Chapter 7

Summary of management options and when to use them

MANGROVE NURSERY ESTABLISHMENT AND MANAGEMENT

A mangrove nursery is a place for raising and tending mangrove seedlings until they are ready for field planting. This ensures good quality seedlings at the right quantity by the time they are needed. It involves physical selection and preparation of the site and the application of nursery technology and operations (Figure 7.1). The former requires a nursery area and the construction of infrastructure necessary to produce seedlings such as storage/bunk house, potting and germination sheds, seed/transplant beds and hardening beds. The latter involves the application of technology needed for the selection of mother trees; seedling/propagule collection; sorting and packaging for transport to the nursery; sowing/germination techniques; proper care and maintenance; preparation of seedlings for field planting which includes but is not limited to hardening, packaging and transport to the planting site.

A mangrove nursery is needed in raising planting materials from mangroves with small seeds thereby enhancing biodiversity; raising seedlings intended for replanting dead plants (approximately 20% of the total planting stock requirement) and in raising bigger-sized seedlings needed for planting in sites which are difficult to reforest. Difficult areas can be mudflats less sheltered from wind and waves; areas with shallow water at low tide but need to be planted; and areas infested with barnacles and other pests.

Figure 7.1. A typical mangrove nursery operation.

MANGROVE PLANTATION ESTABLISHMENT AND MANAGEMENT

Mangrove plantation is necessary to avert the declining mangrove forest of the country from 4,500 hectares (Brown and Fischer 1918) to just 117,700 hectares in 1995 based on DENR statistics. Figure 7.2 shows a typical mangrove plantation. Mangrove plantation establishment and management involve a number of stages ranging from site selection and preparation, outplanting, care and maintenance and monitoring and evaluation. In all of these stages, appropriate technologies have to be religiously applied to ensure success. A number of site factors have to be considered such as technical, political and social factors. Mangrove forest establishment, being mostly governed by edaphic or soil factors have to seriously consider the following: type of substrate (sandy, muddy or coralline); species indicator(s); tidal height/inundation; wave and wind exposure; pests; and the community being the traditional users of the mangrove resources present in the area. Community participation and empowerment are best obtained through their inclusion (if qualified) to the Community-Based Forest Management (CBFM) Program of the government which issues a tenure instrument to organized communities composed of tenured migrants.

Plantation should be conducted in areas where natural regeneration is deemed difficult to perpetuate; when the area is open tidal flat and is practically devoid of mother trees; and when regeneration potential is nil. In all of these situations, tree establishment and growth

Figure 7.2. A typical mangrove plantation.

have to be accelerated through plantation development.

COMMUNITY-BASED FOREST MANAGEMENT AGREEMENT

Figure 7.3. A CBFMA awarding ceremony.

A Community-Based Forest Management Agreement (CBFMA) is a land tenure instrument for mangrove habitats to be given to qualified and organized coastal communities under the CBFM Program of the government implemented by the DENR (see Figure 7.3). A CBFMA is a production sharing agreement entered into between an organized community and the government to develop, utilize, manage and conserve a specific portion of forestland and or allowable portion in protected areas consistent with the principle of sustainable management and development and pursuant to an approved Community Resource Management Framework (CRMF) Plan. A CRMF Plan defines the terms and procedures for access, use and protection of natural resources within the CBFMA area. This plan emanates from the concerned PO that was issued the tenurial instrument.

The CBFMA provides a multitude of benefits to the holder ranging from management control over the area and exemption to pay taxes or rent normally levied by the government to natural resource users aside from being bankable. Besides, the holder is given preferential access by the DENR to available assistance.

The CBFMA can be issued to organized coastal communities living in or adjacent to mangrove forestlands and in allowable zones in mangrove protected areas or to those who traditionally make use of it. However, the community has to undergo the CBFMA application process as outlined in Chapter 4.

FISHPOND RESTORATION

Fishpond restoration is a management option that provides information on how POs can modify abandoned fishponds reverted to the category of forestlands or fishponds not covered by the Fishpond Lease Agreement (FLA) or permit and are thus illegal. These areas can be restored and developed to plantation for benefits to the community in terms of firewood, lumber or poles; an area for collecting shells, crabs and fish; or providing shelter and food for mangrove fauna such as crabs, shells, shrimps and fish harvested in coastal waters. Figure 7.4 shows a typical abandoned fishpond that can be reverted.

Fishpond restoration involves a number of steps as outlined in Chapter 5. Some reminders are also given to provide legal guidance and the required knowledge to POs in conducting the development and management process. These may include adherence to the Anti-Pollution and the Environmental Impact Assessment System Laws and what and what not to do in conducting restoration.

Fishpond restoration shall only be conducted after the fishponds shall have been reverted to the category of forestlands and shall have been granted to the CBFMA holder by the DENR.

Figure 7.4. A typical abandoned fishpond for reversion.