Bangladesh

Sustainability in Community Based Disaster Management

Country Profile

People's Republic of Bangladesh

Capital: Dhaka
Population: 133,376,684
GDP/capita: $1,602 USD

Major Disasters

Flood, Cyclone, Tornado

Project Data

Location: 1000 communities on active flood plains in 20 high flood risk sub-districts
Duration: 5 years
Funding Agency: USAID
Partners: Local Government Engineering Department
Local partner NGOs
Union Parishads

UNDP
Human Development Report 2002

CARE Bangladesh

UNCRD



Goal

To achieve food and economic security of poor and vulnerable households living in the high flood risk villages by the year 2004

Objectives

1. To enable households and communities to conserve their resources during floods
2. To enable households to maintain their health during floods
3. To develop replicable community based participatory approaches for flood proofing households and communities
4. To mobilize communities to prepare and manage flood readiness, response, and protection plan

Background

The disastrous flood of 1987 and 1988 demonstrated need for more comprehensive national, regional, and community level flood proofing strategies. The strategies needed to address an adverse impact of annual floods on livelihoods of poor and vulnerable households as well as communities whose limited resources restricted their ability to plan and implement prevention and coping strategies. The major part of the country suffered from floods, especially flooding problems on the active flood plains in the main river channels (locally termed as Chars) were severe. Due to unavailability of government services and limited local NGO activities, the hazardous flood environment had not been improved.

The physical and financial losses on the active flood plains had an adverse impact on the poorest households especially on women within the households. The Participatory Learning and Action (PLA) assessment sessions identified the most common flooding problems in Chars as follows: inundation and damage of homestead and community places, high incidence of water-borne diseases, shortage of cooking fuel and drinking water, lack of grazing land and fodder, lack of finance to undertake Income Generating Activities (IGAs), impassable roads, unavailability of public services, inaccessibility of markets, and shortage and high-cost of boat transportation.

CARE Bangladesh with financial assistance from USAID undertook a 5-year (since fiscal year 1999) Flood Proofing Project (FPP) in 1000 communities on the active flood plains in 20 high flood risk sub-districts. The project has been implemented through a partnership arrangement with the Local Government Engineering Department, the local partner NGOs, and the Union Parishads. Flood Proofing was defined as "a provision of long term non-structural or minor structural measures that could be undertaken by individuals or communities to mitigate the effects of floods."

Activities

Community Mobilization and Training

FPP used PLA methodology as the initial process of community mobilization. The application of PLA at the beginning of the project encouraged community participation in analyzing and identifying their vulnerabilities to flood, their needs, and the potential resources to mitigate the adverse impacts of floods and to build the community's capacity to manage their mitigation projects by themselves. This project promoted the establishment and the proactive participatory management of a flood preparedness committee in each community. In addition, a community based organization, termed as Local Project Society (LPS) was formed to execute the respective community's decisions and to maintain FPP. The committee established the early warning and evacuation systems and implemented the flood proofing interventions. The essential component of the project ensured community's continuous ownership and responsibility for flood proofing and preparedness activities. The project arranged the extensive training for capacity building of LPS members and linked the LPS with other development agencies and the local government for sustainability in FPP. As a part of the project, Mother's Club and Adolescent and Children Forum were also formed in each community to promote their behavioral change toward flood preparedness, health, and nutrition.

Structural Mitigation Measures

One of the flood proofing measures was structural adjustment, such as raised homesteads for the poor households to keep water out or to reduce water entry to their properties. The raised homesteads created space for cattle livestock shade, poultry keeping, and fodder storing and ensured that their possessions remained above the water level during floods. Other interventions included installation of latrines and tubewells above the peak water level and construction and renovation of community flood shelters, communal places, village roads and culverts, village markets, and river banks.

Small-scale Agriculture, Social Forestation and Erosion Control Measures

FPP promoted small-scale agriculture and developed natural resources in each community. The activities included the roof top vegetable gardens in the raised homesteads, social forestry and livestock rearing. The project also assisted the community in planting trees to mitigate erosion and in establishing nurseries to create income-generating opportunities.

Income and Livelihood Protection

The disruption of the local economy during and after floods manifested the shortage in employment opportunities that could depress income of the poor households. The loss of income might result in severe malnutrition, homelessness or displacement. They often incurred debts that had continuous adverse impact on their livelihood security. The FPP identified and supported alternative IGAs in order to provide income-generating opportunities throughout the flood seasons. The rural credits for various IGAs were undertaken by partner NGOs as an extension of their own credit programs.

