Impact Assessment Study
of the
Orissa Disaster Management Project

9-18 December 2002

By

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1. Introduction

1.1 Background

Orissa is prone to natural and human-made disasters. Cyclones and floods are annual occurrences in the coastal districts of Orissa, especially causing damages to lives, household and livelihood assets, and community development. After the experience of successive disasters within 1999 with severe flooding in August, the cyclone on October 17 - 18, and the devastating Super Cyclone on October 29 - 30, the Pilot Orissa Disaster Management Project was conceived to initiate community disaster preparedness and mitigation linked to the development planning process in 1,100 villages in 10 blocks within 7 coastal districts (Astarang- Puri, Bahanaga – Balasore, Balianta – Khurda, Erasama, Balikuda – Jagatsingpur, Ganjam – Ganjam, Kantapada – Cuttack, Mahakalpada and Rajanagar – Kendrapada).

The project model proceeded from the suggested framework of disaster management for the State of Orissa as recommended by a study commissioned by the United Nations Development Programme (UNDP) to the Yashawantrao Chavan Academy of Development Administration (YASHADA), Pune, of the government of Maharashtra. The Pilot Orissa Disaster Management Programme (ODMP) was further developed in subsequent consultations with the Government of Orissa and key stakeholders. The ODMP was implemented by the Orissa State Disaster Mitigation Authority (OSDMA) with technical assistance from UNDP and funding support from the Department for Foreign and International Development, U.K. (DFID). At the Block level, the Block Development Officers facilitated the implementation of the program with the involvement of the local government agencies and the Panchayat Samitis and Gram Panchayats.

The project sought to reduce social, economic and physical vulnerabilities through disaster preparedness of all local stakeholders. Disaster preparedness as a socio-economic development process to prevent loss of development gains and to empower the community with appropriate skills and access to all development institutions were the purpose of ODMP. Key project components were the preparation of multi-hazard disaster management plans at the Block, Gram Panchayat and villages, formation of different groups to respond to hazards, capacity building of all stakeholders in disaster management, and vulnerability reduction through linkages with existing development programmes.

The project involved the development of Community Contingency Plans, preparedness and mitigation activities, which was facilitated through the organization of Disaster Management Committees at various levels and the mobilization community volunteers and Community Based Organizations (CBOs) who have been identified by the Panchayat Representative Institutions (PRIs). The project addressed gaps in disaster preparedness and response made evident during the 1999 Super Cyclone. The ODMP dovetailed with other UNDP-assisted programs in Western Orissa such as the Ham Radio Networking & Training, Promotion of Alternate Housing Technologies and Capacity Building of the Community for Habitat Development, and the UN Information Technology Services.

Project duration was from March 2001 to October 2002. At the end of the project, DFID India commissioned an assessment of the project to study its impact and sustainability for replication of the approach within Orissa and other states. The consultancy team was composed of Mr. Maheshwar Sahu (Additional CEO, Gujarat State Disaster Mitigation Authority & Commissioner Industries as Team Leader), Ms. Bishaka Bhanjan (Consultant Participation and Gender) and Ms. Lorna Victoria (International Consultant).

1.2. Objectives and Coverage of the Assessment

The objectives of the assessment were as follows:

1. to study the effectiveness and overall impact of the program

2. to assess whether the project has enhanced the community's capacity to deal with risks.
3. to determine the sustainability and replicability of the Community Based Disaster Preparedness (CBDP) model
4. to determine the cost effectiveness of the programme

The Terms of Reference indicated that the assessment should cover the pre-project situation, project process, interventions, and outputs. The Gram Panchayat (GP), the lowest unit of local self government, was taken as the unit of assessment.

Please refer to Annex 1 for relevant portions of the Terms of Reference

1.3 Methodology

GPs in 5 blocks (Cuttack, Jagatsingpur, Ganjam, Kendrapala, Astarang) were covered in the impact assessment study. GPs were selected at random to have a fairly representative sample to draw observations and conclusions from. A control GP (Marshaghai) wherein the project was not implemented was visited by the assessment team (Mr. Sahu and Ms. Bishaka) to compare disaster preparedness activities without project interventions.

In the field, the evaluation team had discussions and interactions with the Block Development Officers, National United Nations Volunteers (NUNVs), GP Disaster Management Committees/Task Force members, and Village Disaster Management Committees/Groups members, CBOs/NGOs, Self Help Groups (SHGs) and community members. These were complemented with the review of the project documents, reports and the Disaster Management Plans. The team observed the preparedness and mitigation activities such as (1) the Disaster Information Center, (2) training of HAM radio volunteers, (3) construction of earthen mounds, (4) mock drills, (5) computer training, (6) safe but cost-saving building construction, and (7) technology demonstration units.

Discussions with the UNDP Orissa Team, OSDMA, State Relief Commission (SRC), Panchayati Ray Department (PRD), and some NGOs based in Bhubaneswar focused on the following: (1) operational issues, (2) the opportunities and constraints in sustainability, (3) multi-stakeholder participation, (4) recommendations on how to institutionalize and mainstream the preparedness and mitigation process which has been initiated by the Pilot project, and (5) ways ahead in CBDP.

