Preparing for Disaster:
Lessons from Phailin Response

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Contents

Executive Summary

The impact of cyclone Phailin, that struck Odisha on 12 October 2013, was not limited to Gopalpur, in Ganjam district where it made landfall, but was felt across 17 districts of the state as well affecting 10 million people. In the days that followed, heavy rain caused floods in the 10 major river systems and cyclone-affected districts.

The Super Cyclone that struck Odisha in 1999 resulted in the death of nearly 10,000 people. This time the State Government took advance steps to ensure the evacuation of people from vulnerable locations in the districts that were likely to be impacted. In the largest pre-disaster evacuation ever undertaken in the country, close to a million people were evacuated to safe shelters. This included 850,000 people in Odisha and 150,000 in neighbouring Andhra Pradesh. Forty four deaths were reported but this remained significantly lower than compared to disasters of similar magnitude.[1]

This was possible because of the efforts of the State Government, which has been in 'preparation mode', since the 1999 cyclone. In response to the 1999 super cyclone, the State Government set up the Odisha State Disaster Management Authority (OSDMA), the first state level agency, in India, focused exclusively on disaster management. The state has also been investing in building cyclone shelters, planning evacuation routes and strengthening coastal embankments. Mock drills have been conducted each year in Odisha's coastal districts. Communities have also come to respect and act according to instructions issued by the OSDMA and state authorities in an emergency.[2]

The Government of India and United Nations Development Programme project on disaster risk management was implemented in 16 districts in Odisha by the OSDMA between 2002 and 2009.[3] Working with communities, civil society organizations (CSOs) members of panchayati raj institutions (PRIs) as well as government officials on disaster preparedness, the DRM programme worked towards reducing vulnerability to disasters through improving the capacities of communities to respond to crisis.

The strength of disaster mitigation and management depends on the level of community involvement. In Odisha, this civic engagement proved to be an asset in coping with the Phailin storm.

This document presents the findings of a study conducted to collate evidence of how interventions in disaster preparedness helped the Government in responding to cyclone Phailin.[4] It also examines the contribution of UNDP and its programmes in Odisha between 2002 and 2012, to identify gaps and make recommendations to further strengthen response to a disaster.

In doing so, the study suggests that there are many lessons on disaster preparedness and community participation that can be learnt from the Odisha experience that are highly relevant for India and other countries in the world.

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[1] According to a Memorandum issued by the Government of Odisha, 21 people died as a result of the cyclone and another 23 in the flash floods that followed.

[2] See http://www.worldbank.org/en/news/feature/2013/10/17/india-cyclone-Phailin-destruction-preparation

[3] The number of districts covered was 16 to begin with, but due to subdivision of districts, the number increased to 18 subsequently.

[4] The survey was carried out through extensive visits to the nine most affected districts of the state, and included meetings with key officials at the state and district levels and visits to the programme areas.

Key Learnings

Minimize loss of life and hardship through timely early warning, planning and preparedness: Early warning, quick response and preparedness both by the Government and the community have been the key to the remarkable success in handling Phailin. Detailed planning at the state, district, block and village levels minimized the loss of life and hardship.

Use multiple channels to disseminate information: Multiple channels for dissemination of information on the impending disaster ensured that people were aware of the impending cyclone. Loudspeakers, radio and television were all used to spread the news of the cyclone and direct people to move to safe shelters. The media played a significant role in the dissemination of the cyclone warning, providing minute-by-minute updates and making people aware about what steps they needed to take, and when, to ensure the personal safety of their families. Once people had adequate information on the cyclone, they took precautionary measures.

Enable access to the Internet: A key lesson from the experience is that the media and the internet can be used to effectively transmit information. The community can access the Indian Meteorological Department website to get updated information and disseminate warning to other households.

Build institutions and train disaster management team (DMT) members: The State Emergency Operation Centre (SEOC), set up as part of the Government of Odisha and UNDP partnership was used effectively, especially for disseminating warnings, managing information and coordinating between inter-departmental control rooms and District Emergency Operation Centres (DEOCs). The DEOCs, constructed through the DRM programme, proved useful for this purpose. All the cyclone/flood shelter committees and task forces constituted in the selected villages by OSDMA, played a significant role in the pre-cyclone preparedness phase in issuing warnings, evacuation and preparedness, shelter management and road clearance by using the equipment provided with the Multipurpose Cyclone Shelters (MCS)/flood shelters.

Link with institutions and further professionalize activities: Future Community Based Disaster Management Plans (CBDMPs) should be linked with grassroots institutions. Village disaster management committees and teams should be provided adequate equipment, infrastructure and training. The need for technical/disaster management professionals at the DEOCs for coordination and preparation of District Disaster Management Plans (DDMPs) was also expressed.

Ensure optimal utilization of resources through effective government - NGO coordination: Government-NGO coordination was evident at the state level and in some of the severely affected districts. The Inter Agency Group (IAG), comprising of all national and international organizations coordinated their actions with the Government. Another group established by state and local level organizations, the Odisha Phailin Response Forum (OPRF), also sought to coordinate activities with the State Government. This highlights the need for better coordination and synchronization between the various organizations that are at work, both during and after a disaster. This aspect has often been highlighted by UNDP through its programmes.

