

CONCEPTUAL FRAMEWORK IN ORGANIZING COMMUNITIES FOR EFFECTIVE MANGROVE MANAGEMENT

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Introduction

Mangroves in the Philippines covered approximately 450, 000 hectares in 1918 (Brown and Fisher, 1920) however, these have been tremendously reduced over the years mainly due to conversion to fish and shrimp ponds (Primavera, 2006) leaving 25% from the total area (Primavera, 2000; Farley et.al, 2009). Although policy measures are in place to conserve mangrove forests, implementation on the ground has not been effective.

There are 35 mangrove species in the Philippines (Primavera et. al., 2004).

The conversion of mangroves to fishponds reduces the amount of natural resources available to the community as a whole. Communities that directly depend on fishing as their primary source of income and food become poorer as fewer and fewer fish are caught.

The loss of mangrove forests to human development is one of the direct threats to fisheries-derived food resources and environmental health. Mangroves also play the essential role of trapping sediment without which unchecked silt load from upland smothers coral reefs and seagrass beds (Saenger et. el. 1983 in Primavera, 1995).

Ecologists have recommended that no more than 20% of a given mangrove area should be converted to ponds, meaning four hectares of mangroves are required for every hectare of pond for ecosystem health (Primavera et al, 2007).

In 2008, the Zoological Society of London launched a Community-Based Mangrove Rehabilitation Project (CMRP) in the Philippines with the aim of reverting abandoned/ under-utilized fishponds to biodiversity-rich mangroves and re-establishing the legally mandated greenbelt along the coastline in the 6 disadvantaged communities in Aklan, Capiz, Guimaras and Iloilo provinces. The objective is to use the project as a successful model to stimulate government implementation of existing legislation across the Philippines.

The project seeks to address the recognised pressures on coastal resources and achieve the national targets of food security, sustainable livelihoods, poverty alleviation, and reduction in vulnerability to natural hazards while preserving ecological integrity. This project will return coastal habitats back to community management thereby ensuring equitable benefits from the goods and services provided by these natural resources. Increased income and livelihood

opportunities derived from healthy mangrove forests will help regulate out-migration and improve health and education prospects of communities.

CMRP strategies include providing equal opportunities for men and women members, active community participation, influencing opinion of policy makers, increasing capacities of stakeholders and building alliances, collaboration and networking.

Framework for CO in Mangrove areas

a. Identifying community issues and problems

The mangrove communities in Panay consider denudation of mangrove forests as a major problem. The lucrative business of fish and shrimp farming has caused much of the conversion of mangrove forests to ponds. Those who have Fishpond Lease Agreements (FLAs) fail to develop the converted areas for fish production due to lack of capital forcing them to abandon their ponds, many of which are not reverted back to mangroves as these are not monitored by government agencies. The process of reverting cancelled FLA ponds to mangroves has not been implemented.

Unregulated use of mangroves is observed where areas still classified as timberland are claimed by private individuals through payment of local taxes and planted with Nipa.

Many community members depend on mangroves for livelihood, i.e., catching fish, shrimps and crabs and shell gleaning. Because of the lack of livelihood opportunities and need for increased cash requirement to satisfy the day-to-day survival needs of their families, the communities are forced to destroy mangroves. Gathering of mangrove for firewood which can be sold and used as housing materials is rampant among settlers within mangrove areas. Communities lack appreciation of the economic value derived from maintaining mangrove forests.

Decreasing mangrove areas have left the communities vulnerable to storms and typhoons as many coastal areas are exposed forcing families to move houses upland. Mangrove exploitation has been recognized by fisherfolk to cause deterioration of fishery resources and the eventual decline in fish catches, however, actions are not taken because of the general feeling of being powerless. They are busy earning a livelihood that they lack time to unite and work together for mangrove rehabilitation and management. The tenurial instrument that would give them the right to manage mangroves is likewise not secured, hence the communities are at the mercy of violators. Mangrove policies are in place, however, law enforcers lack political will to implement laws.

