

# Final Project Report on Community Disaster Resilience Fund (CDRF)



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## List of Acronym

ABLE	Action for Better Living and Environment
APOWA	Action for Protection of Wild Animals
CBO	Community Based Organization
CDRF	Community Disaster Resilience Fund
CBDRM	Community based disaster risk management
DRR	Disaster Risk Reduction
GP	Gram Panchayat
HH	House Hold
NADRR	National Alliance for Disaster Risk Reduction
NGO	Non Governmental Organization
OSDMA	Orissa State Disaster Management Authority

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**SUMMARY:**

The Community Disaster Resilience Fund (CDRF) has been considered as a fund to channel resources directly to at-risk communities, particularly grassroots women groups, to support them in initiating and scaling up effective grassroots Disaster Risk Reduction practices and in developing the necessary relationships with local and regional authorities and NGOs to effectively address community disaster risk on sustainable basis.

The CDRF project, being implemented in several districts of Orissa, demonstrates that increasing the resilience of poor communities' livelihoods reduces their vulnerability to disaster risks while contributing to sustainable approach. Liaison with local authorities indicates their willingness to try to incorporate a livelihoods approach into local development and DRR planning. Other outcomes include strengthened community cohesion, an increased capacity to make informed decisions regarding their well-being and increased self-confidence amongst the poorest and most vulnerable families. The main purpose of the CDRF is to demonstrate women community led initiatives in DRR; initiatives that are designed by communities and which enable them to increase their awareness of their vulnerabilities and to address these vulnerabilities through collective risk mapping, identification of priorities, planning, implementation, monitoring and evaluation.

Started in March 2009, the Community Disaster Resilience Fund (CDRF) has been demonstrating the effectiveness of channeling funds and resources directly to communities to address their own resilience building priorities through community and primarily women-led initiatives. APOWA has been operating CDRF project in 2 multihazards prone villages i.e. Krushnadaspur of Pattamundai block and Pentha of Rajnagar block of Kendrapara districts of Orissa state is facilitating the local implementation of the fund by partnering with and transferring funds to community based groups which have mapped the vulnerabilities and capacities of their communities, created local committee to manage community funds and link with government, and are currently planning and implementing resilience building initiatives.

Local to local partnerships between women community groups can create access to resources for DRR priorities identified by disaster prone communities. Empowered communities can then directly engage with local governments to set the agenda for DRR that is sustainable. Thus the proposed project will create widespread social impact in reducing vulnerabilities at the local level and provide models/lessons to reshape existing policies and programs for DRR and development at various levels.

**INTRODUCTION:**

Kendrapara is among the coastal districts of Orissa state that is most seriously affected by natural disasters of many types: floods, cyclones, tornado, droughts and maritime and ecological disasters. Due to its geographical location and meteorological conditions, more than 80 per cent of area and 70 per cent of the population are located in areas that are often afflicted with major natural disasters.

Of the India's some deadliest natural disasters throughout history, 3 have occurred in Orissa, including the: the 1999 super cyclone, 1971 cyclone and 2006 super flood. A deadly cocktail of floods, cyclones and droughts has made Orissa the disaster capital of India. If we analyze the occurrence of calamities in our state from 1955 to 2008, Orissa has experienced 28 years of flood, 19 years of drought and seven years of cyclone along with the Super Cyclone in 1999. Due to massive change in climate in the last 18 years (Between 1990 to 2008), Orissa has experienced 12 years of flood, 5 years of drought, one Super Cyclone and many depressions and cyclones. Since 1965, calamities are not only becoming more frequent but striking coastal areas that never had a vulnerability record. Orissa's 480 km. long coastline is exposed to the threat of storm surges and tsunami waves. The calamities like drought and flood have become a common phenomenon in our state and those have a direct link with the precipitation as former is an indicator of scarce water and the latter indicates surplus water. Interestingly, flood and drought are experienced in the same year due to a huge change in the pattern of rainfall. When flood was common in the coastal plain, drought was the norm in the upper terrain. But with the changing climate, both drought and flood are common in almost all parts of the state. Ten districts of Orissa had experienced flood up to 1991 and after 1994, more and more districts have figured in the list.

Year after years devastating disasters ravage the land mass and leave behind countless victims. Predisaster planning can have a significant impact on minimizing the effect of tragedy and sufferings, and may result in a more efficient and coordinated (non-panicked) response in saving lives and properties. Disasters are first and foremost a "local" phenomenon. Local communities are on the frontlines of both the immediate impact of a disaster and the initial, emergency response, which, experience has shown, is crucial for saving the most lives. It is therefore altogether fitting that we focus our energies on improving local communities' resilience to natural hazards. Local communities are the essential cornerstone in our effort.