Strengthen the India Disaster Resource Network (IDRN): The IDRN is a nation-wide electronic inventory of resources that enlists equipment and human resources, collated from districts, states and national level line departments and agencies[5]. It was conceptualized and set up during the DRM programme, at the Ministry of Home Affairs, Government of India. It is now managed by the National Institute of Disaster Management (NIDM). However, the Network remained largely un-used at both the state and district levels as the database was not updated. There is a need to ensure regular updates by the district administration, with technical support from the National Informatics Centre, so as to strengthen IDRN and make it relevant.

Ensure continuous training and capacity building: The study underscores the importance of periodic training and capacity building activities on preparation of disaster management plans, search and rescue, first aid, and shelter and relief management. Many government officials who had been trained on disaster management over the last five years, have now been transferred or promoted to other positions. Therefore, fresh training is required, especially at the district and block levels. Training and capacity building activities need to be organized, periodically, to refresh the skills of village volunteers, PRI members, Government officials as well as CSOs.

Engage with communities and government over a sustained period of time: The need to have sustained engagement with communities, government civil society groups and NGOs working in the field and to build up a cadre of people trained in disaster relief and rehabilitation cannot be over emphasized. It is now well recognized that the successful evacuation in Odisha during cylcone Phailin owes a lot to disaster management efforts over the last several years.

Address the needs of the most vulnerable: In addition to recognizing the need for continuing with programmes that build the resilience of communities and support training and equipment needs, particular attention should be paid to the needs of the differently-abled and the disadvantaged (people belonging to minority groups, people who are older and those who need special attention - those who are infirm, women and children) in a disaster.

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[5] http://idrn.gov.in/default.asp

Acronyms

BDO	Block Development Officer
BMC	Bhubaneswar Municipal Corporation
CBDMP	Community Based Disaster Management Plan
CBO	Community Based Organization
CSO	Civil Society Organization
DDMP	District Disaster Management Plan
DEOC	District Emergency Operation Centre
DMC	Disaster Management Committee
DMP	Disaster Management Plan
DMT	Disaster Management Team
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
ESF	Emergency Support Function
FGD	Focus Group Discussion
GoI	Government of India
GP	Gram Panchayat
HRVA	Hazard Risk Vulnerability Assessment
IAG	Inter Agency Group
IDRN	India Disaster Resource Network
IMD	Indian Meteorological Department
INGO	International Non-Governmental Organization
IRCS	Indian Red Cross Society
MCS	Multipurpose Cyclone Shelter
NDRF	National Disaster Response Force
NGO	Non Governmental Organization
NIC	National Informatics Centre
NIDM	National Institute of Disaster Management
ODRAF	Odisha Disaster Rapid Action Force
OPRF	Odisha Phailin Response Forum
OSDMA	Odisha State Disaster Management Authority
PRI	Panchayati Raj Institution
SC	Scheduled Caste
SDMP	State Disaster Management Plan
SEOC	State Emergency Operation Centre
SOP	Standard Operating Procedure

ST	Scheduled Tribe
UEVRP	Urban Earthquake Vulnerability Reduction Project
ULB	Urban Local Body
UNDP	United Nations Development Programme
URR	Urban Risk Reduction
VDMP	Village Disaster Management Plan

Introduction:
Odisha is Highly Vulnerable to Natural Disasters

The state of Odisha, located on the eastern coast of the Indian subcontinent, is highly prone to disasters. Due to its sub-tropical littoral location, the state is predisposed to tropical cyclones, storm surges and tsunamis. Between 1991 and 2000, 98 cyclones/severe cyclones crossed the coast of Odisha, the most for any state in the country.

Its densely populated coastal plains are the result of the alluvial deposits of its river systems. The heavily silt laden rivers have little carrying capacity, resulting in frequent floods, a phenomenon compounded by breached embankments. A large part of the state is in the Earthquake Risk Zone-II (Low Damage Risk Zone); the Brahmani - Mahanadi Rivers and their deltaic areas are in Earthquake Risk Zone-III (Moderate Damage Risk Zone).

Two cyclone seasons can be identified in Odisha. The first, is in the pre-monsoon period from April, May and June, up to the onset of the monsoon. The second, is the post-monsoon period from October to December. Two severe cyclones in October 1999 caused widespread and unprecedented damage in the state. The second of the cyclones, known as the Super Cyclone hit the Odisha coast on 29 October 1999.

Fourteen years later a very severe cyclone struck Odisha on 12 October 2013. This time the state was better prepared and was able to significantly minimize the loss of life.

The heavily silt laden rivers have little carrying capacity, resulting in frequent floods, a phenomenon compounded by breached embankments.

