COASTAL COMMUNITY RESILIENCE (CCR)

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Basic Introduction to the Selected Tools

The Indian Ocean Tsunami of 2004 posed a challenge and major threat to the coastal communities not only in Asia, but across the globe. Coastal disasters, such as tsunamis, severe storms and shoreline erosion, have increased the vulnerability of coastal communities. Coastal vulnerabilities have also been attributed to population increases as well as the impacts of the global climate change. It is therefore required that these communities develop the resilience to adapt to the changing situation and increase their capacity to respond effectively to disasters.

To increase the response capacity of these coastal communities, it is imperative that we measure their resilience before any coastal disaster preparedness measures are carried out. **The Coastal Community Resilience (CCR) assessment** framework was developed as part of the Indian Ocean Tsunami Warning System [IOTWS] Program in Sri Lanka with a view to measuring coastal resilience on an index that can help identify strengths, weaknesses and opportunities to enhance overall response capacities. The tool is used by multiple stakeholders, including coastal communities, national and local government agencies, non-governmental organisations and the private sector. The tool is also instrumental in facilitating coordination amongst the other field programs which have similar or overlapping initiatives in a given area of operation. The results of the tool serve as a baseline indicator for new initiatives in the development sector.

Project Brief

The CCR assessment tool was used in one of the coastal villages of Sri Lanka that was identified as a selected tsunami-affected area under a project supported by the International Development Research Centre (IDRC) of the Canadian International Development Agency (CIDA). The coastal village of Andaragasyaya is a rural village located 256 km south of the capital city of Colombo, and has a population of about 3,500. Fishing and agriculture are the primary industries in these coastal communities. The coastal area, though rich in diverse coastal habitats like sand dunes, mangroves, beach rocks and sandy beaches, are under constant pressure due to unsustainable resource uses and large-scale development projects that have been initiated in the area.

Relevance of the Tool

The primary objective of the CCR assessment was to assess the “resilience status” of Andaragasyaya at the end of one of the projects implemented by Sarvodaya and Practical Action with support from the IDRC and CIDA. The basic aim of the project was to strengthen the resilience of selected communities that were affected by the tsunami. The CCR assessment helped those implementing the project know the extent to which the project activities contributed to improving the resilience status of the village during the project period. Coastal Community Resilience is assessed on the following elements:

1. Governance: Leadership, legal framework, and institutions provide enabling conditions for resilience through community involvement with government.

2. Socio-economy and Livelihoods: Communities are engaged in diverse and environmentally sustainable livelihoods resistant to hazards.

3. Coastal Resource Management: Active management of coastal resources sustains environmental services and livelihoods and reduces risks from coastal hazards.

4. Land Use Management and Structures: Effective land use and structural design that complement environmental, economic and community goals and reduce risks from hazards.

5. Risk Knowledge: Leadership and community members are aware of hazards, and risk information is utilized when making decisions.

6. Warning and Evacuation: Community is capable of receiving notifications and alerts of coastal hazards and warning at-risk populations, and individuals are capable of acting on those warnings.

7. Emergency Response: Mechanisms and networks are established and maintained to respond quickly to coastal disasters and address emergency needs at the community level.

8. Disaster Recovery: Plans are in place prior to hazard events that accelerate disaster recovery, engage communities in the recovery process and minimize negative environmental, social and economic impacts.

Benchmarking and Scoring

Benchmarks are identified to evaluate the resilience status of the community against each resilience element. Each benchmark reflects the most expected outcomes for each resilience element. The benchmark basically reflects capacities in four areas, i.e., policy and planning, physical and natural resources, social and cultural aspects and technical and financial aspects. After preparing the benchmarks specific for the community, the resilience status of each resilience element is evaluated based on a qualitative assessment.

The qualitative assessment is based on a numerical rating system (shown below). The rating system evaluates the level of achievement of each benchmark. Scores of 0 to 4 are assigned to each benchmark based on an analysis of the assessment results.

4: Very Good (76 to 100% fulfilled, sustainable)
3: Good (51 to 75% fulfilled)
2: Fair (26 to 50% fulfilled, in progress)
1: Poor (1 to 25% fulfilled, major gaps)
0: Condition absent

The unbiased rating can be achieved through conducting a community workshop with the community where key village representatives will be involved in the evaluation process of each bench mark. The data is collected using Participatory Rural Appraisal (PRA) tools such as focus group discussions, structured and semi-structured interviews, community mapping and field observations. The data is collected from multiple stakeholders involved in the project including such coastal communities. The ratings are useful for comparing the current conditions indicated by the CCR assessment results with

the desired conditions established for each benchmark. Information and data collected for each benchmark can be disaggregated into strengths, weaknesses and gaps for each resilience element. The relative number of strengths, weaknesses and gaps for a given benchmark as compared to the desired condition for that particular benchmark, provides an overall resilience status.

Case Study: A Change in Community Disaster Resilience in Andaragasyaya

The CCR assessment tool was used in Andaragasyaya village in the Hambantota district of Sri Lanka. The results indicated that this community has a fairly high resilience to coastal hazards. The figures showed that there was a fair amount of improvement in the overall resilience of the community after the implementation of various initiatives by governmental and non-governmental organisations in the area. The resilience elements with an average resilience score above 3 were governance, socio-economy and livelihoods, coastal resource management and warning and evacuation. Land use management and structures had the lowest average resilience score of 2. It is clear that the resilience status of the Andaragasyaya community has improved over the last four years since the Indian Ocean Tsunami of 2004. This improvement was realized in the fields of community livelihood development, disaster early warning and response and how the community manages their coastal resources as depicted in the graph below:

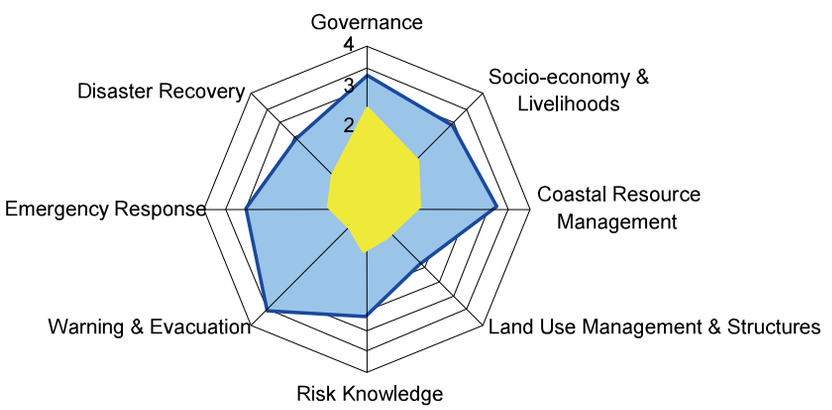

Figure 1: Graphical depiction of present resilience status (blue) and past resilience status (yellow)