

Approaches in Disaster Risk reduction – Experiences, Present status and future requirements

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1. Preface

Disaster management meant different for different players. For many decades prior to Major catastrophes like Orissa Super Cyclone (1999), Gujarat Earth quake & West Bengal Floods (2000) disaster management for respective state governments was to emphasis on early warning, evacuation, post disaster compensation, rehabilitation, shelter construction, i.e., basically reactive.

And, NGOs, who consider they to be grounded and realistic typically considered disaster management as distributing cash, clothes, providing medical assistance, water purification, etc. Most important, they tended relax until the next disaster! They didn't do much between two disasters to reduce the impact, reduce the vulnerability and susceptibility of the people.

The perspective however has changed with a series of disasters mentioned above. Oxfam's community based disaster preparedness (CBDP) approach has been replicated by different NGOs in different states with suitable adaptation to the local context. However, most of these initiatives are being implemented in isolation and as a project with limited life cycle, instead of integrating disaster preparedness in ongoing development programs. Some NGOs have adapted disaster preparedness on the insistence of donors but not with the understanding that disaster preparedness is a development need and is inevitable for preventing future disaster losses.

This paper reviews a few disaster preparedness initiatives² in India which stand out from plethora of preparedness claims for their inherent strengths of sustainability and replicability. Quoting example of Cuba's disaster preparedness, this paper emphasizes on the need for adapting disaster risk reduction as a culture and conscious practice.

2. Approaches of Disaster Risk Reduction

Initiator	Focus	Strategies	Activities	Scope and work area
Oxfam Since 1998	Address Factors of Cyclone & Flood Disaster Vulnerability	Community Empowerment Multi stakeholder involvement Vertical & Horizontal expansion of disaster preparedness	Contingency planning Task force groups formation. Livelihood promotion Disaster risk sharing Health, hygiene promotion, housing and drinking water.	Disaster (1996) affected communities in Communities in Coastal Andhra Pradesh, Orissa & Gujarat with a special focus on most marginalized communities.

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² Three Disaster Preparedness initiatives from India and one from Cuba are selected for the purpose of discussion here. This is however not discount the popularity or strengths of several other good disaster preparedness initiatives by many other agencies.

Initiator	Focus	Strategies	Activities	Scope and work area
UNICEF Since 2000	Address survival needs of communities in the first few weeks after massive flooding. Sustaining these initiatives with or without NGO intervention	Create equal ownership of Government & Communities. Use SHGs as entry point. Integrate with polio eradication programs. NGOs provide facilitation support and training.	Contingency Planning. Task force groups formation. Family survival, child survival and pregnant woman survival kits. Promotion of low cost life saving kits, <i>Machans</i> ³ , <i>elevated tube wells</i>	Communities affected by floods in the year 2000 in West Bengal
UNDP Since 2002	Local Level Risk Management	Capacity building to Institutionalize DRM systems in government	Multi-hazard preparedness and mitigation plans for DRM at State, district, block, village and ward levels	169 districts of 17 selected most multi-hazard prone States of India
CUBA Since 50 Years	Culture of Preparedness	Development model that reduces disaster risk	Appropriate legal framework. National and local level contingency plans. Creation of social and human capital Disaster preparedness in schools & colleges	Entire country which faces hurricanes every year

2.1. Oxfam Approach to Disaster Risk Reduction

In any disaster what matters most is the time gap between the disaster event and the response that follows. Most of the damage to lives and properties occur during the period of this gap. Therefore it is not a right idea to leave the responsibility of saving lives to the government agencies alone. The response to a disaster should start where the disaster strikes. If that response comes from an organized local group, then the loss of lives and assets can be minimized. While preparedness is vital in reducing the loss of lives, more important is changing the context of communities that make them vulnerable. The context in this case is their risky habitations, poor housing and sanitation conditions. They are in this context due to abject poverty, lack of health awareness and education. Sustainability of disaster preparedness lies in addressing these vulnerability conditions and changing their context, while organizing them to deal with disasters.