Efforts by the OSDMA, government, NGOs and communities in cyclone preparedness, helped in minimizing the loss of human lives. The World Bank, appreciating the effort of the state government and OSDMA said that, *"Successfully evacuating a million people is not a small task. This cannot be merely achieved by kicking the entire state machinery into top gear for three to four days, following a cyclone warning. This has taken years of planning, construction of disaster risk mitigation infrastructure, setting up of evacuation protocols, identification of potential safe buildings and most importantly, working with communities and local organizations in setting up volunteer teams who knew exactly what needed to be done."* [6]

[6] See http://www.worldbank.org/en/news/feature/2013/10/17/india-cyclone-Phailin-destruction-preparation

Pre-cyclone Warning and Response

Preparedness Activities

On 8 October 2013, the IMD reported the formation of a depression over the North Andaman Sea, warning that it would intensify into a deep depression and further into a cyclonic storm by the next day i.e., 9 October 2013. This triggered an immediate response from the state government informing district collectors and the media, of the position and movement of the depression.[7] On 10 October, the IMD reported through an 'Orange Message' that the deep depression had intensified into a Very Severe Cyclonic Storm named Phailin.

The State Government immediately informed the District Collectors of the 14 cyclone prone districts of the warning from the IMD by e-mail, fax and telephone. These districts were Balasore, Bhadrak, Cuttack, Dhenkanal, Gajapati, Ganjam, Jajpur Jagatsinghpur, Kendrapada, Keonjhar, Khordha, Mayurbhanj, Nayagarh and Puri. All the district officials were instructed to take immediate steps to ensure that the district administration was fully prepared to meet the possible disaster.

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[7] The District Collector is the head of the administrative machinery in the district (which is an administrative unit). The District Collector is also called District Magistrate and/or Deputy Commissioner.

The Government advised the District Collectors to convene a meeting of the District Disaster Management Authority (DDMA) to review the status of preparedness of the departments and organizations at the district level and below and give directions to take further measures as required.

The State Emergency Operation Centre (SEOC) and the DEOCs were activated to function round the clock, with adequate manpower, essential equipment and logistics support. All departments of the State Government were told to alert their field officers in the cyclone prone districts to take preparedness measures in consultation with the District Collectors concerned.

The Special Director General of Police, (Headquarters) in charge of the Odisha Disaster Rapid Action Force (ODRAF), Additional Director General of Police, Fire Services and the Commandant, National Disaster Response Force (NDRF) in Odisha, were asked to be on alert for deployment of response forces for evacuation and search and rescue operations.

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Under the direction of the state government, the OSDMA immediately conducted mock response drills in all the cyclone shelters. In these drills, disaster management techniques were demonstrated and the available equipment in the cyclone shelters were also tested.

The Ministry of Home Affairs, Government of India and the National Disaster Management Authority (NDMA) were alerted to make arrangements for deployment of Indian Air Force helicopters/additional NDRF force on short notice, if required.

Block Development Officers (BDOs) were instructed to identify Nodal Officers for the most vulnerable Gram Panchayats (GPs) and check all the multipurpose cyclone shelters (MCS)/flood shelters constructed by OSDMA, for readiness with all equipments like generators, power saws, tower lights, megaphones and utensils.

Steps were taken to keep the communication systems operational. Control rooms were set up in the departments and district offices activated, so as to function round the clock. Satellite phones were issued to the District Collectors.

Identification of additional schools, colleges and other public buildings that could be used as cyclone shelters and all arrangements for electricity, drinking water and temporary toilets were made.

Assistance from defence forces and helicopters for rescue operation and air-dropping of food packets was requested. Boats for rescue and relief operation, vehicles for evacuation and transportation of relief materials were kept in readiness. Pre-positioning of sufficient stock of fuel for vehicles was ensured.

Steps were taken to keep the communication systems operational. Control rooms were set up in the departments and district offices activated, so as to function round the clock. Satellite phones were issued to the District Collectors.

"I cannot forget the night of 29 October, 1999. No one can stay unprepared, if he or she has seen the devastation that occurred on that night. I don't know much about Community Based Disaster Preparedness (CBDP) but can understand the preparedness level required, at least for my family members, after getting the cyclone warning. My grandson Kanha, repeatedly urged me on the evening of 11 October, saying, "let's go to that building," indicating the Multipurpose Cyclone Shelter, which is just in front of our thatched house. I decided to shift along with all other seven family members, leaving my elder son, Prakash, in our house, to keep watch. We did not face any problem in the cyclone shelter and stayed there till 14 October 2013. Thank God, this time we did not lose any of our neighbours because all of us came to the shelter at the right time."

Radharani Swain, 75 years,
Nardia village, Ersama block, Jagatsinghpur district

"The main focus was to evacuate people from all 436 slums in the city, who would have been worst hit, and place them in safe shelters. Nineteen shelters were identified in the city, including community centres and government schools but it was not sufficient to provide shelter to all slum dwellers. So, private educational institutions were requested to allow their buildings to be used as shelters. A total of 168 centres were identified as shelters purposes. We referred to the City Disaster Management Plan for Standard Operating Procedure for different line departments."

Mr. Das,
Assistant Commissioner, Bhubaneshwar Municipal Corporation, Odisha

Adequate availability of rice, lentils, flattened rice, biscuits and dry rations was ensured. Similarly, stocking of medicines was done in advance and arrangements for deployment of mobile medical teams were made. Supply of cattle feed for the affected cattle population was also arranged.