Achievement

People in the targeted communities, the project staffs (CARE, partner NGOs) and the government officials came together for analysis, planning, implementation, demonstration, and dissemination of CBDM. This was the first experience for the most people in the communities and they started to actively involved in community activities and CBDM. Since the poor people living in the high risk areas gained more access to social networks and information, their loss of assets and food stocks had significantly decreased. In addition to LPSs' leading role in "Flood Preparedness and Management Plan", they became the locus of many small economic activities which had created resources to improve people's lives. Networks among the communities, NGOs, and the government were also established.

Lessons Learned

1. CBDM needs an effective planning with community participation.
2. LPSs and other participating organizations with clear vision, management capacity, and adequate knowledge and information are fundamental for a success of CBDM.
3. Although it requires flexibility in time, community empowerment and communication help to achieve sustainability in CBDM.
4. Integration and empowerment of women are keys to sustainability in CBDM.
5. A holistic secure-livelihood approach enhances sustainability.
6. Infrastructure development is important as much as other CBDM activities.
7. Facilitating LPSs and forming networks among the local organizations are important aspects in high risk areas.
8. The idea, 'disaster victims prefer the outside assistance more' is not true.
9. The legal status of LPSs' appeared as a crucial issue for the long term sustainability.

Future Vision

Sustainability in Community Based Disaster Management is a three-year (2002-2004) research project of UNCRD in cooperation with NGOs, CBOs and local governments from 6 targeted countries. Considering diversity of regions, types and frequency of hazards, following 6 countries were selected: Bangladesh and Cambodia for flood, Indonesia and Nepal for earthquake, and India and the Philippines for cyclone. Successful CBDM from these countries are reported as shown in this leaflet. These case studies will be analyzed, and effectiveness and issues of CBDM will be identified. The ultimate goal of this project is to formulate new strategic framework and guidelines for sustainability in CBDM.

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(Some pictures in this leaflet were taken in BDPC's project site by UNCRD staff)

Cambodia

Sustainability in Community Based Disaster Management

Country Profile

Kingdom of Cambodia

Capital: Phnom Penh
Population: 12,775,324
GDP/capita: $1,466 USD

UNDP
Human Development Report 2002

Major Disasters

Flood, Drought

Project Data

Location: Selected villages along the Mekong River
Duration: Each project duration is one year
Funding Agencies: USAID, Pact Cambodia, ADPC
Partners: The International Federation of the Red Cross
The Red Crescent Societies Delegation (the Federation) in Cambodia

Cambodian Red Cross UNCRD



Goal

To improve quality of life and capacity of the most vulnerable communities in Cambodia

Objectives

1. To develop community's capacity for effective preparedness and response to natural disasters
2. To develop community organization and mobilization to implement natural disaster preparedness and mitigation measures successfully

Background

Cambodia is affected by natural hazards such as droughts and floods every year. Many communities, especially on the Mekong River and around Tonle Sap, are vulnerable to floods. For example, the floods of 2000 and 2001 affected over five million people in the country. After several years of conflict, Cambodia is undergoing in both administrative and political reforms as well as in decentralizing process. Therefore, this was an opportunity for the country to formulate and improve its development strategy with focus on the community participation.

At Cambodian Red Cross (CRC) workshop on flood mitigation in 1996, the participants including ten key personnel from ten branch offices of CRC confirmed that five provinces on the Mekong River were the most vulnerable provinces to floods. They agreed to initiate Community Based Disaster Preparedness Program (CBDP)/ Community Based Flood Mitigation and Preparedness Project (CBFMP), in three of these provinces. These three provinces were Kg.Cham, Kandal, and Prey Veng. The most vulnerable district from each province was selected and one to three targeted communes from the district were identified. Each commune consisted of two to six villages. Red Cross Volunteers (RCVs) were also recruited from the targeted villages and selected according to established criteria.

In 1998, CRC initiated the CBDP program with technical support from the International Federation of the Red Cross and Red Crescent Societies Delegation (the Federation) in Cambodia. The program was funded by U.S Agency for International Development (USAID) through Pact Cambodia and Asian Disaster Preparedness Center (ADPC). CBDP program was successful in reaching the community's needs and priorities through consultative discussions with the local bodies and through its RCVs. CRC also established the Community Based Disaster Management Committee (CBDMC) at local levels with participation of various stakeholders.