With this belief, in 1998, Oxfam GB has initiated Community Based Disaster Preparedness (CBDP) initiatives in the coastal districts of Andhra Pradesh. The combined force of task and the members of Self Help groups helped improving health and sanitation in the villages, ensured women's say in the public affairs and gaining control over the management of common pool resources such as water ponds and tanks while keeping them on alert against disasters.

³ Elevated bamboo shelters for temporary stay during floods.

This program has so far reduced the vulnerability of 25,000 families in 250 villages and created a cadre of 3000 trained volunteers for disaster preparedness and response. This program promoted many innovative initiatives like insurance against disasters, disaster preparedness training in the schools, for ex-servicemen and local level government officers.

The Process⁴: Under the Oxfam Model of Disaster Preparedness, the programme undertakes a needs survey of the villages as the initial step. These needs survey is based on the past experiences of the village when it faced a cyclone or when it had floods. This is ascertained with village meetings and discussion with different sections of the community including women. It is followed by community coming together to articulate its own strengths and weaknesses with respect to a disaster situation. Within this process, the community identifies threats and needs during a cyclone, and plans a disaster management plan in response to these. The plan includes:

- Developing an area map,
- Identifying vulnerable areas and families,
- Discussing the past history of disasters,
- Developing contingency actions, and
- Forming key action groups.

Village Contingency Plan

A key component of the community-level disaster management plan is the formation of the village contingency plan and village task force groups. The contingency plan takes shape when the community assesses the village situation and develops a list of activities that they agree to follow to minimize communal and individual damage in the event of a cyclone. While preparing contingency plans the household are digitized and tracked based on a Household Number. The plan also specifies actions to be taken by individuals in the community so that each one knows what to do when a cyclone warning is received.

An important element in this planning is linkage of the community with the government department and officials. Disaster preparedness plans combined with the micro plans developed for the village, form excellent document that are utilized for sourcing funds from Government Schemes.

To develop the village contingency plan, the villagers come together and make a map of the village. On this village map, they then list the vulnerable population by marking families with disabled, pregnant, aged or terminally ill members. They also mark village assets such as boats, fishing crafts, food grains, irrigation facilities, looms, potters wheels, etc. Community infrastructure, including cyclone shelters, drinking water facilities, dispensaries, village roads, cart roads, power installations, telephones etc. also find their way into this contingency map.

The community then identifies the specific weather hazards it faces during a cyclone, such as winds, heavy rains, floods, mudslides and so on. This helps it determine what is at risk during these weather patterns – cattle and livestock, valuable family documents, houses and weak structures, livelihood

⁴ Process of contingency planning, task force groups formation are common in Oxfam, UNICEF & UNDP projects. Therefore they are not repeated in the case studies of other two agencies.

assets such as boats, nets, stores of dry fish, pump sets, looms, standing crops, water bodies and so on.

Subsequently, the community identifies possible safety zones for safeguarding their identified assets. Elevated land, hillocks and similar natural barriers for livestock protection, safe buildings, cyclone shelters, *panchayat* buildings, warehouses, temples, RCC homes and other strong structures where families may take refuge during the storm. These are useful for marking safe evacuation routes that will not be disrupted in the case of a cyclone. The community decides which family goes where and by which route to avoid crowding and panic. The community also identifies the existing health and sanitation facilities that can be used in the event of a cyclone. A very important aspect is the mobilization of village level contingency funds to be used in the case of a cyclone.

Village task force groups

Once the contingency plan is made, it is important to plan its smooth implementation. One of the tools for this is the formation of village task force groups – groups of people assigned to carry out specific disaster preparedness tasks within the contingency plan. Active men and women from the community are selected and intensively trained by the NGO staff. Various task force groups are assigned different roles and include:

- Cyclone warning group
- Shelter management group
- Evacuation and rescue group
- First aid and medical group
- Sanitation group
- Relief group
- Patrolling group

The *cyclone warning group* monitors weather forecasts through wireless, radio bulletins and the television throughout the day. During the cyclone, this group keeps track of the radio warnings and confirms the intensity and route of the cyclone from the MRO's office. The group then uses drums and megaphones to disseminate information about how the communities are faring in the cyclone.