Please refer to Annex II for the itinerary of the assessment team.

1.4 Limitations and Focus

The impact assessment study of the project was conducted within a time limitation from December 9 – 18, 2002.

The participation of Ms. Victoria in the evaluation team was constrained by late arrival with minimal preparation due to its sudden forwarded schedule. An earlier arrangement with UNDP was for a January schedule, and advice of the commencement of the evaluation in December was received only 5 days before.

This report focuses on observations by Ms. Victoria from the local and community-based disaster management perspective. Recommendations are measures to ensure and increase impact and sustainability

2. Summary of Observations and Recommendations

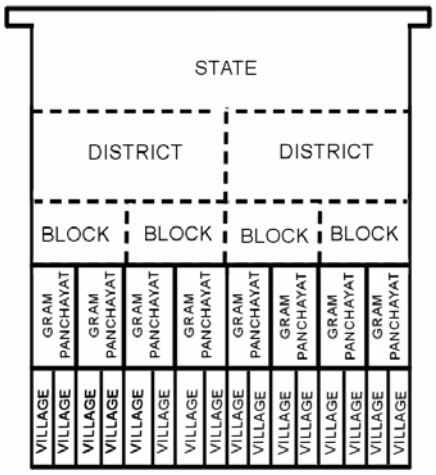
2.1 At the completion of the project, Community Contingency Plans (CCP) and mitigation solutions have been developed in 1,603 villages after participatory risk assessment and mapping. These have been compiled in the 205 GP Disaster Preparedness & Mitigation Plans and 10 Block Disaster Management Plans. Disaster Management Committees (DMC) and Task Forces (TF) to organize and systematize disaster response at the local level have been formed and trained at the village, GP, and Block levels.

The project has been successful in putting disaster preparedness on the agenda of local government and the Panchayati Ray Institutions (PRIs). The project has built capacity in disaster preparedness and in the integration of disaster management into the development programming process and system at the Block and GP levels to support the disaster preparedness and mitigation at the community level. The process has also strengthened the PRIs in their role in the delivery of public services, including disaster preparedness and mitigation.

As a result of the project, a local disaster management (preparedness and mitigation) system has been installed within the 10 blocks from the Block level to the GP to the village levels. Increased level of appreciation, especially with case stories of successful disaster preparedness activities in the June 2001 floods and November 2002 cyclone threat, has increased demand for the replication of the preparedness and mitigation activities in other blocks within the coverage districts of the project and for the other districts in Orissa.

Local and Community Based Disaster Preparedness & Mitigation Process

1. Training of Trainers and Orientation on Block & Panchayat Disaster Management Plans
2. Formation of Block and Gram Panchayat Disaster Management Committees, Working Plans, Training of Task Forces
3. Selection and training of Volunteers from each village in CBDP & Mitigation and Community Contingency Planning (preparedness and mitigation measures)
4. Hazard Vulnerability and Resources Mapping Discussion, Formulation of CCP and Approval by the Village's Palli Sabha
5. Formation & Training of Village Response Groups/Task Forces
6. Finalization & Approval of the GP and Block Disaster Management Plans
7. Mock Drills, Plan Implementation and Social Mobilization at Various Levels
8. Review & Updating of Plans and Continuing Improvement of CBDP and Mitigation



2.2. The project has set up the basic and formal requirements for sustainable CBDP and mitigation through the involvement of the PRIs and the villagers themselves. The CCP and immediate mitigation measures for flood and cyclones have been formulated after a process of risk hazard, vulnerability and resources mapping, discussion and analysis. The Village DMC and TF/Groups on various preparedness and emergency response activities such as early warning, evacuation and search and rescue, first aid and medical, shelter management group, and damage assessment & relief group (plus psycho-social counseling in some villages) have been formed and trained.

This process has been completed in all the 1,603 villages and hamlets comprising the 205 GPs within the 10 blocks. On the practical side, mock drills to simulate preparedness and response have been conducted in 200 villages.

More villages than targeted have been covered by the Contingency Planning process and TF formation to formulate the GP level disaster management plan. This has led to the extension of time frame of the project as well as adjustment of budgets for the village-level activities. While all Block level targets were achieved as of November 15, 2002, some GP level targets were still in process (training and formation of GP DMC and preparation of GP DM plan). Most of the village level targeted activities have been achieved but approval of some CCPs by the Palli Sabha and many mock drills have still to be completed.

The process of facilitating the risk assessment and formulation of the CCP has been undertaken through the DMCs, PRIs and community volunteers from youth clubs and CBOs who have been identified by the PRIs.

The project had undertaken the basic requisites for organized and coordinated local and community based disaster management from the Block to the GP to the village level. However, more depth, especially at the community level should and will follow as the DMCs, TFs and volunteers continue on with their tasks even after the project duration. Various community-based disaster management (CBDM) experiences have shown that when villagers know what to do to and how to protect themselves, (especially after the experience of a major devastating

disaster such as the Super Cyclone of 1999 and Floods in 2001) they are able to continue and sustain the process.

