. This concept gave rise to the idea of community-based disaster management where communities are put at the forefront. Through the CBDM, the people’s capacity to respond to emergencies is increased by providing them with more access and control over resources and basic social services. Using a community-based approach to managing disasters certainly has its advantages. Through CBDM, it is hoped that communities will be strengthened to enable them undertake any programmes of development including disaster preparedness and mitigation (Bishnu Pandey and Kenji Okazaki, 2010).

The CBDM helps in building the capacity of local community to cope with emergency faced by disasters. It is well noted that, currently CBDM has gained prominence world over. In India, High Power Committee (HPC) has realized the need for CBDM, and emphasized the role of local government municipalities and Panchayati Raj institutions (A.C.Jena, 2009). The CBDM approach provides opportunities for the local community to evaluate their own situation based on their own experiences initially. Under this approach, the local community not only becomes part of creating plans and decisions, but also becomes a major player in its implementation.
Although the community is given greater roles in the decision-making and implementation processes, CBDM does not ignore the importance of scientific and objective risk assessment and planning. The CBDM approach acknowledges that as many stakeholders as needed should be involved in the process, with the end goal of achieving capacities and transferring of resources to the community.

### 11.1. Community Based Disaster Management (CBDM) - Some Case Studies

The United Nations Centre for Regional Development (UNCRD) has incorporated CBDM as its approach in disaster management planning under the overall organizational mandate of sustainable regional development and human security. The UNCRD Disaster Management Planning Hyogo Office focused on the community initiatives in the Asian region targeting different stakeholders, from local government decision makers to schoolchildren. In all initiatives, attempts were made to ensure that communities are engaged in disaster risk management phases and are empowered to carry over them in long term run. Some case studies of UNCRD initiatives in this regards are discussed below (*UNCRD, 2002*).

Small island communities in the Andaman & Nicobar Islands are vulnerable due to their small size and difficulties in accessibility. Faced with the threat of recurrent disasters viz. earthquakes, Tsunamis and cyclones- the challenge lies in creating disaster resilient communities rather than disaster resistant communities. Peculiarities of the island communities warrant that the risk reduction aims at empowering communities. Increasing population growth, migration from the mainland, unplanned settlements and vulnerable construction practices have increased risks on these islands (*SEEDS India, 2007*).
Hence, it is necessary that the communities are resilient and proactive during the occurrence of such fatal disasters. There is urgency and need to develop a model approach for reducing risks such that it empowers. The community to such an extent is resilient against any future disasters. The Bottom-Up approach in terms of resource allocation and exercising powers in Panchayati Raj Institution will also be the key factor. Community Based Disaster Management and Reduction is the integral part of various programs undertaken by SEEDS and the core sectors identified in order to ensure capacity building and resilience are: Education, Livelihood, Institutional mechanism for Broad Based Disaster Reduction & Development, Safe Construction Practices and Water & Sanitation (Chavda, 2007).

11.2. Community Involvement in Flood Response and Rehabilitation

Maharashtra was plagued by unprecedented floods causing havoc in Mumbai, Pune and other districts resulting in tremendous loss to human life, public and private property. The development sector responded to the needs of the impact through a process of relief, rehabilitation and livelihood restoration. There is a huge reservoir of knowledge and expertise in the development sector in the world. However, the insights of the local communities and the solutions they find to problems sometimes outweigh this expertise as was experienced by DST in its flood response operations. The needs and opportunities differed at a local level and approaches needed to be adapted to respond to local realities. We, at DST, faced an unprecedented need and an unprecedented opportunity to learn from the disaster response (Sonia Garcha, 2007). DST has had the experience of disaster response in the Maharashtra earthquake (1993) and thereafter Gujarat earthquake (2001) where it worked with a number of civil society organizations in planning, funding and executing relief, rehabilitation and
livelihood promotion by addressing gender issues and rebuilding communities. This experience proved valuable in responding to the Maharashtra Flood in 2005. The Pune and Pimpri-Chinchwad metropolis’s low-lying urban slum areas and districts of Pune, Sangli and Kolhapur where DST has its urban and rural Microfinance programme, were submerged due to heavy rains and water released from dams. DST undertook relief operation in the affected areas (Community Based Disaster Management, 2007).

