

Disaster Resilient Livelihood

–An approach to disaster



Foreword

Natural Hazards and disasters have caused economic losses worth US\$2,908 billion between the year 1998-2017, with India ranking among the top ten countries in terms of absolute losses. India being the agriculture-based economy with increasing climate change impact, the communities faces floods, droughts and other climate induced disasters frequently. All such incidents create huge damage to the livelihood of different communities which further exacerbate their vulnerabilities. Lack of data on sector specific damage creates an information gap regarding the quantitative economic impact of disaster on livelihood and food security of the population.

Nonetheless, the fragility of the livelihood and food production system to disasters is ubiquitous and calls for the need to secure livelihood through integration of disaster reduction activities into conventional livelihood strategies to reduce, mitigate and prevent underlying risks. Resilience is not a new word in the development and climate change adaptation community. The concept of resilience provides one of the most promising approaches to poverty reduction, development, growth and sustainability.

This knowledge product summarizes the Caritas India's resilient livelihood strategies for building capacities of its targeted households. It provides an overview of interventions and coordination of local resources (Livestock, farm and house) along with low input farming techniques helps in reducing agriculture cost and increase income and thus helps in enhancing farmer's adaptive capacity in mitigating losses. It also presents a consolidation of good practices on the implementation of DRR in livelihood sector to secure food and nutritional needs in areas vulnerable to natural disasters and climate change.

We're confident that this document will contribute to a clearer understanding of the linkage between livelihood resilience and human development.

Fr. Paul Moonjely

Executive Director – Caritas India

¹Economic Losses, Poverty and Disasters, 1998-2017, UNISDR

Introduction

Disasters pose a serious threat to the food and nutrition security of households and communities. Events like floods, drought and cyclone can destroy agriculture, livestock, fishery, inflict damage on storage and food processing structures and disrupt the market. Shortage of food items and fluctuation in the food prices directly affect household food intake and dietary balance, amounting to food insecurity and nutritional deficiency.

Caritas India through its disaster risk reduction activities seeks to protect livelihoods from immediate and long-term shocks and build the capacity of the food production system to absorb and recover from disaster events. Caritas India has incorporated Disaster Risk Reduction strategies on livelihood with the goal to enhance its resilience and ensure the food and nutrition security of the most vulnerable groups such as farmers, fishermen, weavers and agriculture laborers. Resilient livelihood is critical to the attainment of Sustainable Development Goal 2 which envisions to end hunger and achieve improved food and nutrition security.

Disaster Risk Reduction is an important thematic focus of Caritas India's five-year Strategic Plan 2018-2023 and the organization strives to assist partners in implementing the Four Priorities for Action in the Sendai Framework for Disaster Risk Reduction. One of the key strategic action of the organization is emphasizing the provision of human resource, technical guidance and financial support to programmes which are saving lives and providing protection for, improving their access to Water, Sanitation, shelter, healthcare services and livelihood opportunities in the communities during and after.

Through its integrated programmes on Disaster Risk Reduction, the organization develops regional programs to support NGOs across the country to scale up DRR activities in addressing food and nutritional needs and create models at the local and national levels. The direct programme participants of such initiatives include the marginalized and resource poor such as landless peasants, small farmers, informal laborer's, fisherfolk etc.

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The Need for Resilient Livelihood Amidst Rising Disaster Scenario

The poor and marginalized face a number of risks in their everyday life, with their livelihood put at stake. External factors like shocks and stresses hamper individual household income and affect their well-being. A number of factors contribute towards a household's ability to recover from such shocks, possession of assets being the most important factor. Limited possession of financial, social and physical assets and resources affects the household's capacity to absorb such shocks, further driving them into traps of abysmal poverty and vulnerability.

Natural resources such as land, forest and water resources provide livelihood opportunities to scores of people across the world and remain the economic driver for the rural areas. According to a report published by FAO in 2013, 2.5 billion smallholders worldwide depend on agriculture for their livelihood and over 500 million people depend, directly or indirectly, on fisheries and aquaculture. Furthermore, close to 1.6 billion people – more than 25 percent of the world's population – rely on forest resources for their livelihoods and to generate food and cash. However, these resources are not immune to the threats posed by natural disasters and conflicts, presenting high level of risk for the population dependent on it. Such crises reduce the real income of the households and force them to sell their physical assets, reduce food intake and restrict dietary diversity amounting to acute hunger and malnutrition.

Vulnerability, livelihood and DRR are mutually reinforcing terms, wherein strengthening livelihood through DRR reduces the vulnerability of households and enhances their capacity to cope with disruptions, henceforth generating resilient livelihood.