2.3 The ODMP involved sensitization and capability building at the Block, GP at Village level in disaster preparedness and mitigation to install a local level disaster management system integrated in the development planning processes. The bulk of project funds at the local level had been used for training activities and the equipping of the Block and GP Information Centers/Control Rooms. The process, activities and corresponding budget for the project at the Block level (figures taken from Kantapada Block) were as follows:

ACTIVITY	AMOUNT (in Rs)
* Training of Block Functionaries & Formation of BDMC	10,500
* Training of GP Functionaries & Formation of GPDMCs	33,500
* Training of volunteers on CCP development	45,000
* Village Contingency Plans	150,000
* Mock Drill	25,000
* GP Disaster Management Plan	20,000
* Block Disaster Management Plan	10,000
* Public Awareness Campaign	10,000
* Ham Radio Training & TF Training by Civil Defense	10,000
	314,000
* Equipping of Block & GP Information/Control Rooms	300,000
Allocation for Each Block	**614,000**

The outcomes of the capability-building activities of the ODMP in the 10 blocks are an indication of its cost effectiveness:

- 332 Block DMC members trained
- 3,041 PRIs trained on disaster management
- 2,055 volunteers trained in CCP developments
- 2,472 taskforce members trained on first aid
- 2,511 taskforce members trained on rescue evacuation
- 2,327 taskforce members trained on water and sanitation
- 2,313 taskforce members trained on shelter management
- 2,313 taskforce members trained on carcass disposal
- 10 block disaster management information centers strengthened
- 693 volunteers trained in operation of HAM equipment

2.4 The organizational/institutional mechanisms for community disaster preparedness are in place from the village to the GP and Block levels. The village level TFs know and demonstrate what to do in the event of cyclone and flood threats to ensure physical safety and protect lives, livestock and other assets, and community lifelines. The DMCs from the village to the GP and Block levels coordinate for field level disaster preparedness and mitigation. These organizational mechanisms have stood the test in actual preparedness and emergency response operations during the June 2001 floods and the threat of incoming cyclone in November 2002. There are many case stories of how disaster preparedness and mitigation has been making a difference in the lives of vulnerable communities even within the project period

The process of formulating the CCP has involved community members in hazard, vulnerability and resources mapping and identification of mitigation measures. The CCP is then discussed and approved in the Palli Sabha. At the GP and Block levels, the Disaster Management Plans are approved by the Panchayats and the Panchayat Samithis. However, the formal aspects of the plan and institutional arrangements have to be made more practical with the mock drills and more discussions with various segments (households in high risk areas within the community, vulnerable groups including low caste groups) of the community. The experience of a disaster/hazard event and assessment within the community and how the TFs/community

responded should be combined with the mock drill -- what went well, what did not and what has to be improved.

Updating of the CCPs every 6 months has been cited and should integrate the lessons and improvements to make. Follow-up work on the CCP should ensure that the most vulnerable individuals, households and groups in the village which are identified in the CCP are involved in the mock drills and discussions.

The training given to the TFs have practical use as well for the community members and mechanisms and schedules for the sharing of these should be made, e.g. the First Aid to the women.

2.4 The project integrates disaster management into the development planning system through the sensitization of local government personnel and PRIs and the inclusion of on-the-ground mitigation measures identified during the formulation of the CCP into the GP and Block Disaster Management and Development Plans. Village profiles made as part of the contingency planning process give an updated basis for development planning at the GP and Block levels.

Mitigation plans at the village level are mostly physical mitigation measures (construction of school buildings which can be used also as cyclone shelter, construction of godowns for storing nets and dry fish, repair installation of raised tube wells, maintenance of roads, strengthening of weak embankments, alternative technologies for safer but affordable building construction) which are immediately necessary for safeguarding life, livelihood assets and community lifelines. Non-structural measures undertaken are public awareness campaigns, training and registration of high risk groups.

Within the present integration of mitigation into the local development planning process, more convergence of other development sectors to reduce vulnerability/disaster risk is needed. The integration of disaster mitigation into the development planning system should result in the process of building disaster resilient communities (or the India/Orissa, disaster proof communities) or more developed communities. The ODMP's goal to reduce social, economic and physical vulnerabilities is also carried by the draft State Disaster Management Plan which addresses socio-economic vulnerabilities for disaster risk reduction and sustainable development.

Mitigation measures, then, should include short-, medium-, long-term (rural) development programmes/activities carried out by other line agencies such as but not limited to the following: (1) agriculture and fisheries, (2) livelihood diversification projects, (3) education, (4) health and sanitation, including herbal gardens, and (5) protection of the natural resource base through mangrove reforestation and shelter belt plantation. Education and social mobilization of communities also on policies and issues particular to fisheries sector and coastal villages should also be part of non-structural mitigation.

2.5 The preparedness and mitigation planning process in the 1,603 villages has been installed through volunteers coming from the youth clubs, CBOs and the Village DMCs. Plan formats from the village to GP and Block levels have been provided as part of the project to facilitate compiling into the GP and Block Preparedness and Response Plan.