Community issues and problems are identified during informal discussions, Participatory Rural Appraisal (PRA) and review of secondary data.

b. Defining strategic interventions

Rehabilitating abandoned, underutilized and undeveloped fishponds to healthy mangrove forest is the main intervention identified to arrest the degradation problem. Reforestation activities are expected to provide communities with ecosystem goods and services including increased food resources thereby ensuring food and income, revert existing nipa stands back to mangroves and re-establish the legally mandated mangrove 'green-belt' along the coast to decrease vulnerability of the communities to coastal erosion and storm surges. DENR and BFAR are engaged to facilitate the process of reverting cancelled FLAs to mangroves.

The role of the communities in mangrove management therefore cannot be discounted as they provide the structure through which project decisions and sustainability depend. Communities need to understand how to manage and use resources sustainably.

Community organizers (COs) identify the mangrove users and facilitate their organizing into viable POs for three reasons: a) formation of the group that will serve as prime mover, b) compliance with CBFMA requirements, and c) project sustainability. COs promote collaborative action of the POs for community development through interaction during regular community meetings and informal discussions where problems and issues facing the community are articulated and actions are developed. Cross site visits and short term training courses are provided to key PO leaders to raise level of awareness about alternative approaches to community development. The trainings help the POs in acquiring knowledge and skills to carry on plans outlined in the CBFMA and continue initiatives even after the eventual exit of the project.

Small activities that POs can manage are initiated to address the daily need for income while mangrove rehabilitation and protection are ongoing. This would include small scale mangrove-friendly activities to supplement PO income.

Engagement of the PO with various stakeholders is a critical and strategic action that was considered. This means partnership with related institutions, government and non-government agencies to facilitate activities such as rehabilitation, protection and sustainable utilization of the mangroves.

c. Community Organizing (CO) process

For the ZSL CMRP, community organizing is done in phases: Phase 1 takes place for 8-12 months from start of project; Phase 2 to set in at the 10th -24th month; Phase 3 starts at the 20th month until the 36th month, and; Phase 4 sets in at the 30th month onwards.

In outlining the CO process, two major activities are highlighted related to the socio-economic and bio-physical aspects of the project. Indicators to measure success are set for each activity.

Phase 1

Preliminary activities prior to project implementation are undertaken in Phase 1. These include convergence of the team (composed of representatives from BFAR, DENR and ZSL) to

establish criteria in selecting project sites and actual site selection. It is at this phase that CO starts integration with the community.

Criteria used in selecting sites include: 1) feasibility of the site for mangrove planting (tidal elevation, etc.); 2) interest of partner LGU in the project; 3) sites can be classified either as abandoned/ cancelled FLA or coastal greenbelt; and 4) community presence.

A stakeholder's orientation is conducted to present the project goals, objectives and the partnership scheme. Roles and responsibilities of the parties are defined by the stakeholders and incorporated in the Memorandum of Agreement (MOA) signed by the parties. Onsite activities commence after MOA signing.

Training community residents as Local Research Assistants (LRAs) is conducted to gather and consolidate data using Participatory Rural Appraisal (PRA) methodology and tools. The LRAs present gathered information to the community for validation; data are used as basis for making decisions and in evaluating accomplishments.

PO formation is done at this phase. Key leaders are selected to form the initial core group for a few months until a formal PO structure is in place. PO formalization include Constitution and by laws (CBL) formulation, election of officers and registration/ accreditation with the government. In the sites were POs already exist, organizational diagnosis are conducted to assess the level of PO growth and capacity building needs.

Awareness raising of POs starts at this phase such as cross- site visits to areas with successful mangrove projects.

The DENR and BFAR are engaged to provide CBFMA orientation to the PO and to provide information on the FLA status in the selected sites, respectively.

On the biophysical aspect, areas for planting are established, surveyed and mapped. Baseline data on water parameters, Mangrove Community Structure (MCS) and identification of kind and number of mother trees as source of planting material are conducted. POs are provided with trainings on mangrove biology, ecology, nursery establishment and mangrove management. Community nurseries are established and direct planting start in Phase 1.

Phase 2

In Phase 2, PO strengthening activities commence with leadership training to be divided into: 1) basic leadership, and 2) skills training for leaders (conducted in two modules, the 1st module includes skills in facilitating meetings, minutes taking, communication skills, problem solving and decision-making and the 2nd module focuses on conflict management and principled negotiation).