Special care was taken to shift the old, infirm, physically challenged, pregnant women, nursing mothers and children to safer places and cyclone shelters before the disaster. Fishermen out at sea were recalled and others instructed not to go to sea.

To ensure that there were no casualties, the Collectors of Ganjam, Gajapati, Jagatsinghpur, Kendrapada, Khordha, Nayagarh, and Puri, were directed to evacuate people living in low lying areas and in *kutcha* or temporary houses, typically made of mud and thatch, to the nearby cyclone/flood shelters or other identified buildings by the morning of 12 October 2013, so that nobody was in a *kutcha* house, when the very severe cyclonic storm was expected to make land fall.

Box 1

The impact of Phailin

The Very Severe Cyclonic Storm, Phailin, hit the Odisha coast on 12 October, 2013, making landfall at Gopalpur, in Ganjam District, with wind velocities upto 220 kmph. Thereafter, it ravaged the coastal districts of Ganjam, Jagatsinghpur, Khordha, Kendrapada and Puri, with tidal waves upto 3.5 metres high. The adjoining districts of Angul, Bhadrak, Balasore, Bolangir, Cuttack, Gajapati, Jajpur, Keonjhar, Kandhamal, Koraput, Mayurbhanj and Nayagarh were badly affected as well.

Due to the storm surge, large areas were inundated in the affected districts. Flash floods were reported even in the interior districts of Bolangir, Cuttack, Gajapati, Jharsuguda, Keonjhar, Mayurbhanj, Nayagarh and Sundargarh, due to the heavy cyclonic rain. Some other districts also suffered damage to houses and crops due to wind and heavy rainfall as a result of the cyclone.

According to the reports received from the District Collectors in 18 districts, more than 13,200,000 people in 18,374 villages were affected by the cylcone. Standing crops over a vast area of 6.71 lakh hectares were damaged. Many artisans lost their looms, equipment, accessories and raw materials. More than 3,000 traditional craftsmen (including 750 handloom weavers) lost both equipment and raw materials. More than 11,000 sericulture farmers were affected, and hundreds of hectares of tasar plantation and mulberry crops were damaged. People belonging to fishing communities were also severely affected, due to damage to their boats and fishing nets. Over 8,000 boats and 31,000 fishing nets were damaged.

Massive and unprecedented damage was caused to public property such as canals, river embankments, roads, bridges, culverts, drains, water works, tube wells, light points, electrical installations, telecommunications infrastructure and government buildings.

The Study:
Objectives and Methodology

A Study by UNDP assessing the impact of the DRM Programme (2002-09) and Disaster Risk Reduction (DRR) (2009-12) programme examined how these programmes had helped people respond to Phailin and subsequent floods. The study examined the emergency preparedness and effectiveness of the state government in responding to the cyclone. More specifically, the study examined:

- Functioning of the early warning system and its effectiveness
- Disaster Management Plans prepared at state, district and community levels
- Operationalization of EOCs at the state and district levels
- Mobilization of trained volunteers for warning dissemination, search and rescue, first aid and shelter management
- Community mobilization and preparedness of PRIs and local bodies, in particular by the Municipal Corporation of Bhubaneswar
- Government-NGO coordination mechanism
- Institutionalization of the system for involvement of the DMCs and DMTs during actual disasters
- Role played by elected representatives such as PRI members in evacuation and ensuring emergency stock piling of essential items
- Use of the IDRN in mobilizing resources
- Additional plans prepared to ensure safety of women and children, other vulnerable groups such as those belonging to Scheduled Castes and Scheduled Tribes

Methodology of the Study

Since the UNDP programmes covered a range of initiatives at the state, district, block, gram panchayat and the village levels, and in specific urban areas a matrix was prepared to measure the effectiveness at different levels.

Coverage of the sample survey: The survey was designed specifically to collect information regarding community level preparedness, in selected villages of the affected districts and in those districts that were covered under the programmes. The villages were selected based on the impact of the cyclone and the subsequent flood, in consultation with the district and block administrations.

Data collection: Information on preparedness measures was collected from state, district and local authorities. Other sources of information such as official websites, media publications and information received by email from authorized sources were also taken into consideration, as was information shared by authorized Government personnel. Information was also gathered through transect walks and village mapping and individual interviews.[8] Field visits were made to the nine districts that were most affected.[9] During the field visits, the team interacted with officials of the district administration, other department heads, officers in charge of district EOCs, NGO cells, Block Development Officers (BDO), PRI members, volunteers and members of the community. Focused group discussions (FGDs) were organized in villages to assess the preparatory measures that were taken prior to the cyclone. A questionnaire was developed to record initiatives at different levels. Key state and city

The survey was designed specifically to collect information regarding community level preparedness, in selected villages of the affected districts and in those districts that were covered under the programmes.

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[8] The study was conducted over a period of 22 days, with six days dedicated to state and city level interaction, 13 days to district/blocks/village level interaction and three days to report collation and analysis.