The concept of resilience has gained prominence in disaster discourse with the focus shifting from emergency response towards ex-ante strategies which involve preparing households for impending disasters. Building resilience seems a common-sense reaction to mounting humanitarian needs in a world where many humanitarian crises are created, not by short-term emergencies that swiftly pass, but by long-term stresses.

Resilience encompasses the dual tasks of relief and development assistance in order to avoid the increasingly frequent recurrence of emergency crises. The core idea behind resilience is to help the community recover and bounce back better to exogenous shocks by adopting appropriate technologies and practices and building on their adaptive capacity.

Resilience has been infused into the livelihood sector with the aim to support individuals gain a profitable share of their production through resource management to cope with known risks and adjust to unknown risks, while taking responsibility to enhance their natural and physical resources thereby contributing towards their holistic well-being and greater command over decision making.

²Resilient Livelihoods, Disaster Risk reduction for Food and Nutrition Security, 2013

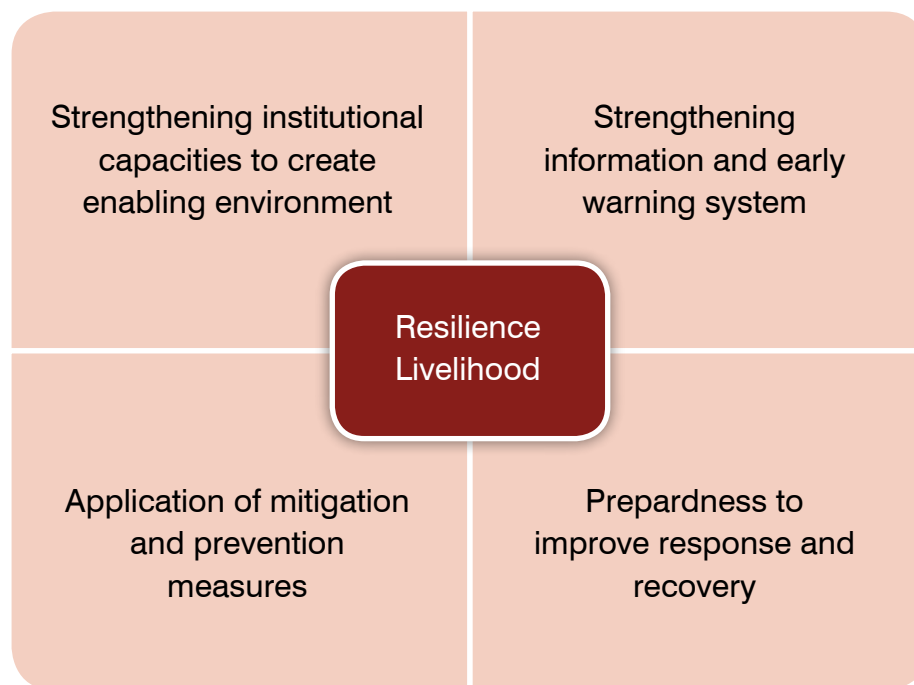
³<https://www.refworld.org/pdfid/523ac7384.pdf>

Transforming Concept into Action:

Caritas India implements DRR activities in livelihood under three main areas of intervention namely livelihood protection, livelihood promotion and livelihood recovery. Building community's resilience constitutes a key paradigm across all the interventions, subsuming long term livelihood strengthening strategies and short-term disaster preparedness initiatives. Through these interventions, CI envisages to enable the households to anticipate and plan for changes of different kind and adapt to them, linking traditional knowledge implicit in the community to technical knowhow facilitated by external actors.

In order to ensure maximum relevance of its activities, the DRR desk engages in intra-thematic deliberations and seeks cross sectoral assistance in areas relevant to livelihood such as agriculture, environment management, advocacy etc.

CI's intervention on resilient livelihood emulates the four thematic pillars of FAO's DRR for FNS Framework, substantiated with technical knowledge and good practices which can be adopted to context specific needs and priorities across the country.



Types of livelihood intervention in DRR:

As stated earlier CI's intervention on livelihood can be categorized under three broad areas:

- Livelihood Protection
- Livelihood Promotion
- Livelihood Recovery

Livelihood Protection seeks to reinforce existing household coping and livelihood management strategies, with emphasis on hazard mitigation and

disaster preparedness. Some important measures include supporting grain storage structures and mechanisms against flooding, and improved land use, soil management and forest management to reduce the threat of flash floods, river erosions and landslides. Improving homesteads through effective planning is another measure which seeks to build on the economic resilience of the community. Operationalizing early warning systems give households time to move or defend their assets, as well as evacuate themselves.