To aid the community in its implementation as well as monitoring at the GP and Block levels, an action plan format can be used to form part of the CCP. Preparedness activities should include the following: (1) mock drills, (2) public awareness activities, (3) echo training, (4) acquisition of necessary equipment and supplies like first aid kits, bicycle for mobility, megaphones, etc., (5) community contingency fund. Mitigation intervention should include measures which the community will do on its own as well as those which are to be endorsed for assistance to the GP, Block and/or NGOs.

The Action Plan should cover preparedness and mitigation interventions which the villagers will undertake on their own through internally mobilized resources and those which will need the

assistance and support from the GP and Block level administration and agencies. Roles and activities of various organizations in the community such as the SHGs and CBOs can be incorporated.

Preparedness and Mitigation Action Plan Format

ACTIVITIES	WHEN	RESPONSIBLE			RESOURCES NEEDED		SUPPORT AGENCY	COMPLETION DATE
		Unit	Committee	Person	Existing	To look for		

* What are the Activities/Strategies for the Disaster Prevention, Mitigation and Preparedness?
* When will these be done?
* Who is/are responsible?
* What Community Resources can be used for the activity? What other Resources are needed?
* What Agency/ies or organization/s can support the community?
* When will the activity be completed?

At the village level, the Preparedness and Mitigation Action Plan should be implemented and monitored by the Village DMC, PRIs, and the community members. At the GP and Block level, CCP implementation can be monitored and assisted by the GP DMC and TFs and the Village Level Workers (VLWs) and Extension Officers (EOs). But arrangements with the Block and GP should be made to include the disaster preparedness and mitigation as part of the tasks of the VLW and EOs. In villages where there are CBOs, sustaining the motivation of the community in the disaster preparedness and mitigation can be done by them.

As disaster preparedness is embedded in the local culture, the CCP can also be called Preparedness and Mitigation Plan, or even Community Development Plan, with the integration of preparedness and mitigation into the village development plan, especially as plans cover multi-hazards which threaten the area like heat wave, drought, fire, and environmental degradation.

2.6 Communities have accumulated preparedness and coping mechanisms through the exposure to recurring threat of cyclone and flooding, but these have not been sufficient through time to protect life and minimize losses incurred. These local capacities include strengthening of houses, raising of houses above usual flood level, use of bamboo and banana rafts during flood, putting aside some food stock in sealed containers in a safe place, watching changes in elements of nature for signs of impending cyclone or drought, use of drums or bells for warning, shelter plantations, strong family ties and community solidarity, self help groups, CBOs. While the project has produced a manual in Oriya to propagate traditional coping mechanisms, especially for the younger generation to learn from this indigenous knowledge, modern information and communications technology and alternative technologies in safe building construction are also promoted.

Equipping of the Block and GP Disaster Information Center (Control Room) with computer, printer, telefax and internet connection has facilitated hazard/disaster monitoring, the dissemination of warning and collation of data and preparedness and mitigation plans. The HAM radio volunteers training (on message handling, maintenance and assembly of equipment) and setting up of the HAM Club in each block provide fail-safe alternative communication in the event of an emergency and regular communications failure. Meanwhile, HAM radio can also be used to broadcast preparedness measures and enhance inter-connectedness within the Block, especially that the equipment can be easily assembled even locally at a competitive price.

The project has trained government engineers (JE) and masons in safe but cost-saving building construction in the villages. Aside from units which have been reconstructed using the government compensation for damages from the Super Cyclone in 1999, Technology Demonstration Units (TDUs) have been built to promote these structures, in villages where there are a lot of the kutcha houses. The TDUs are being used as a venue for community meetings and activities and should always have public awareness materials on disaster preparedness and mitigation, including the safe building construction, prominently displayed on boards (so they don't easily come off the walls).

2.7 Villages have been encouraged to build a CCF from household contributions to be used for immediate relief requirements. While policies regarding its use for other immediate community needs and replenishment to serve its intended purpose have to be discussed by the community, after the target amount for the relief goods and other preparedness requirements, the villagers should also be assisted and mobilized to save funds for essential mitigation activities.

Integration of the established local disaster management system into the district and the state level disaster management system will also ensure financial sustainability. This would lead to the necessary policies, plans, mandates and y budgets/funds to support the local level disaster preparedness and mitigation activities. This integration is necessary for the institutionalization/mainstreaming of the project approach into the State's disaster management system. Replication of the project approach is in process in other Blocks and Districts within the State.

2.8 OSDMA/UNDP has produced and disseminated various information and education materials on CBDP and mitigation. Periodic public awareness campaigns, especially in connection with the Disaster Preparedness Day celebration which runs for about 2 weeks in October have been undertaken. These have contributed to the capacity building process in CBDP of the community at large.