[9] All these districts were covered under DRM Programme (2002 to 2009) and subsequently, two of those districts (Kendrapara and Ganjam) were covered under DRR programme (2009 to 2012).

level interactions included those that were held at the Special Relief Commissioner's office, the OSDMA, the Bhubaneswar Municipal Corporation (BMC), the State Inter Agency Group (IAG) and the Odisha Phailin Response Forum (OPRF).

Box 2

From Relief to Disaster Preparedness, Response and Mitigation

The two successive cyclones in October 1999 damaged infrastructure in 14 districts and severely disrupted public life. These cyclones ushered a change in people's perceptions and the approach of the Government to the management of natural disasters.

The approach to disaster management has now shifted from the prevailing emergency management framework to DRM, which calls for proactive disaster management activities, with the involvement of local communities. The state government has developed a holistic approach to disaster management, by incorporating a growing concern for the environment, focusing on risk assessment and risk reduction, and by trying to ensure peoples' participation, so as to create a disaster resilient Odisha.

The Government has set up an autonomous organization called the Orissa State Disaster Mitigation Authority (now called the Odisha State Disaster Management Authority, (OSDMA)) to look after post cyclone restoration and reconstruction work, along with the development of a suitable strategy to manage disasters and mitigate losses.

The Community Based Disaster Preparedness (CBDP) programme was launched in 2001 with support from UNDP, on a pilot basis in 10 blocks of 7 districts in Odisha. After the success of CBDP, GoI-UNDP DRM Programme was implemented in 16 districts between 2002 and 2009. The overall goal of the programme was to sustainably reduce disaster risk in some of the most hazard-prone districts of the country. The programme included the following:

● Development of disaster management plans at the district, block, panchayat and village levels
● Constitution of DMTs and Committees at all levels with adequate representation of women in all committees and team (village/ward, gram panchayat, block/urban local body, district and state)
● Capacity building of DMTs at all levels, including special training for women in first aid, psychological counselling and first aid, shelter management, water and sanitation, and rescue and evacuation
● Capacity building in incorporating cyclone and earthquake resistant features in houses in disaster-prone districts, training in retrofitting and construction of technology demonstration units
● Integration of disaster management plans with development plans of local self-governments.

The establishment of the OSDMA in Odisha, has set an example for other states in the country. However, the district level agencies that have been constituted need to be further strengthened. The GoI-UNDP DRR (2009-2012) programme has contributed to strengthening the district administration in three districts, on a pilot basis, and this needs to be replicated in other districts as well.

Findings from the Study

The survey conducted to assess the disaster preparedness of the state and the impact of the various measures that have been undertaken in recent times, showed that at:

State and district levels:

- The quick response to the emergency situation and detailed preparedness were instrumental in the successful management of the disaster.[10]
- The SDMP was the basis for planning and implementation during the preparedness phase by each Department, which then commenced action according to the SOP.
- The SEOC in the office of the Special Relief Commissioner was fully functional, with all its communication equipment. This was very useful for coordinating with DEOCs and other departmental control rooms. The DEOCs were found to be fully functional. However, the Emergency Support Function (ESF) concept, envisaged under the DRM programme at the SEOC was not operational.

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[10] Following the first warning from the IMD on 8 October 2013, the first preparatory meeting was called by OSDMA on 9 October; by the Additional Chief Secretary, Revenue and Disaster Management and Managing Director, OSDMA. A few hours later, a state level meeting was convened to discuss the preparatory measures needed. On the same day, the Chief Minister of Odisha, met with District Collectors of districts that were likely to be affected and instructed them to make arrangements for the incoming cyclone.

> "The IAG played a vital role in establishing Government-NGO coordination, soon after the first warning was issued by the State Relief Commissioner. Four teams were constituted and rushed to the most affected districts like Balasore, Ganjam, Mayurbhanj and Puri. The positive collaboration of most of the stakeholders involved in cyclone Phailin response has enabled quick coordination and a rapid turnaround to complete the Joint Initial Rapid Assessment, drawing on lessons learned from the previous 1999 cyclone and the floods that occurred in 2011, in Odisha. The pre-cyclone coordination among IAG, international NGOs and local NGOs, helped to start the process of joint assessment immediately after the disaster."
>
> Mr. Mangala Mohanty,
> Chairperson, State IAG, Odisha

- At the district level also, the ESF concept was missing and the absence of representatives from key line departments to coordinate respective sectoral activities was felt.
- There was a need for dedicated, disaster management professionals to systematically prepare DDMPs. These professionals can coordinate with CSOs during an emergency and engage in preparedness activities in normal times. This was particularly necessary after the withdrawal of District Project Officers working under DRM and DRR programmes.
- A toll free number (1077) and an additional telephone number were available to provide information and assistance to the people. This was an important aspect emphasized by the Ministry of Home Affairs.
- Government-NGO coordination was established by the OSDMA on 11 October 2013, followed by a preparatory meeting with the participation of representatives of the State IAG and OPRF, set up by some state level NGOs.[11] Initially, there was some confusion, with two parallel NGO forums at the state level. However, this was mainstreamed at the district level, after the formation of the district government-NGO coordination cell and the government's decision that relief work will be undertaken by different agencies in close coordination with the district administration.
- Special attention was directed towards people who were most vulnerable. For example, the Department of Women and Child Development issued an office order to ensure special attention for the elderly, people with disabilities, for women and children, as part of efforts to prepare for impending disaster.[12] Special directions were also issued to District Social Welfare Officers to ensure special care for pregnant lactating women, children, old people and persons with disabilities,in the pre and post cyclone period.[13]

Special directions were also issued to District Social Welfare Officers to ensure special care for pregnant, lactating women, children, old people and persons with disabilities,in the pre and post cyclone period.