The *shelter management group* checks for cyclone shelters and safe houses (generally before May – the period with the most cyclones), consults with engineers and makes necessary repairs to make houses safe and liveable prior to the cyclone. While waiting for a cyclone to strike, they stock food, water, utensils, medicines, milk powder, candles, matchboxes, kerosene and organize the community kitchen.

The *evacuation and rescue group* maintains information about fishermen and shrimp seed collectors and the areas in which they are working. This group crosschecks with the MRO and updates the list every year. It prepares local rescue kits (there are 52 varieties of rescue and floating aids prepared by the communities with locally available material such as plastic bottles, banana tree roots, etc.). During a cyclone, this group picks up fishermen and shrimp seed collectors from the sea and

riverbanks. This group also ensures that the pregnant women, the elderly, the disabled and sick people are evacuated first and moved to safer houses.

The *first aid and medical group* stocks necessary medicines and administers first aid in the event of a cyclone and prior to the injured being taken to hospitals.

The *sanitation group* stocks bleaching powder in large quantities and ensures that evacuees maintain sanitary habits in the relief shelters to avoid disease.

The *relief group* collects and distributes relief material such as food supplies, utensils, cloth, kerosene, diesel, etc.

The *patrolling group* looks after property left behind by evacuees, while the *liaison group* represents the community's issues to the governments, reports losses suffered, and negotiates for appropriate assistance.

Beyond Community Preparedness

The money spent on pre and post disaster situations is raised always at the cost of planned development fund. Therefore, the indirect affect of disasters reaches much larger population than those who are directly affected by it. On the other hand, if the coastal villages are prone to cyclones, cyclonic floods, the other parts of the state are equally vulnerable other types natural hazards-earth quakes, flash floods, monsoon floods, etc. Unfortunately, the people carry a notion that disasters are going to hit others but not themselves. There is a total absence of risk perception in people's lives, community and state development planning, education curriculum, media priorities and in every sector where disaster preparedness matters.

Oxfam believes that disaster preparedness can't be sustainable in isolated efforts of the village communities. In the absence of an over all participation of other stakeholders, the impact made at the community level will be short lived. The community level preparedness should be supported by suitable actions by all other stakeholders, that are those who suffer indirectly by making disaster preparedness as one of the governance issue to vote for, media by raising awareness on the need for preparedness, intellectuals mainstreaming disaster preparedness in the policy and academic debates, schools by including disaster preparedness in education curriculum and the government by integrating disaster preparedness in to development policy and practices.

2.2. UNICEF Approach of Community Based Disaster Preparedness in West Bengal⁵

The UNICEF supported Community Based Disaster Preparedness(CBDP) in West Bengal emerged as an organized response from the state government, humanitarian agencies and the affected communities to avert the type of devastation caused by the flood in the year 2000. The sufferings which the communities had experienced had given them a common experiential readiness to be open and supportive to the strategies that help reduce the loss of lives, means of livelihoods, important documents, concerns of safe temporary shelters, and enhance health care and child support.

⁵ This chapter is sourced from UNICEF West Bengal CBDP Evaluation report prepared by the author along with Chaman Pincha & Sarabjit Singh Sahota

UNICEF had a strategic advantage of working with committed and highly motivated NGOs through its polio eradication programme and its effective linkages with the government of West Bengal. It gave both UNICEF and organizations leverage in taking the agenda of CBDP to communities through gathering the support of PRIs, gate keepers such as religious leaders, teachers, Anganwadi and health workers and, wherever SHGs network was established, through SHG leaders. The formation of IAG for facilitating capacity building of the partner organizations, effective coordination and mutual learning from each others' capacities facilitated quick and well coordinated penetration of the programme objectives and strategies to the grassroots.

The main objectives of CBDP as envisaged by the UNICEF is to reduce the loss of lives, means of livelihoods including important documents and human suffering through building self reliant communities so that the expectation and need for external support is eventually replaced by an increasing level of confidence that the community can manage themselves in the first 4-7 days of the occurrence of disaster.