The entire process of damage assessment and distribution of the relief packages was conducted very smoothly with the active involvement of local community leaders and SHG’s. It is this background against which a few instances of the best practices of action taken by civil society organization in India could be seen as learnings for all. Our intervention in disaster situation would reveal how civil society can address the issues of disaster management from gender perspectives and help urban and rural women to put the development process back on track evolved through MF programme. This experience in responding to the natural disaster can examine the initiatives of DST and its impact on development and the manner in which this impact has been achieved (Garcha, 2007).

During natural calamities, it is a humane tendency to help the affected people in many ways both in relief and rehabilitation on a humanitarian ground and in the process of extending such helps, the organizations, institutions and individuals will tend to forget the role of the communities and the innate capacity, skill and capacity of the local communities in managing their affairs. As a result, the affected people are looked at with pity and they are made to receive the assistance. As a result, the self respect of the community is at question. Further their skill, capacity and capability
are not used. One important aspect everyone has to understand that the communities are managing the affairs after disaster till the arrival of the Government Departments and voluntary organizations. It has been witnessed in tsunami affected areas in Nagapattinam that in the first two days only the communities managed the affairs. But in general the affected people are not involved in the relief and rehabilitation activities. As a result, the external agencies work on a supply driven mode not on a demand driven mode. Agencies, organizations, institutions and individuals who gained rich experiences in disaster mitigation in one place, have not utilized the same in other places. In all the times it had been emphasized the role of communities in disaster management (Palanithurai, 2009).

12) Sustainability in Community Based Disaster Management

In the Year 2002, UNCRD launched a three-year project on titled “Sustainability in Community Based Disaster Management”, to study the effectiveness of the grass - root projects and to suggest policy input for sustainability, which will be useful for the different communities to take future actions. This was to help understand the gaps in the community initiatives, and to take corrective actions in the future. The study would be an evaluation of what has been done so far in CBDM with specific examples from field experiences, and what should be done in future for the sustainability of these efforts. In this study, the inter-linkages of government, on-government, academics, and international organizations should be reflected in terms of concrete projects and initiatives, and a model of cooperation would be established (UNCRD, 2002).

The goal of the current study is to achieve safety and sustainability of livelihoods for effective disaster mitigation, focusing on three key elements: self-help, cooperation, and education. In order to identify the key factors for
successful CBDM, six case studies were chosen in the Asian region targeting three specific hazards: Cyclones (India and the Philippines), earthquakes (Indonesia and Nepal) and floods (Bangladesh and Cambodia). At first, field surveys were carried out and the best practices from the case study countries were documented. Based on the analysis of these cases studies, overall framework of action for the sustainability of community based disaster management was prepared. Generic and specific guidelines were developed and field experimentations and testing were made for specific hazards in selected case study countries (UNCRD, 2003). From the three-year study, followings were found as key factors for enhancing sustainability:

- The existence of “culture of coping with crisis” and “culture of disaster reduction” exist.
- Risk assessment process involves participation of people and incorporating their perception of vulnerability and capacity.
- Community and supporting agencies share common motivation and ownership for the initiation and sustainability of CBDM.
- Genuine people’s participation within capacity building objectives, with specific focus on sectoral groups like women, elderly, children and ethnic minorities.
- Well-delivered training inputs in accordance with the objectives of the project and the needs of the community for training.
- Wider stakeholders’ involvement and participation.
- Accumulation of physical, technological and economic assets to reduce hazards and vulnerability.
- Integration of these projects into regular development planning and budgeting to ensure sustainability.
Afgan Training and livelihood Initiative UNCRD Hyogo Office carried out “Afgan Training and Livelihood Initiative (ALTI)” in Afghanistan from October 2002 to June 2003. Under the need of the holistic rehabilitation after more than two decades of conflict and strife, the urgent need was to build houses of people (R. Shaw, N Britton, M Gupta, 2003).

Afghanistan is an earthquake prone country, and is located in one of the most active seismic belts of the world; seismic risk needs to be incorporated in its rehabilitation process. The ALTI focused on developments of guidelines for earthquake safe construction practices, training of masons and engineers, and construction of model houses. All these activities aimed to empower the 6 communities with their active participation in this process. In this community based initiative, livelihood recovery was incorporated through revitalization of vineyards using a cooperative system. These efforts altogether develop human resources, provide sustainable livelihood and are linked to the long term recovery of the country (UNCRD, 2002).