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[11] Minutes of the NGO coordination meeting held on 11 October 2013 was uploaded to the OSDMA website.
[12] WCD, Government of Odisha Office order no. 1100/SWCD dated 9 October 2013 and Order no. 1122/SWCD dated 10 October 2013.
[13] WCD letter No. 1128 & 1130/WCD dated 12 October 2013.

"I have always participated actively in all mock drills organized in the village. I am now more skilled, unlike other anganwadi workers, because I am trained in first aid. I am committed to providing first aid, when ever needed by any of the villagers. During the recent Phailin cyclone, I was ready with my first aid box. I think villagers need more training, especially for women, on first aid, so that we can help in an emergency."

Pratima Nayak,
Anganwadi worker of Centre-B Parakula village,
Marsaghai block, Kendrapada district

Community and village level:

- Village Disaster Management Plans (VDMPs) prepared under the DRM programme, were not found in any of the sample villages surveyed. However, a few people indicated that they were involved in meetings by facilitating NGOs. The people said that the process of VDMP were discussed but after that they had not seen any plans being handed over to the villages.

- More than 50 percent of the people who participated in the FGDs held during the survey, said that they came to the shelters or safe places, when convenient to them, on their own, after receiving the warning of severe cyclonic storm and seeing the wind speed.

- Three to four percent of people said that they had undergone training in search and rescue or first aid and participated in the mock drills between 2006 and 2008. Most people felt that similar training programmes should be organized more frequently at least twice a year.

- People expressed their interest in training in evacuation, search and rescue, and first aid because recent response activities carried out in the run up to the cyclone helped them realize how important and necessary these were.

- Special provisions like ramps and retrofitting in toilets for disabled persons were found in some of the cyclone shelters constructed by OSDMA. Pregnant women, older persons, and persons with disabilities, also took shelter in the cyclone or flood shelter but due to overcrowding, special provisions for them were not possible. However, people gave them priority and provided for their safety and special care by reserving spaces for them. Some people said that they received cooked food in the shelters during their stay for one to two days. Others said that they received dry food like biscuits, flattened rice and jaggery.

- Medical teams were available in villages in the seriously affected districts like Balasore, Mayurbhanj, Ganjam and Puri.

- Some people brought their livestock to the safe shelters, while others left them untied, so that they could move to safe places on their own.

- No institutional mechanism was in evidence that involved the village level DMCs and DMTs during the cyclone, except for the community based cyclone shelter management committees and the DMTs of the 135 cyclone shelters constructed by OSDMA.

- The survey found that the trainings and response drills organized by OSDMA for the Cyclone and Flood Shelter Management Committees and DMTs, on a periodic basis, benefitted villagers. The trainings helped them understand the warnings that were issued and the action that needed to be taken.

Medical teams were available in villages in the seriously affected districts like Balasore, Mayurbhanj, Ganjam and Puri.

Box 3

Working Together: Government - NGO Coordination Established

Government and NGO coordination for preparedness, response and mitigation activities was promoted as part of both the DRM and DRR programmes. Local NGOs played a vital role in community mobilization and creating awareness during the DRM programme. There were regular meetings of NGOs at each programme district, to assess the progress and finalize the strategy for community mobilization like VDMP preparation, training of Task Force members and the organization of mock drills at the village level and response drills at the shelter level. NGO Coordination cells were established at the district level, and these have performed very well during natural calamities like floods and cyclones, by providing active support in relief and rescue operation. The District Project Officer, DRM programme, played the role of coordinator between the local administration and the participating NGOs/INGOs.

Apart from the GoI-UNDP DRM programme, several other organizations including the Red Cross, Oxfam, Save the Children, Handicap International, Catholic Relief Services, and Concern India contributed to the DRM and risk reduction initiatives in the state. At the state level, the State Inter Agency Group (IAG) was established to coordinate with all these organizations and create synergy for effective convergence of the preparedness and response activities, without duplication. The other objective of the State IAG was to establish coordination with Government authorities and extend support for relief and response activities during an emergency situation. UNDP played a lead role in this coordination process, as professional support under the GoI-UNDP DRM/DRR programme was provided by OSDMA to the district administration, exclusively for disaster management.

Similarly, a separate NGO coordination cell, the OPRF was set up in Bhubaneswar, after the cyclone. This forum was initiated by state and local level NGOs and at a later stage, some international organizations were also invited to participate. The forum coordinated with the state government and interacted with all its participating organizations. It circulated a daily report on interventions and the impact of the Phailin in different areas, as reported by member organizations.