Four types of do's and don'ts posters -- precautions for storm/cyclone, flood preparedness, drought mitigation strategies, and precautions for fire – have been disseminated as part of the State Disaster Preparedness Campaign. Eight manuals in Oriya (Community Contingency Planning, Coping Strategies, Disaster Mitigation Strategies, Training of the Task Forces, Involvement of the PRIs in Disaster Preparedness and Mitigation) have also been produced to promote uniformity in approach of CBDP and Mitigation in the Blocks covered by the project. These manuals are also to be disseminated to the other Blocks in Orissa where the programme will be replicated. English translation of these manuals is in process to spread the Orissa model of CBDP and Mitigation to the other States of India.

Sample DM plans at various levels and for civil society groups as well as best/ good practices and lessons learned in CBDP and mitigation are also available in the Internet in the UNDP website for ready reference

To sustain the CBDP and mitigation activities in the programme areas, continuing public information and awareness activities are definitely necessary. One shot-deal training and public awareness campaign do not work. To sustain interest at the community level, the use of more visuals than text materials is needed and even the walls of the kutcha houses can be used for disaster preparedness slogans and relevant CCP data. Calendars (like the Oxfam 2003 disaster preparedness calendar) are also effective.

Cross visits and study tours to villages, GPs, Blocks which have successes in CBDP and mitigation are also important (but rather expensive method) in capability building. Aside from the youth/CBO/NGO volunteers (about 10 core volunteers per block according to UNDP), the dedicated PRIs, members of the DMCs, TFs and villagers themselves can be pooled as trainers/speakers to continue capability building and public awareness in the GPs/villages and other Blocks.

2.9 While the necessary critical mass from among local government personnel and PRIs has been developed to sustain and carry forward disaster preparedness and mitigation, coordination with NGOs involved in disaster management and community development has to be strengthened so there is much sharing and learning from within the Orissa experiences. Various NGOs implement development programs and/or disaster management programs directly or through local NGO/CBO partners at the village level.

OSDMA/UNDP should continue in strengthening coordination with NGOs involved in disaster management and development work. The NGOs and their network of local NGO and CBO partners generally have close linkages with the community and have flexibility in procedural matters. (from Chapter IX of the 3rd draft State Disaster Management Plan) Therefore, they can help in sustaining community motivation in preparedness and mitigation activities. Aside from the regular coordination meetings with NGOs, periodic sharing fora on the best/good practices in community based disaster preparedness and mitigation should be undertaken with these NGOs so that there is continued learning by all stakeholders within Orissa. These fora would be similar to the Lessons Learned Workshop organized by OSDMA covering emergency response and preparedness during June 2001 Floods.

Also, OSDMA/UNDP should continue with subcontracting some project components/activities to these NGOs. NGOs were involved in the Teams which conducted the study of emergency response and preparedness in flood-affected districts for the Lessons Learned Workshop and the preparation of the manuals (by BGVS) for the Pilot ODMP.

Among NGOs, it is best to form a network or forum to share information, common concerns and resources (including advocacy agenda). Such a network can facilitate coordination and partnerships with OSDMA/UNDP at the state level. At the District and Block level, similar networks can be formed and strengthened, if not yet existent.

2.10 The role of the UNDP volunteers has been very evident in installing the local level disaster management system and in achieving the targets of the disaster preparedness and mitigation project. While the ODMP has enhanced the capacity of OSDMA in performing its functions as the State's nodal agency for disaster mitigation, the role in capability building and technical assistance in CBDP and mitigation has to be progressively carried on by OSDMA.

The pilot project has provided OSDMA much basis on which to sustain the CBDP and mitigation process. During the International Seminar on Disaster Preparedness and Mitigation held in November 2002 in New Delhi, MDir. Behera cited some key components and implementing strategies of the ODMP to ensure sustainability. These were the following: (1) integration with village, GP, Block level development planning of local government, (2) integration with PRIs, (3) organizational mechanism for implementation, (4) formulation of realistic, mitigative and preparatory measures by the community, (5) involvement of community in decision making & mobilization and community ownership, (6) active participation of grassroots leaders, and (7) technical assistance. During the debriefing/feedback of the evaluation team with OSDMA, MDir. Behera cited that involvement of local educational institutions and incorporation of CBDP in the education curricula as other measures for sustainability.

Aside from its role to undertake projects for restoration and strengthening of infrastructure damaged by disasters (immediately after the Super Cyclone of 1999 and subsequent disasters), OSDMA is tasked to develop and update plans and strategies to handle any type of disaster at various levels. OSDMA plays a lead role in the formulation of the State Disaster Management Plan (on its 3rd Draft) and disaster mitigation policies. More realistic and do-able multi-hazard plans can be made at the State, District, Block level to support local level multi-hazard plans after the implementation of the project and incorporation of lessons from the UNDP-assisted project on Decentralized Planning for Drought Proofing & Sustainable Livelihoods and experience of heat wave in 1998.

Since the local DMCs with the PRIs are the same organizational mechanism in the pre-, during, post-disaster management, fine-tuning of relationships of OSDMA with existing (and to be formed) government agencies involved in disaster management such as the Special Relief Commissioner (for relief operations) and PRD and Gopabandhu Academy of Administration (for training and capability building) have to be periodically reviewed together with appropriate statutory mandates.

