



**DRR IN
ACTION
CASE
STUDY**

Integrated Coastal Community Resilience and Disaster Risk Reduction in Demak, Central Java

**Theme of the
Case Study**
Community/Local
Action For Resilience

Country
Indonesia

Case location
Demak, Central Java

Background

Coastline changes induced by erosion are processes that take place over a long period of time. Changes also occur in response to shorter-term events such as storms, regular wave action, tides and winds that may significantly alter sea levels (rise/fall) and that cause coastal land subsidence or emergence. Hence, most coastlines are naturally dynamic. However, human activities along the coastline, such as the cultivation of salt ponds, in combination with these natural forces result in escalated changes in the position of the coastline due to rapid abrasion and threaten communities living in the nearby area.

This is what happened in Demak, Central Java. Exacerbated coastal erosion has adversely affected the ecological role of its coasts and jeopardized opportunities to provide the community with sustainable socio-economic activities. The growing number of salt ponds, shrimp and milkfish ponds within coastal areas in Demak have increased erosion problems.

To strengthen the community resilience and mitigate the impact of coastal hazards, the Indonesian Red Cross/Palang Merah Indonesia (PMI) implemented the Coastal Community Resilience and Disaster Risk Reduction Project in Indonesia with the support of USAID, American Red Cross, and Bogor Agriculture Institute Centre for Coastal and Marine Resource Study (PKSPL-IPB). Demak district is in Central Java, one of the three provinces under this project. PMI recruits and trains village volunteers under SIBAT / CBAT (Community Based Action Team). The CBAT conducted vulnerability and capacity assessments (VCA) with each of the village communities in Demak.

The interventions primarily revolved around alternative livelihood-generation activities such as crab cultivation. The community members participating in these livelihood initiatives agreed that a portion of their income generated would be contributed to a community-revolving fund which would be used for risks reduction measures identified by the community.

*Photo: Launching of mangrove plantation together with the Head of District and other local government/ institution/agency leaders and community members in Desa Kedungmutih, Berahan Wetan and Babalan – 24 November 2016.
| PMI Demak District*

Dr. Singgih Setiyono, MMR
– Demak Local Government
Secretary and current
Chairman of PMI Demak
District:

“Local Government Demak gives very high appreciation to SIBAT members and society. The Demak government together with the community will continue all coastal restoration efforts with mangrove planting combined with eco-tourism, mangrove education and alternative livelihoods using village funds and local government funds.”



Mangroves Education Center and Eco-Tourism in Desa Kedung Mutih, Demak district, is a learning tool for mangrove planting and also used as a breeding place for crab, shrimp and shellfish to support community livelihood. | PMI of Demak District

CBAT and the communities have also conducted small-scale mitigation by planting coastal vegetation (mangroves). Village regulations for coastal protection have been developed. Apart from contributing to alternative livelihoods, the trees would add to the greenery and eco-tourism activity and improve living conditions in the future.

What did the action seek to change?

To reduce the vulnerability of Demak communities to the impacts of coastal erosion through their relationship with the ecology and respect for the environment. The action sought to:

- Increase **capacity, knowledge and skills** of community members to prepare for and reduce disaster risks
- Strengthen communication, **collaboration and coordination** to connect community with authorities and technical institutions
- Improve environmental condition, security and **community resilience** through livelihood generation and mitigation activities

What were the key actions taken to achieve this change?

- Restore the ecosystem through mangrove plantation to hinder abrasion and reduce the impact of coastal erosion
- Implement livelihood programme to ensure the sustainability of the DRR efforts
- Adapt integrated approach by connecting the community with village authority and scientists from the university for successful and sustainable local action.

What were the essential steps taken along the process to bring about this change?

Step 1	Recruit CBAT (Community Based Action Team)
Step 2	Conduct VCA and analyse the results to find options for action
Step 3	Provide training for CBAT members on Disaster Response Preparedness, Early Warning Early Action, and mangrove plantation and cultivation.
Step 4	Coordinate recognition to CBAT by the Village authority
Step 5	Implement mitigation activities through coastal mangrove planting
Step 6	Implement livelihood generation activities; providing juvenile crabs

What SFDRR principles¹ were applicable to this change process?

- Principle 1 Empowerment of local authorities and communities through resources, incentives and decision-making responsibilities as appropriate.
- Principle 2 Coherence of disaster risk reduction and sustainable development policies, plans, practices and mechanisms, across different sectors
- Principle 3 Engagement from all of society

¹ e.g. Primary responsibility of the State, Shared responsibility, Protection, All-of-society-engagement, coordination mechanism, empowering local-decision makers, Multi-hazard approach and inclusive risk-informed decision-making, Sustainable development, Local and specific risks.