**The Collaborative Approach:**

Collaboration is a potential solution to this problem. Collaboration is a process through which organizations work together and share resources to solve mutual problems. For this reason Udyama, Bhubaneswar and APOWA, Kendrapara has come forward in handling those aspects of disaster management through initiate the Community Disaster Resilience Fund (CDRF) project in 2 multihazards prone villages i.e. Krushnadaspur of Pattamundai block and Pentha of Rajnagar block of Kendrapara districts of Orissa state. The role of the Udyama-APOWA is only to facilitate and support this process. The project supports community to implement the identified activities by strengthening capacity and providing input support. The baseline for solution identification is hazard analysis, together with vulnerability and capacity assessments, all based on the sustainable livelihoods approach.

**AIM:**

The increasing human and property losses from natural disasters, like cyclones, tornados and flooding and other hazards call attention to proper development planning that would ensure the designing and

building of communities. Poor communities have been facilitated to undertake activities which increase their resilience to the impact of hazards while strengthening their livelihood options using local knowledge, capacities and resourcefulness, coupled with innovative and appropriate technologies. Increasing the asset base and the diversity of livelihood options available increases the resilience of the poor. Community participation is the most important component of the project, ensuring commitment, ownership and sustainability of the activities undertaken.

### **OBJECTIVES:**

The following are the objectives of the project on a priority towards the CDRF.

- To focus specifically on providing resources to community and local level actors who are interested in addressing disaster risk reduction challenges in their communities.
- To develop community and grassroots level capacities to identify and reduce risks through linkage with sustainable development programs.
- To enhance understanding of impact of community resources, resilience initiatives by doing action research, monitoring and impact studies.
- To upstream lessons and leverage resources and partnerships for community led disaster resilience priorities.
- Building on community-level demand to drive the support and management systems for implementing the fund programme.

### **PROJECT LOCATION:**

**A) Krushnadaspur** is a remote village of Singhagaon Gram Panchayat under Pattamundai block of Kendrapara district. Krishnadaspur village lies between 2 rivers and becomes an island during floods when it is surrounded on all sides by water. This restricts access to health services, markets, and school, which is 1 km away and can only be accessed by boat. During rainy season, for 3 to 4 months, land gets submerged and a boat is necessary to access school.

Because of this, most children miss school for one third of each year. While families do store water for 1-3 days, after it is exhausted they depend on contaminated water from submerged tubewells. With regards to access to health care, even during non flood season, there is no accessible PHC; while the structure still exists, it has not been staffed by a doctor or nurse for the past 3 years. The nearest hospital is in Kendrapata district, at a fair distance away from the village. The population of Krushnadaspur is 851. The Scheduled Castes (mostly fishing community) constitute nearly 91% of the total population of the village. The overall literacy rate is 56% at present. The economic



*(Map of Krushnadaspur village)*

status of the people is quite poor Krushnadaspur is one of the most backward villages in terms of social indicators. Natural disasters often tend to set the clock back in time further accentuating the problem as they lead to serious disruption of the functioning of a society causing widespread losses. These losses far exceed the affected village's ability to cope with it using its own resources. This village continues to encounter watery inundation during most of the year. During the seasonal rains, the river system burst its banks and causes flooding. Krushnadaspur has traditionally been the symbol of the ferocity and extent of floods in Kendrapara. Inhabitants of these frequently flooded zones suffer from extreme poverty, poor health, nutrition and little education. They have little access to government services and information and their lack of economic opportunity, poor infrastructure and absence of organizational capacity further handicap their efforts to effectively deal with the impacts of recurrent disasters. The negative impact of natural disasters exacerbates their poverty and vulnerability. Furthermore, it is not only "big" disasters that destroy life and livelihoods; accumulated losses from a succession of small floods, can exceed the losses from big disasters and contribute significantly to increased vulnerability at the local level. These disasters attract little media attention and communities are often left on their own to cope with their aftermath.