True to its spirit, the CBDP remains a bottom –up programme. The political environment has been a facilitative factor in wide acceptance and support from the community. Building effective rapport with the Panchayats and working with the Panchayat leadership and other gate keepers, i.e., teachers, *anganwadi* workers, SHG leaders and community based animators yielded rich results, after initial resistance in some of the villages, in effective mobilization of the community. The most important factors behind the success of concerted response from local government and communities were their interpretation of CBDP as apolitical agenda with their shared experience of loss and trauma in the aftermath of the floods 2000 and the rooted ness of the strategies of CBDP in the indigenous knowledge and local resources.

The Process

The process of CBDP includes linkage meeting with PRI, SHG and Community, booth level Participatory Learning and Action (PLA), analysis of information collected through PLA, identification and prioritization of problems during disaster, contingency plan preparation, presentation of this plan in *Gram Sansad* as well as *Gram Panchayat* meetings, and follow up strategies. For the purpose of PLA and contingency plan participatory tools like Social Mapping, Transect walk, Historical analysis, Linkages with institutions, vulnerability analysis, Seasonality of rainfall pattern and crop pattern, and problem identification and prioritization are adopted. The contingency plans chalks out for the community to pre, during and post disaster.

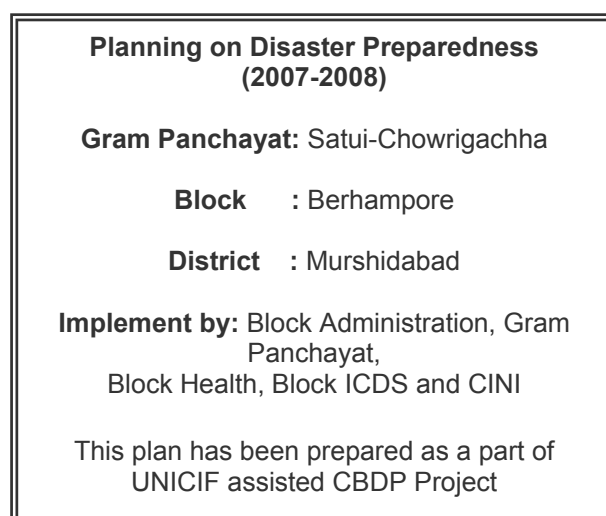
Towards this, UNICEF and partner organizations have organized rigorous trainings on disaster preparedness for SHGS, PRIs and task force groups. On an average, each task force group has 30 members including women representatives. These groups are further reorganized in to smaller committees to deal with specific task delegated to them. Attempts were also made to incorporate the habitation/booth level contingency plans into GP and block level plans. Mock drills were conducted to carry the message of CBDP to larger sections of the community. For instance, SMS conducted mock drills in five blocks in Nadia district. Some organizations created awareness even into the school campus.

Joint Ownership

The CBDP as envisaged and operationalized by UNICEF has effective linkages between community, the grassroots governance i.e., PRIs and the state government. There is a near seamless coordination in perceptions and understanding of the underlying spirit of and motivation for CBDP among all the stakeholders. While *Panchayat* heads admit that the programme has made them more accountable to the communities by its emphasis on political participation of women and men, the civil defense ministry clearly articulates both the pragmatic and ideological grounds to offer its willing support to make the programme a success. While, investment for CBDP comes from UNICEF, the responsibility of its successful operation is jointly shared by government and NGOs.

The major components of the UNICEF- supported CBDP are made operational by coordination between taskforce, partner NGOs, health workers, BDOs, Panchayat functionaries and line departments. The officials from civil defense department work as negotiators between the government and the NGOs partners. They go to the field and attend various programs facilitated by IAG partners.

The government acknowledges the crucial role of IAG partners in motivating the Panchayats. For example one of the Panchayats has dedicated Rs. 100,000/- for CBDP while some Panchayats channel 30 percent of their funds for the programme: Coverer page of a Gram panchayat plan for disaster preparedness.



The state Government is actively involved in CBDP in three ways:

- interaction with all the NGOs
- Interaction with UNICEF—which helps to implement the programme more efficiently.
- CBDP is implemented at block and grassroots level. To make linkages easy and enhance a sense of ownership for the BDO, they are designated as assistant controller of civil defence, the government of West Bengal.