The Government - NGO coordination established in the state, before and soon after the cyclone ensured that there was coordinated effort to assist the affected people. This initiative was not limited to the state level, but was also replicated in districts like Balasore, Ganjam and Mayurbhanj.

Suggestions from the Field[14]

The District Collectors and field officers agreed that the DRM and DRR programmes had contributed substantially in creating awareness among the people. However, they pointed out that there had been a significant gap wherein no follow up had been undertaken.

Key concerns that emerged from the discussions with the officials included the need for:
- Review of DMPs prepared at different levels, particularly at the block, panchayat and village levels
- Re-examination of DMTs that have been constituted at the community level
- Training of officials on various aspects of disaster management
- Technical and professional support at the DEOC to ensure a scientific and analytical DDMP
- Periodic training and capacity building activities, to refresh the skills of village volunteers, PRI members, government officials and CSOs. Many government officers who received training on disaster management in the last five years have now been transferred or promoted to other positions there by requiring new training sessions, particularly at district and block levels
- Technical support in terms of trained manpower, hi-tech equipment and regular training programmes
- More multipurpose cyclone shelters with all the necessary equipment
- Smooth and transparent information management and coordination with CSOs/NGOs

Some additional factors highlighted by the District Collectors include:
1. **Infrastructure:** The Odisha coast now has a number of Government and private buildings, which were not there in 1999. The availability of this infrastructure helped the local administration in providing shelter to the people.
2. **Communication:** Widespread telecommunication has made it easy to disseminate information and warnings to the public. Better road communication enabled vehicles with public address systems to be deployed to remote and inaccessible areas. The enhanced road network also allowed people to relocate to safe shelters in time.
3. **Resources:** Resources, both human and material, need to be adequately available in the field. The DRM programme created skilled human resources and there is a need for a similarly structured and oriented programme.

[14] Compiled from discussions with officials at the state, district and block levels

Key Learnings and the Way Forward

Minimize loss of life and hardship through timely early warning, planning and preparedness: Early warning, quick response and preparedness both by the Government and the community have been the key to the remarkable success in handling Phailin. Detailed planning at the state, district, block and village levels minimized the loss of life and hardship.

Use multiple channels to disseminate information: Multiple channels for dissemination of information on the impending disaster ensured that people were aware of the incoming cyclone. Loudspeakers, radio and television were all used to spread the news of the cyclone and direct people to move to safe shelters. The media played a significant role in the dissemination of the cyclone warning, providing minute-by-minute updates and making people aware about what steps they needed to take, and when, to ensure the personal safety of their families. Once people had adequate information on the cyclone, they took precautionary measures.

Enable access to the Internet: A key lesson from the experience is that the media and the internet can be used to effectively transmit information. The community can access the Indian Meteorological Department website to get updated information and disseminate warning to other households.

Build institutions and train disaster management team (DMT) members: The State Emergency Operation Centre (SEOC), set up as part of the Government of Odisha and UNDP partnership was used effectively, especially for disseminating warnings, managing information and coordinating between inter-departmental control rooms and District Emergency Operation Centres (DEOCs). The DEOCs, constructed through the DRM programme, proved useful for this purpose. All the cyclone/flood shelter committees and task forces constituted in the selected villages by OSDMA, played a

> A key lesson from the experience is that the media and the internet can be used to effectively transmit information.

significant role in the pre-cyclone preparedness phase in issuing warnings, evacuation and preparedness, shelter management and road clearance by using the equipment provided with the MCS/flood shelters.

Link with institutions and further professionalize activities: Future Community Based Disaster Management Plans (CBDMPs) should be linked with grassroots institutions. Village disaster management committees and teams should be provided adequate equipment, infrastructure and training. The need for technical/disaster management professionals at the DEOCs for coordination and preparation of district Disaster Management Plans (DDMPs) was also expressed.

Ensure optimal utilization of resources through effective government - NGO coordination: Government-NGO coordination was evident at the state level and in some of the severely affected districts. The Inter Agency Group (IAG), comprising of all national and international organizations coordinated their actions with the Government. Another group established by state and local level organizations, the Odisha Phailin Response Forum (OPRF), also sought to coordinate activities with the State Government. This highlights the need for better coordination and synchronization between the various organizations that are at work, both during and after a disaster. This aspect has often been highlighted by UNDP through its programmes.

Strengthen the India Disaster Resource Network (IDRN): The IDRN is a nation-wide electronic inventory of resources that enlists equipment and human resources, collated from districts, states and national level line departments and agencies.[15] It was conceptualized and set up during the DRM programme, at the Ministry of Home Affairs, Government of India. It is now managed by the National Institute of Disaster Management (NIDM). However, the Network remained largely un-used at both the state and district levels as the database was not updated. There is a need to ensure regular updates by the district administration, with technical support from the National Informatics Centre, so as to strengthen IDRN and make it relevant.

Ensure continuous training and capacity building: The study underscores the importance of periodic training and capacity building activities including preparing disaster management plans, search and rescue, first aid, shelter and relief management. Many government officials who had been trained on disaster management over the last five years, have now been transferred or promoted to other positions. Therefore, fresh training is required, especially at the district and block levels. Training and capacity building activities need to be organized, periodically, to refresh the skills of village volunteers, PRI members, Government officials as well as CSOs.

