

Community-based Fisheries Management in Post-tsunami Aceh, Indonesia: Diagnosis, Planning and Options Testing

Introduction



Fig. 1: Images of landscape changes in Sampoinet used in diagnosis and planning process

The tremendous loss of life and assets resulting from the 2004 Indian Ocean tsunami dealt a devastating blow to the coastal communities of Aceh Province, Indonesia. There have been a variety of interventions ranging from repair and replacement of boats and equipment (Tewfik et al. 2008) to reconstruction of landing sites and culture ponds. However, there is a concern that rehabilitation responses have been developed without regard to longer-term impacts and may, in some cases, be highly visible but not necessarily well-considered options (Pomeroy et al. 2006). This calls for greater consideration of sustainable and integrated livelihood and ecosystem rehabilitation that strengthens the resilience of communities to cope with future threats from natural disasters, socio-economic change or political crises.

Objectives

In response to this concern the WorldFish Center has initiated a two year project (2007-2009), funded by the Force of Nature Foundation, aiming to provide the basis for longer-term planning and development of sustainable, integrated, and community-based approaches to the management of fisheries and aquaculture based livelihoods in two sets of coastal communities (Sampoinet, Aceh Jaya and Samatiga, Aceh Barat). This includes the rehabilitation of critical habitats such as mangroves and coastal forests in support of livelihoods and coastal protection. A focus on coordination and partnership building with various government, traditional community and locally operating non-government organizations is considered essential for long-term success. Project objectives are to:

1. Increase community capacity for understanding relationships between habitat restoration, livelihood improvements and resource management;
2. Test and begin implementation of identified livelihood and management options suitable to the 'modified' coastal/watershed area (Fig. 1);
3. Facilitate identification of resource and livelihood status indicators for future adaptive management and building of resilience.



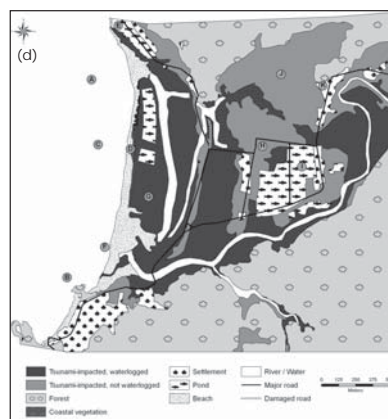
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Approach



Fig. 2: Stakeholder workshop (a), fisheries landings (b), lobster storage pond (c), spatial analysis (from April 2006 image) (d)



Our work, based on a conceptual framework for the diagnosis and management of small scale fisheries (Andrew et al. 2007), has five main phases including:

Phase I - diagnosis using focal group discussions, surveys (habitat, fisheries, socio-economic, marketing) and spatial analyses of satellite/aerial imagery (Fig. 2);

Phase II - discussion and planning of livelihood and management options with local stakeholders;

- Phase III** - testing of livelihood and management options;
- Phase IV** - drafting a management plan based on options testing and further community discussions;
- Phase V** - continual feedback process beyond project timeframe to allow response to future changes using increased local awareness, capacity, coordination and partnerships.

Activities



Fig. 3: Mud crab pens (a), fish (drying) processing (b), lobster seed collector (c), mangrove re-planting (d)

During phase II, the project identified six main options for testing (phase III - Fig. 3) including:

1. **Traditional fisheries management (Panglima Laot) support.** Mapping of management areas and fishing grounds, awareness raising of regulations, training in data collection;
2. **Coastal (including mangrove) and Riparian re-greening.** Habitat rehabilitation for livelihoods (e.g. fisheries, agro-forestry) and critical coastal defense, mangrove planting method evaluation;
3. **Post-harvest evaluation and support.** Provision of materials, development of women's co-operative group, investigation of alternate products/packaging, feasibility of local ice production;
4. **Mud crab fishery assessment and culture.** Management support to fishery and development of mangrove-friendly culture in unused fish ponds (i.e. tambak);
5. **Lobster fishery assessment and culture.** Management support to fishery and investigation of wild seed (i.e. puerulus) collection for on/off-shore grow-out;
6. **Fish culture.** Modular cage system for tilapia. Support to ADB brackish fish cage culture, BRR pond rehabilitation, feasibility of pellet feed production.