What were the Achievements and the Impacts?

Based on the results of focus group discussions undertaken for the final evaluation of the Coastal Community Resilience and Disaster Risk Reduction (CCR-DRR) project, the following changes felt by the community due to the project were noted:

- Improved knowledge and capacity related to disaster preparedness, early warning and early action in the communities.
- Improved community preparedness through active participation in preparing community action plans and contingency plans, in which the active involvement of CBAT teams would continue after the project is completed.
- PMI SIBAT volunteers and communities have been continuing to plant trees independently.
- Several institutions were interested in implementing a replication project; these include the Fishery Agency and Toyota.
- Ecotourism has been developed and contributed better knowledge on DRR, climate change adaptation and livelihoods.
- Institutionally, PMI in implementing the CCR-DRR project, is recognized by local governments and private companies as a reputable institution and is considered successful in conducting the project.

Eco-tourism and crab cultivation farming have increased the income of the communities.

Pak Muhalim - PMI CBAT
Member of Kedung Mutih
Village:

"We advocate the village government to provide a regulation on mangrove protection to protect mangroves from being cut down by the community. All of communities hand in hand, planting mangrove to protect their environment and livelihood. Everybody has to struggle first, work first, and not only expecting the rewards. So first we must work and work harder, eventually, I believe we will achieve our resilience."

What were the key Lessons Learnt?

The integrated approach by implementing DRR-CCA action, restoring the ecosystem, and connecting the community with village authorities and scientists from the university has proved successful for a sustainable local action.

In order to have sustainable DRR measures and motivated volunteers, the project needed to pay special attention to the livelihood aspect of the community.

Within the communities, some people were found to have better skills in mangrove and pine nursery than others, and, have been identified as potential champions to continue coastal vegetation rehabilitation after the project is completed.

Challenges:

- a. Extreme weather: During seedling and planting process, many of the seeds planted were destroyed due to high tides/storm and floods.
- b. Time planning: Integrating DRR and environmental components require significant time for capacity building and knowledge transfer. More time was needed for implementing and monitoring green belt rehabilitation.
- c. Land status issue: Since most of the land used for planting mangroves and casuarina is private land and not under public ownership (Desa Tanah), if at any time the land is used for settlement, then some of the crops grown would be cut down.
- d. Lack of enforcement: Institutions that had been established to implement and operationalize the coastal protection policy have not enforced regulations effectively. As an example, for offences against mangrove/casuarina cutting, bird shooting and destruction of protected areas, the most frequent punishment is a harsh warning from the Village Authority.



PMI Community-Based Action Team (CBAT) together with community members conduct mangroves monitoring and maintenance in Berahan Wetan village, Demak district – 2 September 2017.
| PMI Demak District

What were the Good Practices arising from this action?

Good Practice 1	Combining mangrove plantation with crab cultivation as a livelihood opportunity
Good Practice 2	From the mangroves planted, ecotourism was developed to increase the interest of the wider community as well as to generate income for the volunteers, for the maintenance and further development.
Good Practice 3	Village Authority supports CBAT by circulating Village letter to recognize CBAT and endorse Village Regulations to protect the mangroves being planted.

Ahmad Rois – PMI CBAT
Coordinator for Berahan
Wetan Village, Demak
District:

“Being PMI CBAT for restoring coastal with Mangroves Plantation is voluntary-based. We have to take care of our families and environment to be safer and resilient”.

Policy Relevance to DRR in Action

This programme has shown concrete results in reducing the risks of abrasion and tidal disasters. This was done through promoting livelihood improvement and disaster preparedness response capacity and community-based early warning and early action. The implementation of this programme is very relevant to the expected results and to the four priorities for action of the Sendai Framework for DRR. It also contributes to the achievement of Sustainable Development Goals 1, 5, 11, 13 and 15.

Key Messages from this Case Study

Local Knowledge and Innovation for Integrated Disaster Risk Management

The programme has been implemented and evaluated, and found to be replicable and sustainable, having a direct impact on disaster risk reduction, and on economic and social improvements.

References for this Case Study

1. Base-line and End-line Survey
2. Vulnerability and Capacity Assessment (VCA) Report
3. Final Evaluation Report of Integrated Coastal Community Resilience and Disaster Risk Reduction Program.
4. Video on Alternative Livelihoods in Demak: <https://youtu.be/3hx5ZLPByF0>

Collaborators for this Case Study:

Indonesian Red Cross,
American Red Cross,
Bogor Agricultural Institute,
United States Agency for International Aid (USAID),
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