Engage with communities and government over a sustained period of time: The need to have sustained engagement with communities, government civil society groups and NGOs working in the field and to build up a cadre of people trained in disaster relief and rehabilitation cannot be over emphasized. It is now well recognized that the successful evacuation in Odisha during the Phailin cyclone owes a lot to disaster management efforts over the last several years.

Address the needs of the most vulnerable: In addition to recognizing the need for continuing with programmes that build the resilience of communities and support training and equipment needs, particular attention should paid to the needs of the differently-abled and the disadvantaged (people belonging to minority groups, people who are older and those who need special attention - those who are infirm, women and children) in a disaster.

[15] http://idrn.gov.in/default.asp

Annexure-I

DRM and DRR initiatives post the 1999 cyclone

The Super Cyclone of 1999 showed that community based disaster management was important and led to the implementation of a pilot project of Community Based Disaster Preparedness Programme (2001-2002) and Disaster Risk Management (DRM) Programme (2002-2009) with support from UNDP and Government of India. Similarly, after the successful completion of the DRM programme, a Disaster Risk Reduction (DRR) programme began in 2009, with the objective of providing technical support for institutional strengthening, as envisaged in the Disaster Management Act 2005.

In August 2002, UNDP signed an MOU with Government of India to implement Disaster Risk Management (DRM) Programme to assist the 17 states, which are most prone to natural disasters. The thematic focus was on awareness generation and education, training and capacity development for mitigation and better preparedness in terms of disaster risk management and recovery at community, district and state levels, and strengthening of state and district disaster management information centres for accurate and timely dissemination of warnings. The overall goal of the programme was stated to be "Sustainable Reduction in Disaster Risk in some of the most hazard-prone districts in selected states of India".

A subcomponent titled Urban Earthquake Vulnerability Reduction Project was initiated in 2003. The focus of the project was earthquake vulnerability reduction in 38 cities falling in Zones III, IV and V (medium to high earthquake risk) with a population above half million. This component envisages creation of awareness about earthquake vulnerability reduction activities, preparation of ward and city response plans, capacity building, including amendments of building bye-laws to promote safe construction, and facilitate networking of technical agencies.

Similarly, **GoI-UNDP Disaster Risk Reduction (DRR) Programme** drawn up by the Government of India and UNDP was implemented in Odisha through OSDMA from 2009 to 2012, with the objective of strengthening the institutional arrangements to undertake disaster risk reduction activities at various levels to develop preparedness for recovery. The DRR programme had two components: 1. Disaster risk reduction, implemented in three districts (Bolangir, Kendrapara and Ganjam) and 2. Urban Risk Reduction (URR) Project, implemented in three cities (Bhubaneswar, Talcher and Anugul).

Annexure-II

Questionnaire

- When was the emergency meeting called? Who participated?
- How useful was the State Disaster Management Plan (SDMP)/District Disaster Management Plan (DDMP)/Village Disaster Management Plan (VDMP) in responding to the disaster?
- Did the state/district officials use the India Disaster Resource Network for resource mobilization?
- Did the Emergency Operation Centres (EOC) function well?
- Were people able to get relevant information from the EOCs?
- Did the Early Warning System function up to the mark and did information from the state and district reach the community at the right time?
- Were the volunteers trained under the project able to perform their duties especially members of the evacuation, search and rescue teams?
- Did the cyclone shelter accommodate the likely affected people (focus on pregnant women, old persons, persons, with disability) and was it properly managed?
- Did the community members follow the basic dos and don'ts prescribed for a cyclone while they were being evacuated?
- Did the disaster management teams perform the role as envisaged under the VDMP?
- Was the Government and NGO coordination meeting initiated both at the state and district levels? What was discussed?
- What role did the elected members (PRI) play to facilitate the evacuation from the villages to safe shelters?
- Did the elected representatives (PRI) ensure stock piling of essential items?
- Did the Municipal Corporation of Bhubaneswar organize an emergency meeting of its ESF members?
- What preparedness steps did the Municipal Corporation of Bhubaneswar take to ensure availability of essential items?
- What additional plans were put in place to ensure safety of women and children?
- What was the preparedness level of the medical facilities?
- Has the state Government institutionalized the system for involvement of the DMCs and DMTs during actual disasters?
- Whether the preparedness of SC/ST groups was any better or worse than last time?
- Was they any damage to livestock?

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- Response Magazine, OSDMA
- Annual Project Reports, Disaster Risk Reduction Project (various years)
- District Disaster Management Plans
- City Disaster Management Plan, Bhubaneswar City
- Minutes of the meetings at respective levels

- Minutes of the meeting of State IAG
- Rapid Assessment report of State IAG
- Daily Situation Reports uploaded in SRC/OSDMA websites
- Govt. Orders/Letters of respective department/administration related to preparedness/Response for Phailin 2013
- Phailin Bulletin – shared by Odisha Phailin Response Forum (OPRF)
- The World Bank @ http://www.worldbank.org/en/news/feature/2013/10/17/india-cyclone-Phailin-destruction-preparation