Patanka New Life (PNY) Plan after the Gujarat earthquake of January 2001, PNY was initiated as joint initiative of diverse organizations including government, non-government, academics and international organizations for community based effective rehabilitation. The aim of the initiative was to train and empower local masons and communities with proper earthquake-safer technologies focusing on local tradition and culture. Emphasis was to ensure confidence building and long-term use of traditional technologies. There were two major components of the initiative: one construction and rehabilitation of model village, and training and confidence building of communities through stake table demonstration testing. The characteristic feature of the initiative was to focus on the holistic approach of the rehabilitation including livelihood. The initiative
was successful, especially in terms of community involvement and ownership. The initiative was considered a successful model for sustainable community recovery. The PNY was conceived as a model program right from its inception stage. It sought to empower the affected community to the extent that they are sufficiently resilient against future disasters (UNCRD, 2002).

School Earthquake Safety Initiative
The United Nations Centre for Regional Development (UNCRD) is, currently, promoting School Earthquake Safety Initiative through a project “Reducing Vulnerability of School Children to Earthquakes” jointly with UN Department of Economic and Social Affairs (UNDESA) in Asia-Pacific region. The project aims to make schools safe against earthquakes and build disaster-resistant communities through self-help, cooperation and education. The project includes retrofitting of school building in a participatory way with the involvement of local communities, local governments and resource institutions, trainings on safer construction practices to technicians, disaster education in school and communities. These activities are carried out in Fiji Islands, India, Indonesia and Uzbekistan as demonstration cases which will be disseminated throughout the respective geographical regions. There are three major aspects of the community empowerment in earthquake disaster risk management through this initiative: Seismic safety of school buildings: The project includes seismic vulnerability analysis of some selected schools in a project city of each country and retrofitting of some of them which cover prominent construction typology in the region. This leads to development of country specific guidelines on the earthquake safe construction which incorporates solutions to the practical problems experienced in school retrofitting (UNCRD, 2002).
Capacity Building of Communities: Retrofitting of schools in communities serves as a Demonstration of proper earthquake technology to them. Masons in the communities get on-job training during the retrofitting of schools. In addition, technicians in each project cities get trainings on earthquake design and construction of houses. Consideration is given to the local practice, material availability, indigenous knowledge and affordability in trainings on earthquake technology (UNCRD, 2002).

Disaster Education and Awareness: The project includes development and wide distribution of educational booklets, posters and guidebook on teachers training and students’ drills for earthquake disaster preparedness and response. The guidebooks get verification and updated through trainings and mock drills. The projects also develops an interactive educational tool for awareness raising on earthquake disaster and simple seismic risk assessment of buildings aiming to motivate households for planning seismic upgrading of their houses. It was learned from earlier programs of UNCRD that the process of making safer schools can be used as entry points to the communities at risk to facilitate implementation of a training and capacity -building programme for earthquake disaster mitigation technology besides its prime objective of ensuring the safety of school children against future earthquakes. It is achieved by demonstrating how schools can be used as community centres for earthquake disaster prevention and mitigation. Locally applicable and affordable earthquake-safer construction technology is transferred to these communities (UNCRD, 2002).

Lessons learned
In regards to the issue of engaging and empowering communities for sustainable disaster risk management, followings are the major lessons learned:

- Community empowerment and communication help to achieve sustainability in CBDM.
- A holistic secure-livelihood approach enhances sustainability.
- Community based action plans and training improves community's problem solving skills.
- Because disasters are unpredictable, it is important to maintain the projects and people's awareness of disasters.
- Transparency of activities and dissemination of knowledge and information.
- People’s participation in activities.
- CBDM efforts need stable financial resources.
- 'What is accepted by the community' is more important than 'what is necessary'.
- Institutionalizing the community and the private sectors can result in more sustainable disaster management programmes (Pandey & Okazaki, 2005).

13) Community Based Emergency Response Teams

A relatively new approach to local involvement in disaster response is emerging across counties and communities in the United States. The Community Emergency Response Team (CERT) program seeks to train and empower local community residents to shoulder the responsibility of being first responders to emergencies. CERTs, which are administered by Citizen Corps and FEMA within the Department of Homeland Security, blend a
bottom-up appreciation for the role of local volunteers in emergency response with a top-down institutional framework to facilitate training and coordination.

