

Ongoing Rehabilitation of Coastal Communities in Aceh Province: A New Project Overview

L. Garces and M. Dey

Abstract

This article presents an overview of the project on Rehabilitation of Fisheries and Aquaculture in Tsunami-affected Coastal Communities in Aceh Province. Building on the research results from the recently completed projects detailed in the previous articles, this project shall synthesize information on coastal fishing communities and resources in order to develop site-specific management options to support rehabilitation of fisheries and aquaculture.

Background

The Rehabilitation of Fisheries and Aquaculture in Tsunami-affected Coastal Communities in Aceh Province (Indonesia) project will synthesize information on coastal fishing communities and resources (fisheries and habitats) and develop site-specific management options to support rehabilitation of fisheries and aquaculture. This will include integration of three WorldFish research projects in Aceh province which are aimed to help and to guide rehabilitation efforts and investments by governments, donors and development organizations, setting a course towards a more robust and resilient future for these fragile zones. The anticipated outputs of the proposed project are to: (1) synthesize the needs, livelihood strategies and resource status of the coastal community; (2) collect in-depth, site specific information on the above issues; (3) identify technical and management options for improved management and rehabilitation of coastal fisheries and aquaculture that reflect the community needs and resource status; and (4) adopt and test the identified options in at least two villages or communities using participatory approaches.

This project will support the USAID IOTWS (Indian Ocean Tsunami Warning System) Program (mainly Coastal Zone Disaster Mitigation Measures under the program activity on Local Knowledge Preparedness to Act) via the development and demonstration of activities to advance the adoption of disaster mitigation measures in sensitive coastal areas. The project will be implemented primarily through local (district or province) fisheries agency (*Dinas*) and the activities will combine sustainable coastal zone management measures, such as sustainable capture fisheries, reintroduction of mangrove forests and restoration of coral reefs and land use strategies aimed at reducing disaster risks such as development setbacks and protection of natural habitats and landscape features.

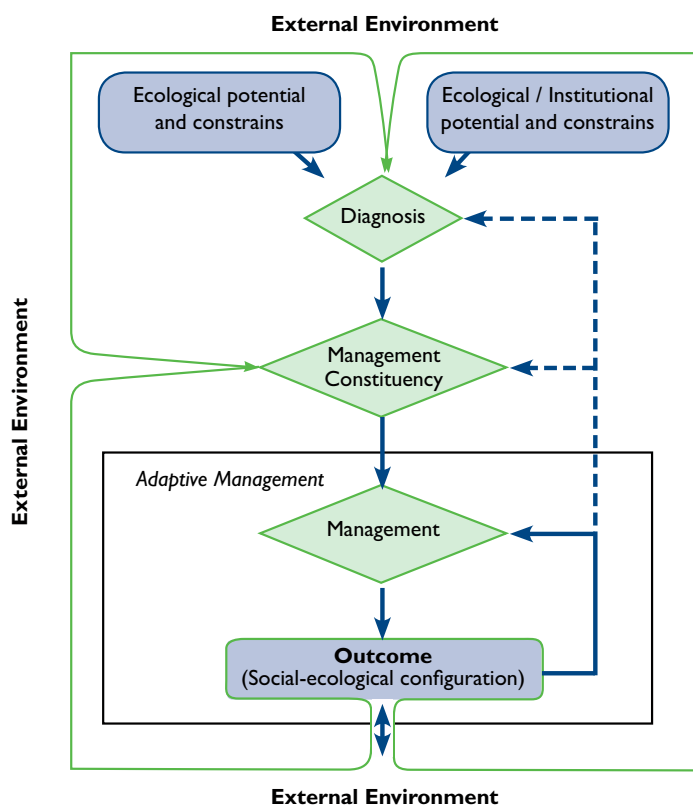
Conceptual Framework and Methodology

In Aceh, it is implausible to consider fisheries management based on a mechanistic understanding of ecosystem dynamics under exploitation. Nor is it reasonable to ensure sustainable fisheries using conventional fleet or catch controls imposed by government agencies.