3. Comparison of ODMP with International CBDM Interventions

Parallel experiences all over the world are now showcasing the benefits derived from Community Based Disaster Management (CBDM) and the composite features which make the preparedness and mitigation activities successful and sustainable. Key lessons noted in these bottom-up models in disaster management are similar to those seen in the Orissa project.

- Community involvement in the process of hazard vulnerability and resources assessment, plan formulation and implementation of the preparedness and mitigation solutions leads to project ownership
- The community participation in the CBDM activities builds confidence, pride and capabilities to pursue disaster preparedness and mitigation as well as bigger development responsibilities at the local level
- Capacity building and public awareness activities enables the communities to increase participation and eventually, to sustain even on their own the preparedness and mitigation activities.
- Community based disaster management is cost effective, self-help and sustainable even if it is time consuming.
- The disaster management committees are the focal points for local leadership and responsibility in CBDM.
- When community based disaster preparedness and mitigation is incorporated into the agenda, plans and programs of local government units, institutionalization and mainstreaming can be facilitated.
- Sustainability and replication follow from immediate results/benefits and success stories which show and tell that community based disaster preparedness and mitigation works. yet
- Community based disaster preparedness and mitigation is cost effective, self-help and sustainable, even if time consuming.

Most of the recent and ongoing experiences in CBDM are limited in coverage and/or focused on the community preparedness and mitigation without strong integration into the next higher levels of the disaster management and development system. These CBDM models are used to advocate for a wider application of disaster preparedness and mitigation by all stakeholders, especially by vulnerable communities, governments and disaster management and development NGOs.

While most the CBDM models have in-depth community involvement but limited scope, the Orissa model has accomplished the widespread installation of CBDM that is integrated into the local level disaster management and development planning system. All villages in all GPs within the 10 Blocks were covered within just 18 months with a trim budget allocation of US$210,500 (US$160,500 DFID grant and US$50,000 UNDP counterpart).

3.1 International Experiences

The Philippines and Cambodia had been cited by the Background Paper of the International Seminar on Disaster Preparedness and Mitigation held in November 2002 in New Delhi as having successful experiences in CBDP. These countries have similar flooding and cyclone threats as in coastal Orissa.

3.1.1 Cambodia

The CBDM initiative referred to is the Community Based Flood Mitigation and Preparedness Project implemented jointly by the Asian Urban Disaster Mitigation Program and the Cambodian Red Cross. It has initially covered only 23 villages covering 5,496 households in 3 districts within 3 provinces. Total project cost is US$143,750 with OFDA funding US$125,000 and $18,750 as counterpart funds of the Cambodian Red Cross. The disaster preparedness and mitigation activities addressed the susceptibility of the population as well as the critical facilities such as infrastructure, livelihood and shelter. The project was implemented through a core of community Red Cross volunteers who were trained in risk assessment and facilitation of identification and implementation of community-level mitigation solutions such as water control structures necessary for livelihood, including repairing dams and dikes; cleaning irrigation ditches, culverts and water gates; and improving access by raising of road levels or constructing small bridges.

3.1.2 Philippines

The government has established a disaster management system since 1978 which emphasizes local self-reliant preparedness and response. There are 41,944 village level disaster coordinating councils (DCCs) organized in 1,499 municipal and 113 city DCCs covered by 80 provincial and 16 regional DCCs. However, most of the disaster coordinating councils are still focused on emergency response and are not functional for preparedness and mitigation. The First National Conference on Community Based Disaster Management which was held in January 2003 was sponsored by the National Disaster Coordinating Council to get a handle of community disaster preparedness and mitigation activities, mostly implemented in partnership with NGOs.

The Citizens' Disaster Response Network (CDRN) pioneered in CBDM in the Philippines staring 1984. CDRN is composed of 14 centers operating within the country which link up with grassroots organizations for community based disaster preparedness and mitigation measures to address vulnerable conditions and roots of vulnerabilities. It is directly linked on a sustained basis to at least 183 villages spread out all over the country, and has spread community based disaster management to many other villages through a network of NGOs and people's organizations. Its model involves the formation and training of community disaster management committees which sustain the disaster preparedness and mitigation activities, even without outside funding. This model has been used in the Andhra Pradesh Disaster Mitigation and Preparedness Project of CARE-India.

The Philippine National Red Cross undertook the community based approach in disaster management starting 1994 with its Integrated Community Disaster Planning Programme (ICDPP) in villages in 5 provinces of the country. Its model involves the formation of Barangay (village) Disaster Action Team (BDAT) whose volunteer-members are elected by the community assembly from among various community organizations. Usually, the Barangay Captain (village head) is also the Chair of the BDAT. The ICDPP provides intensive training for the BDAT who later on conduct the risk assessment and risk reduction planning with the community members. The hazard and resource maps are prepared with the use of participatory tools combined with GPS/GIS. The digitized maps are technical inputs of the ICDPP which are turn-over to the municipal government to influence and improve land use planning.