There is much promise in the CERT program as a strategy for local empowerment and effective disaster response in rural communities. To be effective, however, the CERT program should be adaptable to different levels of local capacity and should broadly represent the citizenry it is intended to protect and serve. It is also possible that by developing local capacity for disaster response, CERT teams may be able to expand their applicability to non-disaster community development activities.

While CERTs have predominantly focused on disaster preparedness and recovery, this does not always need to be the case. CERTs provide a framework for pulling together localities to prepare for times of need. This process of building community and response structures has application beyond the context of disasters. In rural communities with high disaster response capacity, established networks, infrastructures, and alliances are likely to already exist to allow a community to plan for its needs and build on its strengths to achieve desired goals. Such capacity for providing these community services does not always exist, but can be cultivated and should be encouraged and empowered. Extension and other change agents can play a leading role in this process. Where capacity for community involvement in disaster response or broader development is lower, CERT programs provide a potential framework for both.

**Including Everyone in Community Responses to Disaster**

A critical aspect of CERT effectiveness and potential for expanding into community development or other roles is representation of the entire local population. Drawing together diverse racial, ethnic, religious, and other
groups provides a host of resources and experiences, but more importantly provides transparency in the local decision making process. In all communities, a variety of groups exist with diverse skills and abilities combined with personal and professional experiences that are essential to successful preparation and response to disasters (Independent Sector, 2001). Included are residents with needed professional and trade skills for damage control and assessment (engineers, environmental scientists, architects, contractors, and skilled laborers); disaster preparedness and response training (VFW, retired military/national guard/police); medical, psychological and social service delivery experience (health practitioners, counselors, religious/civic groups); and long time residents who have witnessed previous responses to natural disasters (Brennan M.A., 2005).

Such groups and individuals are also directly suited to local empowerment and community development that serves to enhance rural well-being. Effective community response to disaster and other local needs connects diverse groups within the locality. Successfully linking local organizations, citizens, and leaders provides a network and method for local citizens and groups to become actively involved in local preparedness and response efforts and beyond. Individuals currently involved in CERTs are also likely to provide strong personal and professional connections which can link local interests to state/federal agencies and other outside entities. Such connections and partnerships can facilitate access to information, resources, training, and finances necessary to build local capacities. In this way, CERTs can act as bridges between local and extra-local resources not only to prepare and respond to disaster, but also directly shape rural well-being as part of rural development efforts. Since rural communities are often situated in a unique interface between the physical environment and society, local residents are important to the management of natural resources.
CERTs can provide the human resources, initiative, and framework for gathering and disseminating information important to environmental decision making. Such effort is not far removed from disaster preparedness efforts. Linking local land use and natural resource management with risk mitigation and disaster preparedness weaves together an integrated approach to protecting ecological and human well-being. A model of expanding the traditional role of CERTs can be found in Alachua County, Florida where local CERT volunteers were involved in surveying local farmers about drought protection practices and other natural resource management efforts. Building relationships in quiet times creates a valuable network and sense of community to tap into in times of emergency or disaster (Brennan M.A., 2005).

14) Community Participation in Tsunami Disaster Response and Recovery Programs in South India

The impact of the rehabilitation on ongoing grassroots-level institution building – involving the formation of self-help groups and producers’ cooperatives – was not very positive. In some cases, for instance in Kanyakumari, the involvement of existing groups may have yielded some all round benefits, but in others, particularly in Andhra Pradesh, this might have led to negative consequences for the groups and the concept of SHG itself (Action Aid, 2007).

There were instances (in Kanyakumari) where members of particular groups were reportedly discriminated against in rehabilitation programmes, while in others, there was an active co-option of members from existing groups into new ones. In areas where the NGOs took a principled stand against providing boats, they came under fire from their groups for not doing
enough. This was a real dilemma because, if the NGO stuck to its principles, it stood to lose the groups that it had built by investing much effort and hard work; on the other, if it gave in to the demands, it would lose its ideological strength and that would surely have an impact on its own long term work with the people! A few NGOs did seem to overcome this problem unscathed, but for a majority of NGOs, the costs may have been quite heavy. As one NGO representative told us, “It was sad to see all the work we had done over the decades collapsing like a pack of cards in a matter of months and right before our eyes too.” On the other hand, proliferation of village development councils and other SHG-like mechanisms was often done without proper foundation, with the result that these new groups were no more than channels to distribute boats and other support in the villages. Like the fisheries cooperatives of yore, people tended to take a mercenary attitude towards these new groups and this would have long-term implications for the future cooperative-oriented programmes in the villages. The NGOs came forward and acted towards the immediate and long term needs of the affected community (Action Aid, 2007).