Activities

Capacity Building

In order to prepare for CBDP program, CRC recruited new staff members and trained them to be effective trainers. Also, CRC developed training curriculum for RCV training known as training for trainers (TOT) and for training of community members. The guidelines for RCV selection and target selection were also developed. Each provincial branch office was in charge of implementation of CBDP program in its area. One development officer was responsible for the program and three branch directors provided TOT course. Before the program implementation, these officers, directors and the community leaders consulted the targeted community about the program implementation. At this preparation stage, networks among the targeted community, the provincial branch offices and the CRC headquarter were also established.

Training for Local Leaders

RCVs, selected based on the criteria, participated in the training program to prepare for their field works. The contents of the training program were as follows.

1. 3-day orientation course
2. 5-day course on general disaster management by Disaster Management Department (DMD) training team
3. 5-day training course each on community organization and mobilization
4. Series of site visit and group meeting
5. Proposal writing for a micro-solution and submission for the external funding
6. Endorsement of the required budget
7. Implementation for the micro-solution
8. Monitoring and evaluation for the implemented micro-solution

Micro-Solutions

Micro-Solutions, also called micro-projects, were a part of CBDP program. These were small mitigation projects, such as construction of bridges, roads and dams or drilling wells, done by community members. As the RCVs took a leading role, the most community members participated. Necessary funds for the micro solutions were usually funded by the community.

Location:
- Prey Veng province
- Peam Meanchey commune
- Boeung Phsot community

Type of project:
- 2 bridge construction
- 3 community road reparation and construction

Project Cost:
$9,854 (community funding: $7,172)

Impact/Benefit:
Benefit to people from 5 villages (1,132 families) and travelers.

Achievement

After the first version of curriculum was developed, the first 25 RCVs were trained. These RCVs implemented small mitigation projects known as micro-solutions (micro-projects) in each community. The projects not only reduced the physical vulnerability in the targeted community, but also increased the organizational community's capacity. Also, CBDM project was the first experience of collective works to achieve a common goal for the most people in the community. Through this new experience, more people started to understand the importance of cooperation and the disaster mitigation. The members from all the targeted communities gained greater confidence on their ability to implement the disaster mitigation projects by themselves.

Lessons Learned

1. CBDM programs should have clear goals and objectives and they should not focus on one particular hazard.
2. CBDM programs are better to incorporate with structural mitigation and monitoring systems at the community level to have maximum results.
3. Establishment of training methodology and development of curriculum benefit the CBDM programs.
4. Knowledge and technology transfer from the experts to the community is important.
5. Training teams in CBDM programs should also have continuous opportunities to develop their experience and skills.
6. Networks among stakeholders are important.
7. Community based action plan and training improve community's problem solving skills.
8. Constant reviews by experts are necessary for improvement of CBDM programs.

Future Vision

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India

Sustainability in Community Based Disaster Management

Country Profile

Republic of India

Capital: New Delhi
Population: 1,045,845,226
GDP/capita: $2,535 USD

Major Disasters

Cyclone, Earthquake, Drought, Flood

Project Data

Location: Orissa
Duration: 2000 onward
Funding Agencies: UNDP, DFID
Partners: Orissa State Disaster Management Authority (OSDMA)
Local NGOs

UNDP
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Goal

To implement integrated community based disaster management initiatives

Objectives

1. To prepare multi-hazard disaster management plans at district, block, and village level
2. To form and to train various task forces (e.g. medical first aid, search and rescue, sanitation, and shelter management) to respond to emergency situations
3. To enhance community preparedness for faster recovery after disasters
4. To train and to build capacity of various stakeholders (e.g. NGOs, CBOs, youth clubs, self-help groups, and government functionaries) in disaster management
5. To incorporate disaster mitigation into the existing developmental programs or planning for vulnerability and risk reduction

Background

On October 29, 1999, a cyclone of unprecedented intensity crossed the State of Orissa. The cyclone whirled through Orissa battering its coastal belts and left behind a ghastly scenario of mass death and destruction. 12 districts of the state were affected by uprooting trees, damaging uncountable houses and vegetation, disrupting communication systems, and taking away 10,000 human lives. The cyclone caught everyone unprepared. This event of a massive loss of life and property therefore changed the state's focus on preparedness with respect to disasters. An effort was made to institutionalize the whole process of disaster management and lead to the formation of an autonomous organization called Orissa State Disaster Management Authority (OSDMA).