2.4. UNDP's Community Level Risk Management Program⁶

The main aim of GoI-UNDP Disaster Risk Management (DRM) programme is to minimizing losses of development gains from disasters and reduce vulnerability. The programme emphasises sustainable disaster risk reduction in these States in order to build capacities with a focus on following objectives:

- Capacity building to institutionalize systems for DRM in the Government;
- Awareness generation and education programme in disaster reduction and recovery;
- Development of Multi-hazard preparedness and mitigation plans for State, district, block, village and ward levels
- Networking, knowledge on effective approaches, methods and tools for DRM, developing and promoting policy frameworks at State and National levels.

Strategies

- Community-based disaster management initiatives,
- Empowerment of communities and local self-government through education and public awareness campaigns.
- scaling up the best practices in disaster management for enhancing the resilience of the communities to disasters are beginning to create a revolution and favourable impact
- To make the plans integral part of the Government's development agenda. At the village level,
- Preparation of disaster seasonality calendar indicating appropriate timing for conducting
- Mock drills, which helps the community and authorities to remind various groups their roles and responsibilities.

Integrating in to Government systems and processes

- Disaster management (DM) plans have to be approved development Committee at district level to mainstream the vulnerability reduction activities. All DM plans are the integral part of the developmental plan of villages as per the government instruction.
- Disaster management plans and teams are recognized by the government institutions as an integral part of the disaster preparedness and mitigation process.
- Priority is given to the need of the area while developing the development plan of the Gram Panchayat by the community. Utilization of GP fund for mitigation activities and capacity building of Disaster management teams is encouraged. Special provision for disaster preparedness activities is being made in fund allocation by the government at various levels.
- Gram Panchayat are expected to take the responsibility to guide the villagers on development of disaster preparedness plan and after its completion on the compilation of

⁶ Source: Local level risk management document by UNDP

all village plans at the GP level. In a similar way GP Mitigation plans are consolidated at block level, which ultimately become the block mitigation plan. *Gram Panchayats* are responsible for development program as well as disaster management program. The existing government service providers are used for up grading the knowledge and skills of disaster management teams.

2.5. Culture of Preparedness-CUBA⁷ Model

In the above approaches we have seen GO-NGO-Community participation in disaster risk reduction processes. One common factor among all the three cases discussed so far is that all of them are projects initiated by some agency with a stipulated time period to achieve certain targets and exit from the scene. Further, these projects also cover certain section of population who were affected by recent disasters. While all these initiatives are appreciated for certain degree of success, certain unique features and helping at least a few thousand families to survive a next disaster, the real concern is that there are far greater number of individuals and families who have not participated in these processes and are extremely vulnerable to a next catastrophe. In this context, it is also important to understand the role and responsibility of general public also in contributing to disaster risk reduction.

Disaster management is not the whole and sole responsibility of the government or an NGO, or of a few institutions and bodies, it is a responsibility of everyone. The civil society has been reacting to disasters with curiosity, sympathy and ad-hoc activism. There has been a wide spread lack of public awareness on the need for preparedness and long term strategies required for disaster risk reduction. Lack of public awareness translates in to absence of serious political will.

CUBA⁸'s approach to disaster preparedness provides a picture of shared vision, shared responsibility and genuine commitment to disaster risk reduction by all stake holders and entire population. The most important factor to note is that CUBA's ***“development model reduces disaster risk.”***

Key Features in CUBA's disaster preparedness:

- Self Help, social cohesion, citizen based social protection.
- Trust between government authorities and civil society
- Political commitment to risk reduction
- Concrete plans to save lives, evacuation plans, etc.
- Investment in human & economic development
- An effective risk communication system
- Institutionalized memory of disasters
- INVESTMENT IN SOCIAL CAPITAL

⁷ While discussing CUBA's model of disaster preparedness, author is aware that CUBA and India are two different nations-in size and socio political contexts. However, author believes we may not be able to replicate entire CUBA story, but certain strategies, interventions and most importantly the genuine commitment to disaster risk reduction can be and should be replicated.

⁸ Source: Riding the Tide a publication of Oxfam America on CUBA's disaster preparedness systems.