**Coverage of people in the rehabilitation programmes:**

- In terms of coverage, the focus was mainly on the primary producers, with boat owners receiving compensation from the Government while the crew received support from NGOs in the form of boats.

- Assistance provided to the post-harvest and ancillary trades was sporadic and patchy, resulting in several categories of people (a majority belonging to poor and marginalized sections, particularly women) being left out or receiving inadequate attention; this lack of support also contributes to a weakening of the production and market chains.
Avoidance of mechanised sector in the NGO rehabilitation programmes contributed to ignoring the many intermediaries involved in the production and trade chains at fishing harbours.

People of non-fishing castes (but involved in fishing), those living in the shadow zones, migrant fisher men, and people who were not directly affected by the tsunami but suffered indirectly from its effects or remained vulnerable to future disasters were some other categories who received less attention.

15) Community Participation and NGO Involvement in Kerala-Tsunami Context

The strict regulatory regime that has characterized the tsunami relief operations in Kerala has not sufficiently encouraged or motivated the NGOs and other civil society organizations to fully commit themselves to the tsunami relief, rehabilitation and reconstruction. The administrative restrictions have constrained the involvement of the local self governance institutions such as the Panchayat. Even the elected representatives of the people in the local self governance institutions have not been involved in the need assessment or beneficiary selection. Community participation in the state-sponsored relief programmes has been absent. The tsunami-affected families, the real stakeholders, are not involved in the need assessment, programme formulation or selection of beneficiaries. This has led to problems in planning and implementation of the relief and rehabilitation programmes. The benevolent state administration has been facing criticism, opposition and sometimes violent revolts from the tsunami-affected people. This has led to delay in the dispensation of the state-sponsored relief and reconstruction programmes (Sahayi, 2005). The
state government has realised the limitation and has announced that a new legislation for disaster relief will be brought in.

**Sahayi Tsunami Relief and Rehabilitation Strategy- NGO Intervention**

Sahayi defined its role and formulated its programmes, taking into consideration the constraints on NGO intervention in tsunami relief in the state. The scope of intervention was limited. At best the organisation could supplement the functions and services of the government; for example, by identifying those needs of the tsunami-affected people that are not met by the programmes (*Placid, 2005*).

The strategy is to ensure community involvement in relief and reconstruction programmes to a possible extent. This is based on four factors that emerge from our analysis of the community’s response to the tsunami relief programmes and activities.

- The self-respect of the tsunami affected people needs to be restored through community participation in relief and rehabilitation. They don’t want to be treated as beggars. The people wish that their dignity and self-respect be acknowledged during this time of distress. The tsunami-affected communities need to be actively involved in decision-making and implementation of relief and reconstruction activities, including decisions about rebuilding and relocation of housing, and other services.

- The communities are clear in their desire to have a say in the utilization of resources and to regain control over their own lives. They desire transparency and accountability in the projects undertaken by various agencies, including government.
• Dependency needs to be reduced. While relief and charity are important in the immediate aftermath of a disaster, they should be replaced as soon as possible with assistance to people in regaining their livelihoods and control over their lives.

• There should be an effective role for the local self governance institutions and grass-root NGOs, other civil society organisations and the media in the programme planning and implementation, and effective linkages among these agencies (SAHAYI, 2006).

16) Conclusion

The various studies discussed above converged to deliver a key message that disaster affected communities desire to get a chance to guide their own relief and rehabilitation. Too often, the research revealed, the knowledge, capacity and priorities of communities were overlooked, and their members were cast as consultants or passive recipients of aid rather than as equal partners in the process. The study indicates that the true needs and aspirations are looked into and furthermore the community members feel ownership of the programmes aimed at their recovery. Nevertheless to say by reviewing different disasters, the vital role of the community and community based organizations is standing high in planning, executing and continuing the pre and post disaster initiatives. Many of the countries realized the great involvement of the affected community in managing disaster response and recovery programmes. So it is the responsibility of the government and various international and other organizations to understand the significance of involvement of the affected community in all spheres of disaster management activities to make use of the communities’ knowledge, skill and experience for helping them to face any kind of calamity.
While going through the different lessons it could reveal that the lack of community participation is visible in almost all the disasters we discussed here. Government and relief officials often failed to consult survivors and their communities about decisions regarding aid distribution, resettlement, and reconstruction aid. In some cases, these officials discredited or ignored the views and opinions of local communities. Donors and aid agencies often prioritized timely outcomes over deliberative processes that allowed for community participation and discussion.