PO policies and systems on finances and administration are formulated and installed for the organization to adopt and follow.

The PO complies with the DENR guidelines in preparing and processing CFMA application.

At this phase, survey of existing economic activities in the site is done where POs pilot test alternative livelihoods appropriateness. Criteria for PO projects should be mangrove resource-based and environmentally friendly.

The LGU pass policies for the protection of mangrove site plantations. Rehabilitation activities are likewise achieved with building linkages with government agencies, NGOs and academe (students in large numbers contribute to massive planting activities, including bagging of wildings).

At this phase, monitoring and maintenance of established nurseries starts. In areas where mangroves are ready for transfer, direct planting activities are conducted. Local mangrove monitoring team (provided with on-the-job training) are formed to assist in monitoring growth and survival (done quarterly) and in replacing dead plants, scraping algae and barnacles attached to the newly planted mangrove plants. POs review and assess mangrove rehabilitation plans yearly.

Phase 3

At this phase, POs regularly conduct meetings, do advocacy and lobby activities by affiliating with other groups having the same interests and participating in seminars and forums outside the sites. PO agenda are mainstreamed in the comprehensive plans of the LGU, i.e., Coastal Resource Management (CRM) plan and the Medium Term Development Plan (MTDP) to ensure sustainability of project initiatives.

Awarding of CBFMA is expected at this phase after which the PO formulates Community Resource Management Framework or CRMF which outlines mangrove resource protection, management and utilization activities in the CBFMA sites with DENR assistance. The Annual Work Plan (AWP) is then developed by the community using the CRMF as reference. Training and deputation of POs as Bantay Kalikasan are conducted at this phase.

POs are prepared to undertake income generating activities through skills training on selected livelihoods. Actual implementation of PO livelihood projects starts at this phase. Savings mobilization scheme are taught to POs so that funds are internally generated for operational activities and individual members are taught the value of saving. Equitable sharing scheme are established for the benefits that received from livelihood projects. POs at this phase continue to conduct resource mobilization for funding of projects.

Activities related to the bio-physical aspect of the project continues, i.e., nursery management, planting activities and monitoring of parameters and soil quality. Feedback to the community on water quality is conducted. The community is now directly involved in monitoring and reviewing the rehabilitation plan. POs will document species and area planted, and survival.

Learning of POs best practices are shared through a forum at this phase.

Phase 4

In preparation for project exit, phase-out planning with the PO and the LGU is conducted. Projects undertaken by the PO are evaluated to determine strengths and weaknesses and cull out learnings.

The CRMF and the AWP formulated in phase 3 are reviewed with the assistance of the DENR.

POs at this phase exhibit functional organization as they continue to conduct PO and community meetings, lobby and advocacy activities, practice benefit sharing for income generating projects and representation on various activities within and outside the sites. POs have established financial and administrative systems strictly adhered to by the members.

An assessment of project accomplishment vs targets shall be conducted.

Full rehabilitation of the site is completed at this last phase. The community undertakes regular monitoring and recording of mangrove growth and survival.

Challenges

The heavy dependence of local residents on coastal resources places livelihoods at risk if nothing is done to avert increasing resource degradation. Resource users with greater stake in sustaining resources must take an active role in monitoring indiscriminate cutting and overexploitation of mangrove resources. Rights of communities to manage the resources must be secured in the form of appropriate tenurial instruments so that they can manage their reforested mangrove areas and protect these from illegal activities, even after project completion.

The government must fill in the special role of co-managing the area through the enactment of enabling legislation, vigilant enforcement of regulations and provision of logistics in support of such activities. Local political support must be continuous even with change in political leadership to avoid threatening the stability of established co-management arrangements.

Only with sustained advocacy for resource management, capability building, environmental education and shared responsibility between the government and the mangrove users can improvement of conditions be achieved.

With the present state of atmospheric variability in our planet due to climate change, mangroves can mitigate the effects of global warming by reducing the amount of carbon dioxide in the atmosphere. Mangroves likewise are man's first line of defense against tsunamis which not only threaten lives of coastal communities but also bring about destruction to properties and livelihoods of people.

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