**The annual flood means that even those who are able to cope and recover suffer the loss of their few assets, including their crops and their means of earning a living. They struggle to regain control of their livelihoods. The poorest, with few assets, are worst affected, each shock driving them further into poverty.**

**B) Pentha** is a coastal village of Brahmansahi Gram Panchayat under Rajnagar block of Kendrapara district. This beautiful village is situated at the head of the Bay of Bengal. The Bay of Bengal lies to its east. Pentha is exposed to the threat of storm surges, cyclones and tsunami waves. The population of Pentha is 366. There are farmlands as close as 100 meters from the shoreline. Paddy is the main crop of this village. 90% of economy of Pentha is dependent on agriculture, with over 85% under cultivation but the holdings were in a skewed manner. 74% of the farmers owned less than a hectare of land – about something like 50 marginal farmers family. It is the small and marginal farmers who bore the brunt of any disaster. beach of Petha has been attracting to thousands of tourists. Apart from that, thousands of endangered Olive Ridley sea turtles have been visiting the Pentha beach for nesting every year. Among others Dolphins are also found in this coast.

As village after village in coastal Kendrapara district vanishes into the Bay of Bengal. Erosion-prone Satabhaya cluster of hamlets in Kendrapara district, for the first time, figured in global map of climate change as its first orphan of Orissa. The village Pentha is also now under high threat due



***(Coastal Erosion at Pentha)***



to sea erosion. Starting from Gahirmatha to Barunei confluence point, 25 km of the coastline is getting eroded. These poor villagers do not know why this is happening but climatologists know why. Global Warming. Ironically these poor villages hardly contribute to global warming...they hardly emit any greenhouse gases.

### **PROJECT ACTIVITIES:**

Under the CDRF project, many direct activities were undertaken. Many microprojects – such as formation of village level committees, involvement of the government sector, promotion of sustainable economic activity, grain banks, coastal plantation etc were included in these activities. The following activities were undertaken in the project.

#### **I) Baseline data collection**

Base line Data were collected as per the base line format from March, 15 to 30, 2009. , A range of techniques was employed in order to generate information and to build up progressively an accurate and detailed picture of the dynamics of coping and vulnerability across households at each site. The techniques used included semi-structured interviews and open-ended discussions, household questionnaires, focus groups and community workshops and key informant interviews at each project site. The other data were collected from each project site, including community information, population, livelihoods data, livelihood profile, economic condition, status of public structures, access to health care services, safe drinking water and sanitation, social security/financial inclusion, productive assets, community based disaster risk management (CBDRM), levels of community awareness on DRR, roles of women in DRR and resilience building and, agricultural and forestry harvest etc.

**Table: 1: Data on Village (Project site) wise**

Village name	Gram Panchayat	Block	Total No of HH	Total Population	SC/ST	Others	Total No of Poor HH	Status of Public Structures
Krushnadaspur	Singhagaon	Pattamundai	142	1114	1072	42	80	Community Hall-1 Primary School-1
Pentha	Brahmansahi	Rajnagar	107	412	-	412	72	Primary School-1

**Table: 2: Livelihoods Data (number of households dependent on)**

Village name	Cultivation	Horticulture	Fishing/ Fisheries	Small enterprise	Government employment	Private sector employment	Agricultural wage labour	non-agriculture wage labour
Krushnadaspur	122	-	75	2	9	14	42	13
Pentha	96	-	74	2	3	28	53	17

### Data analysis

The way in which people ranked different coping strategies was analyzed both quantitatively and qualitatively using a range of techniques. While statistical tests can reveal associations between individual household characteristics, qualitative data analysis was employed in order to examine the household 'story', the way in which the household context determined choices, objectives, constraints and opportunities in coping. In examining the relationship between coping strategies, the relationships between selected groups of activities were examined.

#### **The other tasks completed under this component:**

Task 1: Baseline data collected

Task 2: Data input

Task 3: Data manipulation

Task 4: Data analysis

Task 5: Report writing

### II) CDRF committee formation

In all the targeted communities, people have come together to form CDRF committee, who provide a lead for the identification and implementation of local development activities. The CDRF committee has been formed in each project village. The Committees are developing a plan of action for implementing the programmes. Based on this, the role and responsibilities of the members of the committee are being defined. Link grassroots and village women's to one another to facilitate the committee in order to collectively advance resilience building efforts in the village and enable participants and villagers to build safer, more resilient communities. They are participating in various activities. Participants and members not only understood analyzed disaster responses, but affirmed the importance of proactively initiating resilience building practices that reduce community vulnerabilities and protect communities from the impact of disasters. Before formation of the committee, the Orientation was given to village community on CDRF concept.