In Bihar, the Partner's for Resilience Programme run by Caritas India under the umbrella of Wetland International has created positive impact in Kaji Koraitola village of the Ganges Basin. Since 2011, CI along with its local partners Bhagalpur Social Service Society, has been involved in building local capacities, assessing local risks and developing preparedness plans. Floods in 2008 had inflicted grave damages in the community as it claimed 20 lives and propelled mass migration. Taking that as a lesson, the Village DRR committee and Task Force supported under PfR project got into swift action

in the ground during 2013 floods. A field inspection by the 7-member Early Warning Team identified a gaping hole in the embankment, which had the potential to cause a massive damage to the community. Taking cognizance of the situation, an alarm was raised in the neighbourhood by the DRR committee, ensuing quick action by the villagers. Overnight repair work was undertaken by the community with the locally available resources such as gunny bags to fill the hole, thus averting a major disaster which could have claimed scores of lives.

Flooding is a major challenge for rice production in the country. Continuous high rainfall in a short span leading to water logging cause inundation of paddy fields and lodging of the crop at grain filling and maturity stages causing huge losses to the farmer. Farmer Uday Kant Rai from Kishanpur in Supaul district, Bihar adopted a flood tolerant variety “Sona Saverna” which was introduced to him during an exposure visit to KVK Raghoupur. This variety can withstand inundation for an extended period and reduce the risk from flood damage. Similar rice varieties like Swarna-sub1, MTU-1010, MTU-1001 and MTU-1140 are high yielding with good grain quality apart from possessing submergence tolerance and perform better under flood situation. Demonstration of “Sona Saverna” variety in the flood-prone area showed that the cultivar could tolerate submergence up to 20 days and performed significantly better compared to the conventional varieties.

Based on his previous experience, Uday Kant explained that the new variety produced upto 15-18 tillers per plant compared to the 8-10 tillers of previous cultivars and also earned him an extra 5000 Rupees, which he plans to utilize for meeting household consumptive needs



Livelihood Promotion aims at building adaptive capacity, with the primary focus on addressing risks and building household and community capacities that deliver multiple benefits. It concentrates on improving existing livelihood practices and diversification into new areas of economic activity. Some important measures include skills training, providing technical support and information, improving access to markets and services and supporting local institutions. Much of the livelihood programming has laid emphasis on diversification of livelihood activities to reduce dependence on one source so that disruption of one source doesn't lead to breakdown of household economy. Promoting off farm activities is being popularized to reduce dependence on agriculture, together with better management of crops, livestock and natural resources such as water and forests.



Reinstated Water Lifting Point near Mahanadi River Basin in Keutipalivillage, Bolangir district, Odisha

Caritas India has been supporting the project “Resilient livelihood for communities in Koshi- Ganga Flood plains” since 2017 with an aim to integrate Eco-system restoration for the conservation of natural resources and combine DRR with ecosystem-based livelihoods of the community to achieve sustainability. Long-term livelihood strengthening in Disaster Risk Reduction is a part of the pre-disaster mitigation strategy which is integrated into development work. Erratic rainfall and sudden floods have taken a severe toll in the paddy cultivation in the region affecting household income and nutritional status, however now the farmers in the area have an alternative plan. Mushroom cultivation, under the aegis of the project have encouraged families to take up the newfound livelihood in a big way. Support from the State Horticulture Department, Government

The state of Odisha has faced its worst drought in 2015-16, with reports of extensive crop loss and severe water shortage in 27 out of 30 states. A total of 174 farmer deaths were reported between June 2015 until mid-March 2016, with 70% reported from western Odisha districts.

Farmers in Keutipali village, Bolangir district have borne the crunch of water crises as erratic monsoon destroyed acres of paddy field leaving the farmers with mounting debt. The village had two lift irrigation points, which lay defunct for 7 years. Repeated complaints and application to the Pani Panchayat and the PHED went to deaf ears and the farmers continued to be at the receiving end of crop loss. Caritas India with local partner Anchalik Jana SevaAnusthan (AJSA) reinstated hope among the farmers. Through its extensive community mobilization and facilitation skills, the program managed to garner support in the locality with a total of 40 farmers placing their grievance to the Chief Executive Engineer in February 2018. Within a month of the application, work orders were granted, and the repair work was undertaken by Block PHED. By June 2018, the two lift points were repaired, enabling the farmers to irrigate 100 acres of crop land, thereby reviving Keutipali's green cover.



Sadanad from Araha, Bihar proudly showing his mushroom cultivation which was provided to him under Resilient Livelihood Program

of Bihar in subsidised rates, following intensive linkage activities have further catalysed the popularisation of mushroom cultivation. “I have produced 13 kgs of mushroom over the past three months and sold 10kgs to the nearby Koshi Dhaba at a rate of Rs. 100 per kg, while consuming the rest. My mushroom bags have been a boon to my family”, remarks farmer Sadanand of Araha village, as he expects an assured sum of Rs. 800 from the next bundle.