In the post super cyclone rehabilitation phase, many UN agencies, multilateral and bilateral donors, and Non Governmental Organizations (NGOs) brought in their valuable insights, experiences, and financial support. One of the important programs initiated in this phase by OSDMA was 'Orissa Disaster Management Project' in March 2001 with the support of United Nation's Development Programme (UNDP) and Department for International Development (DFID). In this project, Community Based Disaster Preparedness Plans (CBDP) were formulated. OSDMA was the nodal agency for implementation and monitoring of the project at the state level. DFID provided funds for the initiatives, as UNDP gave the technical support.

The failure of top-down initiatives and the recent successful experiences of CBDP demonstrated that a people-centered approach, with understanding of community-based approach through strengthening the local capacity, was a critical factor in order to ensure an effective disaster prevention and mitigation.

Activities

Activities under the project were carried out at two levels - the strategic level and the village level. At the strategic level, activities were focused on training of volunteers at community level and raising awareness among government officials. At the village level, volunteers and other groups of people were directly trained to prepare local disaster plans and related activities.

UNDP

Village Level Activities

Training of Volunteers on CBDP: Two volunteers in each village were selected with help of local Panchayati Raj Institutions (PRI) members and Community Based Organizations (CBOs), on the basis of their performance in the past emergencies. After these volunteers received training on various aspects of disaster management, they worked as change agents by disseminating their learning.

Village Sensitization Meetings and Village Disaster Management Committee (VDMC): VDMC in each village was organized with the help of local PRI representatives and CBOs to sensitize the community to need of disaster preparedness. This exercise helped the community identify their roles and responsibilities. The committee was supported for preparation of Community Contingency Plans that were useful for community's members to know their vulnerability and the local resources.

Community Contingency Fund (CCF): In order to meet the contingency expenses, the community members were mobilized to generate CCF. The funds were deposited in the savings account.

Gram Panchayat (GP) Level Activities

Formation and training of Gram Panchayat Disaster Management Committees (GPDMCs): GPDMCs were formed consisting of Sarpanches (Village Leaders), ward members, representatives of local clubs and CBOs, and field level government functionaries.

Gram Panchayat Disaster Management Plans (GPDMP): Multi-hazard GPDMPs were prepared and they included vulnerability and risk profile of the area, detailed inventory of resources, various maps showing the location of safe shelters, alternate routes, standard operating procedures and preparedness, and response checklists for the GP level taskforces.

GP Disaster Information Center: A center with computers and internet facilities for weather tracking was established.

Block Level Activities

Formation and Training of Block Level Disaster Management Committee (BDMC): BDMC was the apex body at the block level, which was responsible for facilitating implementation of the programs. The BDMC undertook construction of mounds for shelter of people and livestocks during floods and cyclones.

Block Disaster Management Plans (BDMP): The Community Contingency Plans (CCPs) were developed and formed as the integral component of all BDMPs. The BDMPs included comprehensive list of resources, vulnerability and risk profile of the area and people, preparedness and response checklists, Standard Operation Procedures for emergencies, GIS maps that showed cyclone shelters, alternate routes and roads, zones vulnerable to various natural disasters, and health facilities. Ham Clubs were also formed as alternate means of communication during emergencies.

Block Disaster Information Center (BDIC): BDIC was established for weather tracking and early warning dissemination which were equipped to act as the nerve center to coordinate all disaster management activities during time of emergencies.

Achievement

The preparation of CCPs was extremely useful exercise for the local communities. They helped the communities to articulate their needs. The exercise also established a healthy cause-effect relationship between the disasters and the vulnerabilities. The structure approach in the program ensured that these exercises were recognized at all levels of the government and they would be used for future disasters. In addition, the projects were able to reach widely and 2550 community volunteers were trained. Even CCFs were taken up by approximately 400 villages. Most importantly, this was not only community members but also a whole range of associated personnel. 500 volunteers, teachers, college students, SHG members, and members of NGOs and CBOs were trained and 40 different organizations were come up.