#### **Led by Village Women:**

**CDRF cannot be put into effect through a government order, nor can it be implemented as a project by a NGO. But the role of the NGO here is only to facilitate the process. It has to rise from the ground up; it has to have the women communities in the driver seat; it has to enshrine processes that will make it locally owned and sustainable. The most appropriate catalysts for this are village women, who arise from within the communities, motivate the villagers, and lead them through the process of a community based development and sustainable disaster management approach.**



**Table 3: CDRF Committee**

Name of the Village	Name of CDRF Committee	Total number of members of the committee	Female members	Male members
Krushnadaspur	Hara Parvati Disaster Mitigation Committee	14	09	05
Pentha	Banabihari Jew Disaster Mitigation Committee	15	10	05

**III) Wall Painting**

This task has been completed in each village. The major contact phone numbers of the officials, metrological department, OSDMA, early warning, flood control, local administration etc has been put on view at the information board. The community has been take advantages on it and regularly contacted and networking with the departments and institutions.





#### IV) Village Disaster Resilient Planning

To develop the village resilient 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, 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, shelters, drinking water facilities, dispensaries, village roads, cart roads, telephones etc. also find their way into this contingency map. Subsequently, the community identifies possible safety zones for safeguarding their identified assets. Elevated land, and similar natural barriers for livestock protection, safe buildings, cyclone shelters, *panchayat* buildings, 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 disaster. 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 disaster

Community groups of women and men trained on resilience concepts, created baseline information on water and sanitation facilities, health care access, safe/unsafe places, assets, livelihoods and vulnerable groups to identify factors that place the community at risk. A wide range of problems were identified by communities during mapping exercises. Drinking water sources that could be disastrous, with water pumps constructed in low lying areas that can be flooded during rains or cyclones as do sanitation facilities which were located in low lying areas or near water sources. Schools and health centers constructed in poorly selected and distance locations, depletion of agro-based livelihoods (resultant high migration rates) and lack of safe housing etc. Livelihoods based on agriculture are particularly vulnerable, as it is severely and continuously affected by floods. Preparedness measures and effective community interventions are urgently needed to reduce rural vulnerabilities and strengthen livelihoods and food security cycles.



A list of community priorities: better preparedness strategies; construction of cyclone shelters, early warning and emergency response measures; and stronger community resilience practices, boat facilities during annual flood, focusing on the improvement of livelihoods and access to basic services, particularly educational services, health services and sanitation and drinking water facilities, Plantation towards land and soil conservation. Mapping allowed the establishment of a baseline, against which development and results of a particular CDRF could be assessed.

**Resource Inventory:**

The identification of existing resources has been carried out to meet the need of an emergency situation. The identified resources include dealers for food supply, drinking water sources, safe houses, route clearing equipment, boats, generators, tractors and fodder. The list of volunteers, CBOs and addresses of government staff in different areas has been compiled.

**Year ago if asked to describe what a disaster preparedness and risk reduction programme was, the Krushnadaspur and Pentha villagers in Kendrapara district would probably have difficulty doing so. Back then, a comparatively small number of people showed interest in volunteering because they had little knowledge of what the Government or NGO did in their communities. The local CDRF partner, APOWA had very limited resources with only few staff and little financial support from the project. Today though, villagers' understanding and attitudes towards the disaster management have changed for the better. The villagers in Krushnadaspur and Pentha have now actively become involved with disaster management, especially since Udyama, Bhubaneswar and APOWA; Kendrapara jointly implemented the Community Disaster Resilience Fund (CDRF) programme in March, 2009.**

**V) Leverage of resource and Linkage**

An important element in this project 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. A very important aspect is the mobilization of village level contingency funds to be used in the case of a disaster.

**Help communities work alongside local government:**

Building an effective community-based approach is time-consuming, and needs to be sustainable. To provide additional support, it is necessary to utilize structures that already exist. Raising people's awareness is crucial so that they can demand that their institutions perform the roles for which they were established.

### **The Good Practice:**

The overall impact of CDRF for all the villages is significant. There has been a decreased incidence in water-borne diseases. Indeed, health or medical services in the past had been disrupted either from the unavailability of doctors or through lack of medicine access. Now the community is managing the First Aid box in the village, First Aid and medicines has been supplied to the community and continue in a sustainable manner, as previously unavailable to them within the village. Agricultural lands have also increased their yield and production, and there is increased food security. As the project have been supplying the vegetable seeds to the community. Even the CDRF committee members have been assembling on a particular day of the each month. All parties agree that with collective discussion, agreement and action, they managed to address a problem that was previously deemed impossible to manage.

### **VI) Women encouragement to economic activities**

Steps have been taken to encourage women to become involved in income generating activities which can improve their status and independence and provide greater security for their families. Besides their traditional roles in animal rearing and other agricultural activities, training in alternative skills has been provided. Based on the community proposals various DRR initiatives have been identified by community groups such as livelihood promotion through management of fish culture, Cashew plantation, First Aids Box, Grain Bank and Seeds Bank, addressing health emergency, in flood affected areas, creation of emergency fund, etc.