It is evident, as well written in the beginning, “Empowering families and communities to take preventive action on their own behalf, without being dependent on external support, is one of the clear, unalterable lessons learned from the tsunami experience. The aim is always to leave people better off, to reinforce their existing coping mechanisms and to build their resilience to whatever the future holds. This is the true legacy of the tsunami operation” (International Federation of Red Cross and Red Crescent Societies, 2009).
NOTES

1. The Asian Disaster Reduction & Response Network (ADRRN) is a network consists of 34 national NGOs from 16 countries across the Asia-Pacific region. The mission of the ADRRN is to promote coordination and collaboration among NGOs and other stakeholders for effective and efficient disaster reduction and response in the Asia-Pacific region. With a strong footprint in the region, the network members are constantly engaged with local communities strengthening their ability to combat disasters, providing humanitarian aid like food, water, shelter and health care, protecting critical facilities like schools and hospitals, creating awareness, advocating for policy changes and improving the capacity of the community based organisations. ADRRN membership is open to national NGOs with headquarter in Asia-Pacific region and working in the field of climate change adaptation and disaster reduction and response. The secretariat is based at Kuala Lumpur, Malaysia.

2. The Institute for Participatory Interaction in Development (IPID) was incorporated in January 1996 under Section 21 of the Company’s Act No.17 of 1982 as a company limited by guarantee (i.e as a Non Profit Company) and is non-sectarian and non-governmental. IPID is committed to community development through participatory approaches. The Vision of the institution is to "The enhancement of the capacities of governmental and non-governmental organizations for supporting a change in the pattern of personal behaviour and attitudes towards a reversal of roles through Participatory Interaction in Development aimed at empowering local communities to manage resources and gain access to available services."

3. Oxfam International is a confederation of 13 organizations working together in more than 120 countries to find lasting solutions to poverty and injustice. Collaboration in Crises: Lessons in Community Participation from the Oxfam International Tsunami Research Program. This report introduces the studies and findings of the Oxfam International. Tsunami Disaster Risk Reduction and Participatory Action Research programme, hereafter referred to as the tsunami research program. For information about the program, including an electronic version of this report, summaries of the research, stories from the field, and details about the research program itself. “Collaboration in Crises” is one of four Oxfam International reports that mark the end of Oxfam’s response to the Indian Ocean tsunami. The others are the “Oxfam International Tsunami Fund End-of-Program Report” (December 2008), an overview of the entire
4. A non-governmental organization (NGO) is a legally constituted organization created by natural or legal persons that operates independently from any form of government. The term originated from the United Nations (UN), and is normally used to refer to organizations that are not a part of the government and are not conventional for-profit businesses. In the cases in which NGOs are funded totally or partially by governments, the NGO maintains its non-governmental status by excluding government representatives from membership in the organization. The term is usually applied only to organizations that pursue wider social aims that have political aspects, but are not openly political organizations such as political parties. The number of NGOs operating in the United States is estimated at 40,000. International numbers are even higher: Russia has 277,000 NGOs; India is estimated to have around 3.3 million NGOs in year 2009, which is just over one NGO per 400 Indians, and many times the number of primary schools and primary health centres in India.

5. The Catholic Organisation for Relief and Development Aid (Cordaid) is a Dutch development agency operating worldwide. Cordaid fight poverty and exclusion in fragile states and areas of conflict and extreme inequality. In order to stand up for the world's poorest and most marginalized communities, we raise funds in the Netherlands as well as internationally. The Catholic Organisation for Relief and Development Aid (Cordaid) is a Dutch development agency operating worldwide. Fight poverty and exclusion in fragile states and areas of conflict and extreme inequality. In order to stand up for the world's poorest and most marginalized communities, we raise funds in the Netherlands as well as internationally.