Lessons Learned

1. With a wide-scale and comprehensive approach, a project becomes 'the best practice'.
2. New challenge is to merge this exercise with development.
3. The other development work in the local level should be integrated with CBDM.
4. Although this could be a big challenge, the coordinating agency could seize projects to gain the government recognition and cooperation.
5. The approach needs to be incremental. The most appropriate process would be the initiatives with series of pilot projects.
6. Because disasters are unpredictable, it is important to maintain the projects and people's awareness of disasters.

Future Vision

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Indonesia

Sustainability in Community Based Disaster Management

Country Profile

Republic of Indonesia

Capital: Jakarta
Population: 231,328,092
GDP/capita: $3,043 USD

UNDP
Human Development Report 2002

Major Disasters

Earthquake, Tsunami, Flood, Volcano, Forest fire

Project Data

Location: Bengkulu
Duration: 2 years
Funding Agencies: UNICEF, city government, Ministry of Education
private sectors, individual contributions
Partners: ITB, Red Cross, UNCRD, JICA,
Mosque youth group, Neighborhood youth group,
Woman neighborhood group,
Radio Free Band Asc.

ITB UNCRD



Goal

To achieve sustainability in recovery after the Bengkulu earthquake

Objectives

1. To promote safer construction practices
2. To provide training to the diverse stakeholders
3. To use reconstruction process for long-term recovery and preparedness

Background

On June 4, 2000, the city of Bengkulu experienced a strong and devastating earthquake with the magnitude 7.3. The epicenter was located 30 km south east of the city. This earthquake affected over 130,000 people and damaged the buildings and infrastructures with severe impact on the non-engineered structures. In the last three decades, the seismic data showed that the city of Bengkulu was stricken by several major earthquakes with magnitudes of 7 or greater in the Richter scale and the epicenters were within 50 km from the city.

For case study on community based initiatives in Indonesia, three cities, Bandung, Bengkulu, and Palu, were considered as the potential cities through a comprehensive review. These cities had high potential seismic risks, recent earthquake experiences (Bengkulu and Palu) and experiences of disaster mitigation initiatives. They also had strong leadership and commitment of the mayors toward the earthquake disaster risk mitigation initiatives.

Among these three cities, the city of Bengkulu was considered to be the best for the case study, which focused on the sustainability issues of initiatives and efforts involving the community. The community included general public, non-formal community agencies, local government, government associations, academics, private sectors, community leaders, religious leaders, NGOs, and Community Based Organizations (CBOs). Both the community and the local government associations were supportive to dissemination of experiences that lead to its members to enrich their experiences.

Activities

Relief and Response

After the earthquake in 2000, people from various groups in the community of Bengkulu were voluntarily involved in the relief and response. Their efforts took very important roles in the response process. During this process, " Post Commando" at the neighborhood level coordinated youth groups to distribute the relief aids. Information was disseminated by the religious leaders and the community leaders. They also took important roles to provide emotional care to victims and to mobilize individual volunteers. Local women's group ran community kitchen to provide food to the victims and the volunteers. International organizations and NGOs such as Red Cross and JICA came into the devastated area for assistance as well. The Mosques were used for evacuation and temporary shelters.

Reconstruction

Thousands of residential buildings and a large number of schools were damaged and destroyed during the earthquake. In the process of reconstruction, community based activities were the prime focus area. Neighborhood youth groups coordinated training sessions to learn about the earthquake-resisting technology and applied them to reconstruct their houses. In order to retrofit and reconstruct school buildings, different types of training activities were carried out. These included mason's training, engineer's training, and teacher's training. Masons received training on repair and retrofit skills, and city engineers and contractors learned earthquake resistant construction. Decision makers and teachers attended risk awareness sessions.

Raising Public Awareness

In addition to retrofit and reconstruction program, schools played a vital role to raise community's awareness of earthquakes. Teachers, parents and school officials participated in the earthquake safety workshops. They developed materials for students in order to raise their awareness and understanding of disasters and to promote disaster preparedness. These materials described 'DO's and DON'Ts' before, during and after earthquakes. Earthquake drills in cooperation with 'Training of Trainers' were conducted in schools. Specific training tools were developed to disseminate the experiences widely.

Long-term Mitigation Initiatives

Communiy's focus shifted from short-term to long-term mitigation measures aiming to upscale the initiatives. People started to establish formal earthquake education and public awareness programs in each community. These educational programs were designed to target every member of the community. Also, workshops and field surveys were continuously held to educate themselves and to make their community based earthquake mitigation and preparedness more sustainable.