#### **Cashew Plantation:**

To increase income or provide alternative sources of income, cashew plantation have been established by community or beneficiaries at the Pentha village. Although all families or community will benefit directly from the income, 15-20 families benefit by being paid for their labour and other sources of the trees planted.





**Fisheries:**

Base line survey findings indicated that around 70% of families are engaged in catching fish from open water bodies and 45% of the families are occupied fulltime (year round) in fishing in rivers, floodplains, canals in Krushnadaspur village. Although a large proportion of families are dependant on fishing (both fulltime or/and seasonal). They have no other sources of income or other ways to cope. Many of them are living in appalling conditions under constant threat of flood and other natural hazards.

Fish culture has a long tradition in this village, playing an important role in supplying the increasing needs of the people. Satisfying this growing demand for fish provides a real income earning opportunity for rural people with access to an enclosed body of water. As well as providing a source of income, fish culture has a vital role to play in satisfying the nutritional requirements of the rural poor. The project has supported community in this location to engage in pond fish culture.

**Bharati Jena is a participant in a home garden activity in Krushnadaspur village which is part of a wider Community Disaster Resilience Fund programme being implemented by the Udyama and APOWA across two villages in the district. The project was provided seeds and training to vulnerable families with the aim of encouraging families to eat a more nutritious and balanced diet. "All the vegetables we now eat we grow ourselves. We have even been able to share some of the produce with relatives and neighbours," explains Bharati.**

**VII) Workshop at district level on CDRF**

The district level workshop on "Role of Women Disaster Risk Reduction" was organized by UDYAMA (Bhubaneswar) in association with APOWA and ABLE in Kendrapara at BED College, Kendrapara on 30.10.2009. Apart from the participation of dignitaries, 10 women participants lead by Mrs. Namita Mohanty, Secretary, Haraparvati Biparjaya Prasamana Committee, Krushnadaspur and 4 women participants lead by Mrs. Urmila Behera, Secretary, Banabihari Jew Bipajaya Prasamana Committee, Penth along with their respective sarpanchs were participated in the workshop on behalf of APOWA-CDRF project. This was a huge experience for them to cope with future disasters, as they were came from most vulnerable areas of the extreme events. We are proud of these women lead groups and their collective efforts for disaster risk reduction in Pattamundai and Rajnagar blocks of Kendrapara district



### **LESSONS:**

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

1. Community empowerment and communication help to achieve sustainability in CDRF
2. A holistic secure-livelihood approach enhances sustainability
3. Community based action plans and awareness improves community's problem solving skills.
4. Because disasters are unpredictable, it is important to maintain the projects and people's awareness of disasters.
5. Transparency of activities and dissemination of knowledge and information encourage people's participation in activities
6. CDRF efforts need stable financial resources.

### **CONCLUSION**

Reducing the vulnerability of people and the environment depends on the ability to cope with and respond to adverse and changing circumstances. Many traditional coping strategies are inadequate and unable to cope with extreme events. Innovations are needed to ensure that development is sustainable and resilient to current and future local hazards. To be sustainable, such innovations must be both socially acceptable and build on the capacity and experience of the communities concerned. The community has engaged in analyzing their own vulnerabilities and capacities in the light of the hazards they are exposed to. Specifically the project has designed disaster risk reduction activities based on data and information collected through baseline studies, participatory action plan development, vulnerability and capacity assessment along with participatory risk assessments of existing livelihood strategies. It has also assessed the needs of different occupational groups and designed capacity enhancement activities based on their existing coping strategies and practices.



The direct beneficiaries of the project who have carried out different activities promoted by the project believe that many of these activities will continue in future without external support. These include vegetable gardening, economic plantation drive, fish culture, first aid box, etc. These activities have created new alternative livelihood opportunities, many of which were previously unknown in the area. While the impacts of flooding and erosion cannot be prevented, alternative livelihood options coupled with better preparedness increase community resilience allowing households to “bounce back” quicker when the hazards have passed. Alternative “off farm” income earning opportunities mean that income can continue to be earned while agricultural land is submerged. Savings generated from alternative strategies can be used to support families over the flood period. Social cohesion and the existence of groups increase resilience. Cluster villages provide the ultimate safe environment in which previously destitute families can begin to engage in productive economic activities.

The project has increased the awareness of communities to the disaster risks they face and increased their capacity to plan for and cope with these risks. Local contingency plans to prepare for, react to and respond to disasters have been prepared by communities. Links to local service providers for both development and emergency response have been strengthened.