Caritas India’s intervention in the riverine districts of Lakhimpur and Dhemaji have yielded substantive results in increasing household income among the *Mishing* tribe. Cultivating rice has always been the main priority of the community with little or no investment on horticulture and livestock. Monalisa Payeng (42) was one such farmer whose household income solely depended on selling the surplus paddy cultivated during the *Sal*/season(winter crop).

Her association with Caritas India began in late 2017, when she had attended a meeting organized by local partner WDC on micro planning. The meeting discussed about the potential to enhance household income by diversifying farm and non-farm activities and Integrated Farming System (IFS); the USP of this model, as she was informed, was that she could rely on the allied sources to augment her income and could also compensate for losses on paddy due to unexpectant shocks.

Monalisa cultivates 13 different varieties of seasonal vegetables apart from rice, the main crop. She also grows maize which she can use as fodder for the pigs. This apart she has also started weaving *gamuchas* for sale in the market, having received training on improved designs. She has also started rearing poultry and pigs in an improved manner. A comparison of her household income over the period of one year shows that the income soared upto 50% given her reliance on agriculture and allied activities.



Monalisa from Lakhimpur, Assam standing proudly in her farm where she started cultivating seasonal vegetables, maize and pig fodder

Livelihood Recovery aims at restoring employment and income generating opportunities to disaster affected communities. Livelihood opportunities are severely disrupted by the destruction or loss of essential assets; with the result that people are unable

to engage in normal income generating activities; become demoralised and dependent on humanitarian aid. CI recognises Build back better has its own importance to rapidly restore the local economy. Whilst the poorest are often worst affected and suffer most,

Located at a distance of 45 kilometres from the district headquarters, Sissisumoni village displays a stoical acceptance to the sufferings caused by annual floods and river bank erosions. A chronically flood prone area, Sissisumoni and its neighbouring village in Machkhowa block remains inundated for half the year resulting in breakdown of agriculture and loss of traditional livelihoods. Activities like weaving are brought to an abrupt halt as the traditional throw shuttle looms built under the stilt are completely submerged under water during that period, thereby reducing the number of working days in a year and restricting their efficacy. This further deters the women's ability to channelize their heirloom skill towards income generating activities.

Underlying factors like this have given birth to the concept of Portable Weaving looms, which have taken the village by storm. Popularised by Women Development Centre (WDC) under the aegis of Caritas India, these 6X4X4' wooden looms weigh upto 35 kgs and can be easily mounted above the chang as and when required thereby enabling women to carry on with their craft.

This new technique has empowered women like RenumaiMisong (36) to take up weaving to supplement to the household income and helped her earn a handsome sum of Rupees 28,000 last season compared to the meagre earning of Rs 8000 which she used to earn weaving 4 to 5 Mekhalas.

With more and more households embracing the new technique of portable looms, women have managed to accumulate substantial savings which are used to meet the educational expenses of their children and households needs during emergency.



RenumaiMisong of Sissisumoni village near Mahanadi river basin, Assam working on her Portable Weaving Loom Machine

analysis of the livelihood strategies that were employed before the impact of a disaster can provide clues and direction for supporting the rebuilding of improved livelihood options that increase resilience. CI aims at restoring livelihood and generating quick income

sources for the poor in the aftermath of a disaster through direct material support by supplying essential livelihood assets such as seeds, tools and livestock to replace losses, building livelihood strategies and Cash Transfer.

Way forward

With increasing number of disasters leading to ever increasing human tragedy and economic costs globally, the international community is calling for the substantial reduction of disaster risk. In order to make significant progress towards disaster reduction, there is urgent need to reduce underlying drivers of disaster risk, which include arresting environmental degradation and improving ecosystems management. Enhanced national awareness and capacity to undertake application of environmental tools for DRR and mainstream these into national and local development planning should make a significant contribution towards disaster reduction. This requires concerted action to increase awareness among decision makers and build capacities of practitioners and partners in development.

In order to cater to this need, innovative concepts could lead to better resilience building. The Ecosystem based approach may need integration of ,

1. **Increase awareness** among key players/stakeholders about the multiple benefits of ecosystem services for disaster risk reduction and sustainable development, and the methods for sustaining and enhancing these services.
2. **Develop knowledge and skills** of organisation and community on how to integrate ecosystem management *and* disaster risk reduction into development planning processes.
3. **Promotion of Ecosystem/Natural resource base livelihood** mitigating negative climate change effects in livelihoods.
4. **Strengthening and enhancing capacities** of community organisations
5. **Promote and facilitate cross-sectoral collaboration** amongst environmental/ecosystem management, disaster risk reduction, climate change adaptation and development practitioners