Achievement

After the earthquake in 2000, people became more aware of earthquake and more CBDM projects were implemented. One of them was the self-help community participatory initiative in the reconstruction and rehabilitation programs. Through the program, two Mosques, two local health centers, and selected schools were reconstructed in the community. The experience of the devastating earthquake raised people's awareness of earthquake mitigation. As a part of CBDM initiatives, many training sessions that targeted different groups of people were held in the community. These sessions included training for government officials on mitigation measures, training for engineers and masons on earthquake safety technology, training for teachers and school officials as a part of Earthquake School Safety Programs, and training at the community level on simple earthquake resistant housing technology.

Lessons Learned

1. A community with a recent experience of disaster is more receptive to CBDM initiatives.
2. When a community and the government are supportive to disseminate their experiences, its members become more interested in replicating their experience.
3. Strong leadership and political support from Mayor is important.
4. Establishment of networks among various organizations and institutions is a key element.
5. It is necessary to change the most people's belief that 'emergency response' is more important than 'mitigation'.
6. Lack of accurate data and information affects the accuracy and applicability of the analysis.
7. It is important to develop of common understandings of community members and administrators toward collaborative works in CBDM with limited resource.

Future Vision

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Nepal

Sustainability in Community Based Disaster Management

Country Profile

Kingdom of Nepal

Capital: Kathmandu
Population: 25,873,917
GDP/capita: $1,327 USD

UNDP
Human Development Report 2002

Major Disasters

Earthquake, Flood, Landslide

Project Data

Location: Ward no.34, Kathmandu Metropolitan City
Duration: 1998 onward
Funding Agencies: NSET, World Seismic Safety Initiative (WSSI)
Partners: Ward Committee of Ward Number 34
Kathmandu Municipal Corporation
Advisory Committee of Ward 34 Disaster Management
Committee, Ward 34 DMC, Senior Citizens

NSET-Nepal UNCRD



Goal

To manage and minimize earthquake risks to build earthquake safer communities in Nepal

Objectives

1. To sensitize, educate and facilitate all institutions in Nepal to undertake organized approaches to minimize earthquake risks
2. To find how to conduct earthquake risk mitigation projects in Nepal by implementing vulnerability assessment projects

Background

Nepal, located in the active Himalayan mountain range, has the high risk of earthquakes. Kathmandu Valley in Nepal was stricken by the devastating earthquake in 1934 and experienced a sporadic damage by the earthquake in 1988. Continuous migration from the rural to the urban areas, informal land use planning, and poor construction practices are the major factors to make the area vulnerable to earthquake risk.

Earthquake Awareness Program

People in Kathmandu became interested in earthquake issues and raising questions shortly after the Kathmandu Valley Earthquake Risk Management Project (KVERMP) started. The project was implemented from 1997 to 2001 by Nepal Society for Earthquake Technogy (NSET) in collaboration with GeoHazards International (GHI) and with assistance from the Asian Urban Disaster Mitigation Program (AUDMP) of the Asian Disaster Preparedness Center (ADPC). By learning about a partnership of NSET with other institutions such as the United Missions to Nepal and the Lutheran World Federation in KVERMP, the Jana Jagriti Yuva, a local Community Based Organization (CBO) of Ward No.34 in Kathmandu Municipality, requested NSET for assistance in conducting a disaster management training program for the residents of Ward No. 34. A five-day training program on disaster management was organized for thirty participants. It was very successful and received wide social and political endorsement. Toward the end of the training program, all the participants, organizers, and other stakeholders decided to establish a Disaster Management Committee (W34DMC). The Disaster Management Fund was also established by donations from individuals.

School Earthquake Safety Program (SESP)

The program included the vulnerability assessment of Kathmandu Valley's public schools as an example of a way to conduct earthquake mitigation projects in Nepal. The purpose of this assessment was not to identify individual schools as vulnerable, but to quantify the risk faced by the entire system. This project started with surveys of school buildings' characteristics, seminars with headmasters from the public schools in this area, and investigations of school buildings based on survey results. One typical school building was chosen for the demonstration of retrofitting and mitigation measures by using simple low-cost technologies. The Kathmandu Valley public schools and the school officials showed high cooperation and interests toward this project.