3.1.3 Bangladesh

In neighboring Bangladesh, a demonstration project to reduce vulnerability of flood prone communities in the municipalities of Tongi and Gaibandha also integrated CBDP and mitigation into the local development planning system. The project of the Bangladesh Urban Disaster Mitigation Program involved base line surveys and vulnerability assessments through volunteers. The Municipal Disaster Management Committee was reactivated and community disaster mitigation and preparedness action plans. Household and community level mitigation

measures implemented included raising of homesteads, tube wells, roads, community place, construction of new dams, drainage and roads while non-structural mitigation focused on public awareness activities and training. Total project cost is US$257,874 with US$224,236 as support from OFDA and US$33,636 as counterpart of CARE-Bangladesh.

3.2. Replication of CDRC/N Model in Andhra Pradesh

The model to promote CBDM of the CDRN in the Philippines has been replicated in Andhra Pradesh. The Andhra Pradesh Disaster Mitigation and Preparedness Project of CARE-India aims to increase community involvement in disaster management, ensure policy changes in the government, donors and development organizations for adoption of improved risk reduction measures, and strengthen private and public infrastructure to make them disaster proof. The target is to institute disaster preparedness and mitigation in at least 1,000 villages in 11 districts within 5 years with the support of NGOs from the state to the district and village levels. Community Contingency Plans and disaster preparedness and mitigation activities are expected to contribute to reducing vulnerabilities of cyclone-, flood- and drought prone communities. At the state level, the project organized the Disaster Management Resource Institute for training and capability building support and the Disaster Management and Coordination Network which is composed of some 100 member NGOs to support the disaster preparedness and mitigation process at the district and village levels, especially in policy advocacy. Centers of Excellence are district level resource centers which coordinate with the Disaster Management Resource Institute. Within the first year 160 villages have been reached and project cost for the first 2 years is EU 800,000 with fund support from DIPECHO and managed by CARE-India.

4. Conclusions

4.1. The Pilot Orissa Disaster Management Project has the following significant positive impacts:

- It has been successful in putting disaster preparedness and mitigation on the agenda of the PRIs and local government officials.
- A capable local disaster management system integrated into the development process from the Village to Gram Panchayat and Block levels have been set within the Blocks covered by the project.
- The members of the Disaster Management Committees and Task Forces know and demonstrate skills on disaster preparedness for cyclone and flood hazards. These core of volunteers who mobilized the communities in disaster preparedness and mitigation
- The organizational mechanisms for disaster preparedness and response have stood the test during the August 2001 flood and in anticipation for the cyclone in November 2002.
- Case stories of how local and community based disaster management has been making a difference in the lives of villages in coastal has created commitment to sustain the process and replicate in other areas.
- The project has provided the Orissa Disaster Mitigation Authority much basis on which to sustain the community based disaster preparedness and mitigation process.

4.2 Summary of recommendations to increase impact and ensure sustainability

4.2.1 Follow-up. Work on the Community Contingency Plans

- Conduct mock drill
- More discussions on the CCP with most vulnerable groups. Ensure participation and addressing particular needs of women and disadvantaged groups.
- Use actual experience of preparedness and response to flood and cyclone to improve the CCP: what went well, what did not and what has to be improved
- Regular updating of the CCPs
- Include structural and non-structural mitigation measures which the community can do on its own.
- Monitoring of the CCP implementation by the Village Disaster Management Committee, PRIs and community members
- Formulate policy on the use and replenishment of Contingency Fund. Assist communities to build up funds for mitigation measures.
- Use of an Action Plan Format: Activities; Schedule; Responsible; Resources; Support Agency; Completion Date

4.2.2. More convergence of other development sectors to reduce vulnerability and disaster risk

- Formulation of multi-hazard plans which incorporates lessons learned from the pilot ODMP implementation with the UNDP-assisted project on Decentralized Planning for Drought Proofing & Sustainable Livelihoods, experience of heat wave in 1998.
- Mitigation measures to include short-, medium-, long-term development programmes and activities such as agriculture and fisheries, livelihood diversification, health and sanitation, protection of the natural resource base such as mangrove reforestation & shelter belt plantation, and education and social mobilization on issues particular to the fisheries sector and coastal villages.
- Assistance of CBOs, Village Level Workers and Extension Officers in the CCP implementation and monitoring
- Incorporate CBDP and mitigation in the school curriculum

4.2.3 Integration of the local disaster management system into the district and state level disaster management system

- Fine-tune relationships of OSDMA with existing (and to be formed) government agencies involved in disaster management such as the Special Relief Commission (for relief operations, Panchayati Ray Department and Gopabandhu Academy of Administration (for training and capability building)
- Necessary statutory mandates, policies and budgets for CBDP and mitigation

4.2.4 Sustained capability building in disaster preparedness and mitigation

- Sustained capability building of members of the DMCs and TFs and volunteers: training, manuals, study tours and cross-visits
- Task Force members to share disaster preparedness training to community members
- Dedicated PRIs, local government personnel, DMC and TF members, and volunteers formed into a trainers/resource pool in CBDP and mitigation

- Sustained public awareness campaigns at the village level, using locally available resources such as the kutcha houses (to write relevant CCP data and slogans on), the Technology Demonstration Units, community events
- Sustain the HAM Clubs and training of Ham radio volunteers

4.2.5 Strengthen coordination with NGOs

- Periodic sharing fora on good practices in CBDP and mitigation
- OSDMA to continue subcontracting some project components / activities to the NGOs
- NGOs to form a network or forum to share information, common concerns and resources.