In order to facilitate sustainable fisheries and resilient livelihoods we need to abandon 'classical' fisheries research and management tools (e.g., the "Maximum Sustainable Yield" philosophy) in favor of a two-phase approach that relies on participatory methods of data gathering and management interventions, as illustrated in Box 1.

The on-going projects of the WorldFish Center, as detailed in the previous articles in this special section, along with other research projects under way with the FAO, local authorities, and the Aceh-Nias Rehabilitation and Reconstruction Agency (BRR), provide the basis for a diagnosis of not only the critical resources, but also the socioeconomic opportunities and threats to the sustainable development of fisheries and other coastal resources. This diagnosis will identify changes in: (1) societal relations and market structures and (2) the management and governance environment. These latter processes, which are external to the fisheries sector, will have a profound effect on the durability of management institutions. Further, such considerations of the socio-ecological system will increase the chance of developing alternative livelihoods

Box 1.A A general framework for diagnosis and management of Small Scale Fisheries.



The framework is comprised of five elements: the external environment (ecological, social and economic processes arising outside the domain of the fishery); a diagnosis of threats and opportunities; a management phase comprising the management constituency (the conditions and relationships for action), the management process itself; and the outcomes that flow from the system. The diamonds represent processes; the arrows, directions of influence, and rounded boxes indicate states. The dashed arrow indicates a feedback loop that may be used less often than the feedback between management and outcomes.

Source: Andrew et al. Manuscript submitted for publication

and building resilience into fishing communities.

The diagnosis will enable researchers and stakeholders to move into the next stage which define the limits of what is possible and negotiate management or action plans at the village, district and regional level. During this phase, the emphasis is to: (1) build durable management institutions (i.e., multi-stakeholder management committee), and (2)

have the stakeholders define what resource, social and economic interventions they want. These activities will require high levels of participation and active decision making from within the community.

Many of the activities (completed or on-going) in Aceh are focused on the first stage, which is to conduct assessments and to synthesize the information. There is a need to move further and integrate the diagnosis

into an action plan. This will be followed by the monitoring and evaluation process that facilitates management. Although management will likely operate at the village scale, understanding district, regional and national scales of management, and the limits of power and influence among them will be critical to durable and robust decision making. Understanding the role and dynamics among and within NGOs will be similarly important.

The project aims to develop and test management options through participatory approaches in several villages (or cluster of villages) in Aceh province, and will be undertaken by the WorldFish Center in partnership with the Syiah Kuala University (UNSYIAH, Banda Aceh), the National Research Center for Capture Fisheries (RCCF), and the local *Dinas Perikanan* (fisheries officers) and NGOs.

Details of project activities include:

Stage 1: Data collation, synthesis and design

- Collation of data and research results of recently completed WorldFish projects and activities in Aceh province e.g., GIS mapping participatory assessments and mangrove rehabilitation studies.
- Synthesis of coastal community needs, livelihood strategies/ options and resource status.
- Identification of technical and management options for improved management and rehabilitation of coastal fisheries and aquaculture that reflect the community needs and resource status. This will include stakeholder consultation workshops and meetings.

Stage 2: Strategies and action planning

- Adoption and testing of the identified options in at least two villages or communities using participatory approaches. This will

include stakeholder consultation workshops and meetings.

- Development of policy recommendations for longer-term planning and the development of sustainable fisheries and aquaculture in support of the Indonesian *Strategy for Rehabilitation and Reconstruction of the Fishery Sector in Aceh and Nias: Post Earthquake and Tsunami Wave Disaster*.

The sites for the implementation of this program have been selected from the eight districts (Fig. 1) where the WorldFish Center was previously engaged, namely, Aceh Besar, Aceh Jaya, Aceh Barat, Aceh Selatan, Nagan Raya, Simeulue, Biruen and Pidie, with the following considerations which, among others, include: (1) the level of aid; (2) availability of information on status of resources and stakeholder needs; (3) presence of community organization and *Panglima laot*; and (4) willingness of the communities to participate. With regard to the first consideration, information from previous projects shows that communities in the west coast have received less aid and have generally suffered greater damage and losses. After preliminary visits to a number of the West coast villages lying between Banda Aceh and Meulaboh in November 2006 we have decided to implement the project in the coastal communities of Lhok Kruet and Pulo Raya where serious damage (Fig. 2) has been incurred but community spirit and potential for useful interventions is positive.