Activities

Earthquake Awareness Program

Establishment of Advisory Committee

The advisory committee was established with 20 volunteer members with the professionals, senior citizens of the ward, and several advisors who were retired officials of the government. The committee provided guidance to the W34DMC and the transparency of its work to the community. This showed their integrity and they gained community's trust in W34DMC.

Hazard Assessment

The CBO volunteers prepared hazard maps for flood, fire, and environment degradation with the technical guidance of NSET. Although simple maps required further technical improvement for designing structural mitigation, this exercise helped to raise awareness and to identify problems. For example, a fire hazard map showed that some streets were too narrow for fire engines to enter and compelled the viewers to become aware of the problems in the ward.

Ward Level Disaster Management Program

The Committee chalked out an annual program for 2000 including household-level surveys on risk management capabilities in the ward, training programs for the ward residents, and awareness raising works. In order for the Committee to implement the program, NSET had promised a minimum financial sponsorship with assistance from WSSI Fellowship (2000-2002).

Neighborhood Survey

Deriving from the recent earthquakes in Turkey and Taiwan, this survey was conducted to identify the local available resources within the ward and the level of preparedness of the local residents. This also identified the professionals who voluntarily participated to run the disaster management training programs so that the programs could be implemented at low cost. This survey was modeled the survey done in San Leandro in California.

Ward Level Consultative Meeting

The Committee organized a ward-level consultative meeting on disaster management and encouraged the residents to participate by using public advertisement. 200 senior residents were officially invited to the meeting as well. The participants showed appreciation of work done by the Committee and approved the proposed program. Some suggestions were made during the meeting to develop a strategy for the financial stability and to create an advisory committee of senior residents. Some participants voluntarily became the advisors and some registered to be volunteers for the Committee.

School Earthquake Safety Program (SESP)

This program included following activities.

1. Vulnerability assessment of about 1100 buildings belonging to 644 public schools in Kathmandu Valley
2. Implementation of retrofitting works for one of the schools as a pilot project
3. Implementation of SESP within and outside the Kathmandu Valley
4. Kobe-Kathmandu Exchange Program initiated with UNCRD

Achievement

Earthquake Awareness Program: People from the community (Ward 34) initiated CBDM activities by themselves. Their project was expected to continue because the community came to know the importance of community level initiatives from their own experiences. As a part of their activities, a group of volunteers was organized from every 5 to 7 neighborhoods.

School Earthquake Safety Program: One pilot project, retrofitting a school, was a successful approach in various ways. Through the retrofitting process, masons received training on earthquake resistant technology. This also raised awareness of people. Both masons and house owners were convinced that earthquake resistant technology did not have to be complicated and expensive. They have started to apply the technology to their own houses. The school also started exchanging their experience with students from Maiko High School in Kobe, Japan.

Lessons Learned

1. It is important for all organizations and every individual to understand their roles and responsibilities in CBDM projects.
2. Transparency of activities and dissemination of the knowledge and information encourage people's participation in activities.
3. Raising awareness is a crucial component in every activity and project.
4. CBDM efforts need stable financial resources.
5. 'What is accepted by the community' is more important than 'what is necessary'.
6. Low-cost and low-technology are more acceptable and sustainable.

Future Vision

Sustainability in Community Based Disaster Management is a three-year (2002-2004) research project of UNCRD in cooperation with NGOs, CBOs and local governments from 6 targeted countries. Considering diversity of regions, types and frequency of hazards, following 6 countries were selected: Bangladesh and Cambodia for floods, Indonesia and Nepal for earthquakes, and India and the Philippines for cyclones. Successful CBDM from these countries are reported as shown in this leaflet. These case studies will be analyzed, and effectiveness and issues of CBDM will be identified. The ultimate goal of this project is to formulate new strategic framework and guidelines for sustainability in CBDM.