4.2.6 OSDMA to progressively carry on the role in capability building and technical assistance in CBDP and mitigation

Annex 1

RELEVANT PORTIONS FROM THE TERMS OF REFERENCE

Scope of Work

1. The pre – project situation:

    - The guidelines/approaches/systems that the GoO/GoI has for disaster and to which extent they were followed in the project area.
    - Traditional coping strategies that the community followed

2. Project process and outputs:

    - Planning – nature, participating agencies, replicability, sustainability and financial parameters.
    - Structures – Institutional which were created to ensure implementation and sustainability
    - Implementation – Human resource required for the same and the distribution.
    - Technical solutions – Infrastructure, trainings and exposure visits of JE's, masons and village committees
    - Response/recovery mechanisms, which are in place as a part of the project.
    - Communication strategy- Has there been any strategy in place? How have they responded to the communication needs?

3. Assessment of project interventions:

    - ***Planning*** - PRA approaches which have been used in planning, Are plans being used, effectively?
    - ***Capacity Building*** - Quality and effectiveness of the capacity building interventions at all levels.
    - ***Role of NGO's and Civil Society –*** What has been the involvement and role allocated to NGO's and civil society in the system built for disaster preparedness and creating sustainable structures? Were they part of the project management structures used by UNDP to implement the project?
    - ***Project Management –*** What were the various structures created for effective implementation of the project? Do they still exist, if yes, then how are they being sustained?
    - ***Communication Strategy-*** Highlighting the critical differences in the nature of response to cyclones and pre and post intervention. The key difference between preparing for cyclones/floods and slow onset disasters such as droughts
    - ***Involvement of community-*** The level of awareness in community for disaster preparedness. How better equipped is the community now? Whether community's own traditional coping strategies have been integrated into the systems created by the project, and to what effect? Inclusiveness of all sections of the community. Women's role in the project. Were there needs assessed differently?
    - ***Mainstreaming the project –*** What were the linkages created within the government to implement the project and ensure mainstreaming. Integration and mainstreaming with government systems (block and district level and with OSDMA at the state). Sustainability of systems created by project. Sustainability and replicability being necessary components would there be any changes to strengthen such aspects.

Project activities:

- Disaster Management Committees: Disaster management committees were formed at village, Gram Panchayat and Block levels to develop the plan of action and Multi-hazards management and response plans. Government functionaries, people's representatives, Community based organizations, developmental agencies and opinion leaders were selected as members of the disaster management committees at all levels.
- Development of Disaster management and response plan: Based on the probable hazards the committees prepared multi-hazards management and response plan to tackle the situation. Each plan comprised different stages like vulnerability and risk mapping, resources inventory, preparedness and response plan, formation of taskforces, mock drill and mitigation plan.
- Taskforces: At each level taskforces were formed to carry out the activities assigned during different times for preparedness and mitigation activities.
- Specialized training to the taskforce teams for rescue and evacuation, First-Aid, Shelter management, Damage assessment etc.
- Community fund for emergency responses and mock drills.
- Mound for animal shelters.
- HAM Radio training for warning dissemination- promotion of HAM clubs
- Disaster information and management centres at Block and Gram Panchayats
- Awareness campaigns for sensitization and preparedness before disaster season
- Training/orientation and workshop for capacity building and advocacy.

Annex 2

ITINERARY OF THE EVALUATION TEAM

12/09/02	-	Evaluation Team Briefing with DFID in Delhi
12/10/02	-	Discussion with UNDP Orissa Team in Bhubaneswar Discussion with Orissa Disaster Mitigation Authority
12/11/02	-	Field Visit to Mashaghai (control village)
12/12/02	-	Field Visit to Rajanagar (Mr. Sahu) Field Visit to Kantapada (Ms. Bhanja & Ms Victoria)
12/13/02	-	Field Visit to Balikuda (Mr. Sahu) Field Visit to Kujang (Ms. Bhanja & Ms. Victoria)
12/14/02	-	Field Visit to Ganjam (whole Evaluation Team) Meeting of Evaluation Team for Report Write-up
12/15/02	-	Travel back to Bhubaneswar
12/16/02	-	Meetings with NGOs - BGVS, CARE, CONCERN
12/17/02	-	Meetings with Secretary- Special Relief Commission, and OXFAM Debriefing with MDir. Behera of OSDMA Debriefing w/ Mr. S. Jha, UNDP (Ms. Bhanja & Ms. Victoria)
12/18/02	-	Meeting with Panchayati Ray Department (Mr. Sahu) Field Visit to Astarang - Katiare Hamlet & Sundar R. Village, Patalada GP (Ms. Victoria)