L.R. Garces is a Research Fellow/ Project Leader and **M.M. Dey** is Director for East and Southeast Asia Portfolio at The WorldFish Center. Email: l.garces@cgjar.org

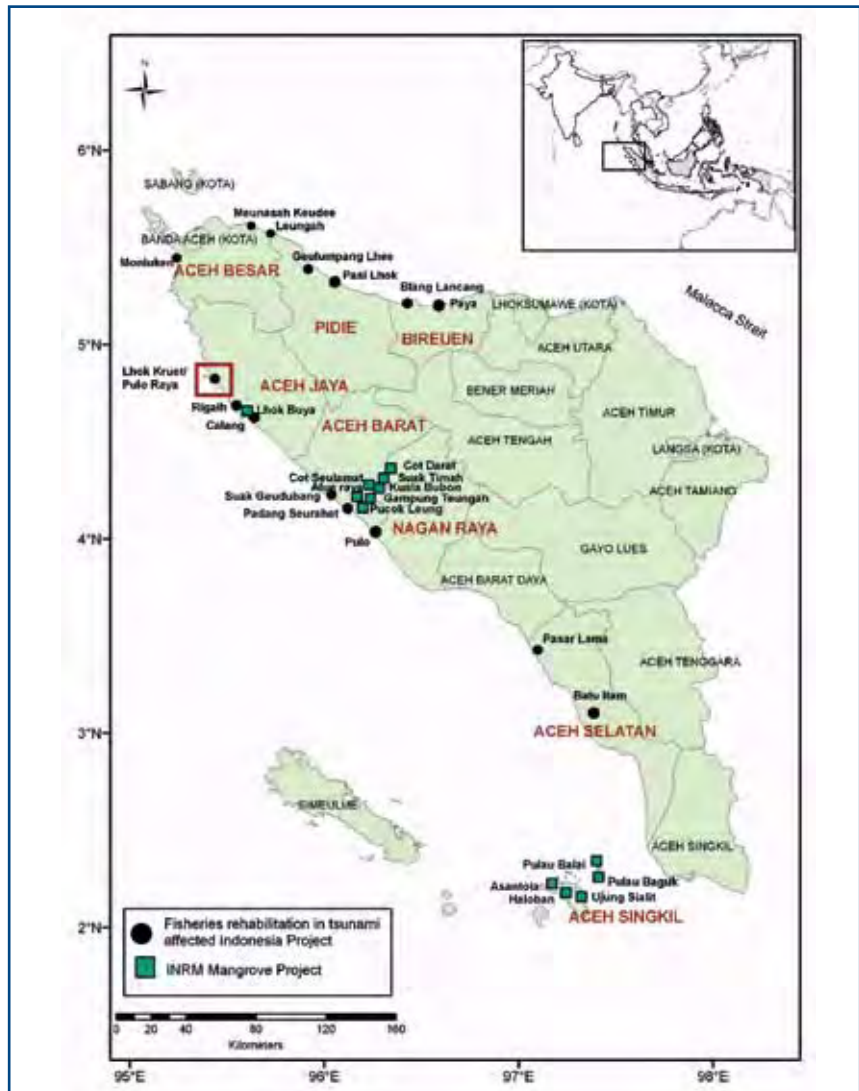


Figure 1. Location of study sites covered by two WorldFish projects and potential sites for conducting the activities for this project. (Note: The location of mangrove study site noted are only indicative of their location. Box shows the location of Lhok Kruet/Polu Raya in Figure 2.)



Figure 2. Level of damage in Lhok Kruet and Pulo Raya.

Source: Google Earth <http://earth.google.com>. Accessed November 17, 2006. Note: Image for reference only. Changes to coast are ongoing and image does not reflect present coastal morphology.