- Investment in institutional capital (transparent, accountable and capable institutions for disaster mitigation)

Legal Framework

- Cuban National Civil Defence 1976 Act mandates every adult citizen to undergo civil defence training.
- Legal decree 1997 details the role of ministries, social organizations, and all public entities in case of emergency
- Law defines centralized decision making with the President, head of civil defence & Minister of the Armed Forces.
- Law also lays out decision-making by local authorities when circumstances so require.

Disaster Mitigation at the Community Level

- Awareness of procedures & measures to follow in case of Hurricanes (key disaster threat)
- Knowledge of stages of emergency warning, where to get information, how to secure houses, where to go for shelter,
- Basic Trust in government capacity and intention to protect them.
- Political commitment to the protection of human lives.

EDUCATION

- Disaster Preparedness & Prevention are part of all school and University curricula.
- Every Cuban attends school & school plays a major role in mass education & risk reduction. Wide varieties of teaching material are prepared.
- Media broadcasts risk reduction, doctors teach health risk reduction in disasters.
- Annual updation of contingency plans at various levels is mandatory.
- Any Child in Schools can give an explanation how they prepare and what they do in emergencies.
- They know what to do in phases
- How to gather things from houses and put them away to safety, shut off taps, electricity etc.

Community Organization & Social Capital

- Cuban people are active in several types of social organizations, women organizations, youth organizations, particularly local mitigation committees.
- All the social organizations discuss disaster risk issues apart from other development issues.
- Disaster mitigation committees develop systematic human resource use and management plans-regular orientation to doctors, teachers, engineers and other professionals.

- Early warning & communication, Community risk mapping, local & national simulation exercises, etc

Family Level Preparedness

- Learning about public shelter
- Familiarity with evacuation routes.
- Keep a checklist of fire, police, ambulance, etc.
- Awareness among all responsible members of the household how and when to turn off the water, gas, and electricity at the main switches or valves.
- Adequate Insurance Coverage
- Complete inventory of home, garage, and surrounding property
- Keeping the originals of important documents in a safe deposit box
- EW Messages from Local radio or television stations are taken seriously.

Development Model for Vulnerability Reduction

- Universal Access to Services: Health, Education, Physical Infrastructure
- Policies to reduce social and economic disparities:
- Considerable Investment in Human Development: 45 years of investment in human capital provided country with the well trained professionals.
- Investment in Infrastructure: Both in rural and urban areas reduced urban density and range of resources available in the rural areas that are used for disaster mitigation
- Social and Economic Organization: Promoting solidarity, cohesion, cooperation, and creates social capital that can be applied for risk reduction

3. CONCLUSION

Disaster risk reduction can't be achieved in isolation either by the government NGOs or by the communities. Disaster risk reduction calls for collaborative action and commitment by all important stake holders-the government, NGOs, communities, media and the academic community. As amply demonstrated by CUBA, disaster preparedness helps reduce risk only when it is adapted in to daily lives consciously and consistently. We need to move from this current approach of looking at disaster preparedness and disaster prevention as another noble idea.

We have to make disaster prevention as inevitable, integral practice and approach to our development planning. **Disaster preparedness should become a culture and conscious practice.** The response to a disaster should start from where it strikes so as to reduce the time gap between natural disaster and response. Development plans and policies that fail to understand this and fail to integrate disaster risk reduction are bound to suffer in the long run. Disaster preparedness should become an issue of governance and electoral plank.

Further, In order to meet poverty reduction objectives, it is necessary that potential hazard risks are determined and risk management approaches taken into account while designing poverty reduction strategies/socio-economic development plans. As and when disasters do occur, recovery has often remained under-funded with detrimental impact on development despite donor support and reallocation of development portfolio. Hyogo framework and several other international treaties have always called for integrating disaster risk reduction perspectives in to development planning. These calls have seldom been responded with action, mainly due lack of models that demonstrate practical ways of integrating disaster risk reduction in to development planning. Integration cannot happen at the global level. Integration has to happen at the local level. Lot more commitment and creativity needs to be displayed to develop specific and workable integration approaches.

END.