6. CARE International (CI) is a global confederation of 12 national member organisations working together to act as a leading relief and development Non-Government Organization (NGO) fighting to end poverty. We worked in 84 countries, supporting 1,051 poverty-fighting projects to reach more than 122 million people in 2011. CARE helps tackle underlying causes of poverty so that people can become self-sufficient. CARE is often one of the first to deliver emergency aid to survivors of natural disasters and war and, once the immediate crisis is over, we help
people rebuild their lives. While CARE is a large international organisation with 12,000 employees worldwide, we have a strong local presence: 97% of our staff are nationals of the countries where our programmes are run. CARE India, works with the poorest of the poor in more than 200 districts, in a total of 16 states and union territories across India. CARE India is a leading national developmental organisation with an extensive global network. Through our pro-poor programmes, we have impacted on extreme poverty and social injustice in India by working with poor women and girls from the most disadvantaged communities. We place a special emphasis on working with poor women because, equipped with the proper resources, women have the power to help whole families and entire communities escape poverty. Women are at the heart of CARE’s community-based efforts to improve basic education, boost maternal and child health, prevent the spread of HIV & Tuberculosis (TB) and expand economic opportunity. CARE also delivers emergency aid to survivors of natural disasters, and helps people rebuild their lives.

7. G. Padmanabhan has been handling Disaster Management portfolio of UNDP-India since 1995. He has led the Team involved in implementing the GOI-UNDP Disaster Risk Management Programme in the 17 states. Padmanabhan is also the Moderator of the Disaster Management Community of Practice (electronic network established under the under the Solution Exchange project of the UN system in India with about 2,500 disaster management practitioners as members). He worked for a year in Northern Iraq as a senior manager of a large Electricity Network Rehabilitation Project, executed by UNDP. He has been supporting various UNDP country offices in the Asia region in developing guidelines, conceptualizing and formulating projects. He was also associated with the design and implementation of the state Human Development project of UNDP-India.

8. Disaster, Risk and Vulnerability Conference 2011, School of Environmental Sciences, Mahatma Gandhi University, India in association with the Applied Geoinformatics for Society and Environment, Germany March 12–14, 2011. Critical reflections on post disaster recovery and reconstruction in Andaman & Nicobar Islands: The article examines the post-disaster recovery and reconstruction activities to the major and minor disasters which are frequently disturbing the life of the islanders. The paper is focusing on the various actions taken by the A & N Administration as well as the social and developmental organizations, extracting lessons learned and identifying specific implications towards the
episode. The sudden occurrence of the frequent earthquake distracts the normal life of the islanders and it hit in almost all part of the areas of the Andaman’s including North, Middle and Southern parts. The paper is at first attempt to review the recovery and reconstruction activities of the various stakeholders in relation with the December 2004 tsunami and earthquakes. Later the author pointed out the frequent incidence of the various disasters especially earthquake, flood and climate related disasters. Lessons that have been learned from the post disaster response are summarized, including: (a) lessons that apply primarily to the relief phase; (b) lessons for rehabilitation and reconstruction; (c) do’s and don’ts; (d) island specific observations. (e) Finally the impact and the long-term implications of the intervention on the livelihood of the islanders in the post disaster response period. The author describes his experience and tries to analyze the role of administration and the various other stakeholders in the areas of disaster recovery and reconstruction. The author finally suggested the unavoidable elements needs to be incorporated in the post disaster response phase. C 2011 Disaster Risk Vulnerability Conference 2003.

9. Amrita SREE programme managed by Mata Amritanadamayi Math is launched in Andaman Islands to promote SHG’s, strengthening the existing hundreds of SHG’s developed by CARE India through imparting capacity development programmes and initiating Income Generation Programmes among the SHG members. The programme was initiated in Andamans with the support of all Govt departments, organizations and with the cooperation of the community. The project is very closely monitored and guided by CARE India through conducting periodical review meeting, introducing management information system for reporting, and also extending regular hand holding support to strengthen the SHG’s in the islands.

10. “Nicobarese fishermen, for example, refused to accept the mainland-manufactured fishing equipment provided in the post-Tsunami period as it was inappropriate for their needs”. “As a result of the disaster, fishing communities in the islands are likely to be affected, mangrove forest to be denuded and corals to be damaged”. Banerjee et al, 2005: 43.106.”