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Philippines

Sustainability in Community Based Disaster Management

Country Profile

Republic of the Philippines

Capital: Manila
Population: 84,525,639
GDP/capita: $3,971 USD

UNDP
Human Development Report 2002

Major Disasters

Cyclone, Flood, Earthquake, Volcano

Project Data

Location: Guagua, Pampanga province
Duration: Initiated in 1988
Funding Agencies: Local Government Unit (internal allocations)
Local business and socio-civic organizations
Corporate Network for Disaster Response
Mondragon Foundation
Immigrant families from the United States
Partners: Guagua United Action for Rehabilitation and Development (GUARD)
Bells Economic Foundation (BEF)

IDRM UNCRD



Goal

To establish a multi-hazard approach to municipality's disaster management system

Objectives

1. To implement organizational development and capacity building to mitigate the effects of flood
2. To establish effective engineering interventions and infrastructure infusion
3. To systemize the risk monitoring and handling for preparedness
4. To enhance people's participation and to empower the community

Background

The major causes of disasters in the Philippines are typhoons and floods because of their frequency and the magnitude of their impacts on the society and the economy. The municipality of Guagua in the Province of Pampanga, one of the most floods affecting provinces, has experienced the adverse impacts of floods. This is mainly due to its location, the low elevation and the silted waterways. The experiences of floods brought all sectors of the community in Guagua in the forefront of disaster response and management activities and efforts.

It has been 14 years since the municipality first initiated disaster management activities. The municipality of Guagua disaster management system had developed into a comprehensive disaster management program with the following areas of concerns: organizational development and capacity building, effective engineering interventions and infrastructure infusion, systematic risk monitoring and handling, and community participation and empowerment.

In 1998, a community led by business organizations made a presentation to the mayor to address the perennial flooding problems of the town caused by the annual onset of typhoons and monsoons. This promoted the implementation of further and broader community consultations and led to the following events.

- The development of a municipal socio-economic development plan with active participation of various sectors of the community
- The formalization of community participation through the creation of Multisectoral Development Council (currently called Local Development Council upon passage of the Local Government Code of 1991)
- The adoption of more formal disaster management projects and activities as integral components of the overall socio-economic development plan of the municipality

Disaster management in this municipality was hands-on work of the mayor who designated a full time Municipal Disaster Action Officer to head the day to day operations of the Municipal Disaster Coordination Council (MDCC).

Activities

Organizational Development and Capacity Building

Activities for organizational development and capacity building included as follows.

- Building mechanisms and structures for the community and the private sectors' participation in the municipality's socio-economic development, particularly in the planning and implementation of disaster management programs and projects
- Organizing and training of Disaster Assistance Response Teams (DART) to respond to rescue, evacuation and retrieval operations
- Implementing capacity building and training activities including disaster drills and simulation exercises with other government agencies, NGOs and other local government units
- Developing formal disaster management plans
- Formulating and developing policies and mandating financial contribution from residents
- Communicating and coordinating with NGOs

Effective Engineering Interventions and Infrastructure Infusion

- Overseeing and facilitating the planning and implementation of small infrastructure projects including construction of secondary dikes and sandbagging activities on breached channel systems

Systematic Risk Monitoring and Handling

- Establishing a radio-based central communication system (WARCOM: Wawa Radio Communications Network) involving the establishment of watch points in strategic locations of the critical dikes and river systems, the deputization and use of volunteers from private sectors, and coordination and networking with the main provincial disaster coordination organization
- Conducting risk assessment and monitoring activities including hazard mapping, identifying severely affected villages, monitoring rainfall and the river depths, evacuation center planning and preparedness.

People Participation and Empowerment

- Forming and using an information gathering, dissemination and citizen mobilizing network at barangay or village level (BIONIC - Barangay Information Organizing and Networking Cadres) through participation of elected village leaders, council people and volunteers who also served as conduits and motivators for the active participation of village people.

Achievement

Through this project, an effective and efficient municipal and community disaster management structure was established and developed with limited external assistanse. The first effort made was to mobilize the community and private sectors to participate in planning and implementation of the disaster management activities and projects. This effort was successfully done. Another achievement was an integration of disaster management into the socio-economic municipal development plans, programs and budgets. This achievement made the disaster management more sustainable. Also, the local government formulated and implemented new local policies and legislation in support of disaster management. Coordination and cooperation were developed among the communities, private sectors and government departments.

Lessons Learned

1. People act more decisively when they fully understand the nature of hazards or when they are actually affected by the hazards.
2. Institutionalizing the community and the private sectors can result in more sustainable disaster management programs.
3. Disaster management programs and activities are successful when they are part of the socio-economic development efforts of the community.
4. Transparency is a key factor in order to obtain community support and participation.
5. Private or business sectors can be effective leaders to initiate projects.

Future Vision

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