

1. Project Title: Integrated Mangrove Rehabilitation and Management Project through Community Participation in the Ayeyawady Delta
2. Project Duration: April 2007-March 2013
3. Target Area: Four reserved forests (Kyakankwinpauk, Pyinalan, Kadonkani, Pyindaye) in the Ayeyawady Delta
4. Beneficiaries: Communities practicing community forestry in the four reserved forests (Kyakankwinpauk, Pyinalan, Kadonkani, Pyindaye) in the Ayeyawady Delta & Member of Community Forestry Task Force (MCFTC) and other relevant staff from the Forest Department

PDM version: 3
Date of approval: 3 May, 2012

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal: The mangrove forests are sustainably managed and poverty is alleviated among the communities in the Ayeyawady Delta</p>	<p>a. Mangrove forest coverage increases by 10,000 acres (4,050ha) (*1) in the Target Area of the current Project. (i.e 4 RFs) within three years after the completion of the Project b. Income levels of communities in the Target Area is improved than that of 2004</p>	<p>a. Forests resource assessment by FD (remote sensing) b. Agricultural Census report</p>	
<p>Project Purpose: The communities and the mangrove forests co-exist in a sustainable manner in the selected areas where project activities were implemented within the Ayeyawady Delta.</p>	<p>a. By the Project end, mangrove forest coverage is increased by 3,550 acres (1,438 ha) (*2) in the selected areas where project were implemented (i.e. CF plantation, CF-Natural Forest Improvement Operation (NFIO), and ARP sites) from the base year 2009. b. At the end of the Project, among the registered members of all the target CF user groups (CFUSGs) reselected in 2011 more than 80% consider CF useful</p>	<p>a. Project reports b. Results from the CF Impact survey</p>	<p>1 Favourable markets exist for CF products. 2 FD's policy on the management of the four reserved forests does not change significantly. 3 Sufficient financial and other resources are allocated for the sustainable management of mangrove forests.</p>
<p>Outputs: 1. The selected communities practice environmentally and economically sustainable community forestry (CF).</p>	<p>1a By September 2011, all the CF Management Plans of the CFUSGs, reselected in March 2011, are developed/updated 1b By the end of the Project, organizational capacity of the Management Committee of all target CFUSGs reaches the 3rd level (meaning that they achieve more than half of the fill fulfillment) of the evaluation rating composing of five achievement levels set by the Project. 1c The certified CF Management Plans (i.e. CF plantation and NFIO) of all the target CGUSGs reselected in 2011 are implemented according their annual plans 1d By the Project end, more than 1,460 acres (591ha) (*3) of mangrove forests are rehabilitated and managed by the CFUSGs reselected in 2011 based on the certified CF Management Plans, including CF plantation and NFIO when applicable 1e By the Project end, all the CFUSGs reselected in 2011 start to gain profit from CF activities determined in the certified CF Management Plans and/or income generation activities supported by the Project.</p>	<p>1a: CF Management Plans, 1b-1e: Monitoring project report</p>	<p>1 No drastic increase in the population within the four reserved forests. 2 External pressure to convert the mangrove forests to other land uses does not increase.</p>
<p>2. The management and the support system of the Forest Department (FD) for CF is effective.</p>	<p>2a By the end of the Project, capacity of 80% of technical members of CF Task Force engaged in the Project more than two years reaches the 4th level (meaning that they achieve more than 75% of full fulfillment) of the evaluation rating composing of five achievement levels set by the Project. 2b On average, more than 80% of all registered members of the CFUSGs reselected in 2011 give the highest or medium rate on three-level rating about "degree of understanding", "degree of applicability", and "degree of satisfaction" of the CF extension they received. 2c By the Project end, a training program for CF for mangrove forest, including materials, is developed based on the existing ones for confirmation by the DG for further action (in English & Myanmar) 2d By the Project end, Standardized Operational Procedures (SOP) for CF for mangrove forest is developed based on the existing SOP of the FD (i.e. Departmental Instructions and CFI) for confirmation by the DG for further action (in English & Myanmar)</p>	<p>2a-2d: Project reports</p>	
<p>3. Some silvicultural techniques for the rehabilitation and the management of the mangrove and its associated forests for the Ayeyawady Delta are established.</p>	<p>3a By the Project end, a technical report on Action Research (AR) for mangrove are prepared (in English and Myanmar) 3b By the Project end, technical guidelines for field-level FD staff on rehabilitation and management of mangrove forests, which are developed based on AR findings, are published (in English and Myanmar)</p>	<p>3a-3b: Project reports</p>	
<p>4. A coordination mechanism is established among key sectors to address the underlying causes of mangrove deforestation in the Ayeyawady Delta.</p>	<p>4a By December 2011, an inter-agency coordination meeting is organized by the FD 4b Land use information of the Target Area is updated based on the satellite images of 2007, 2009 and 2012. 4c The updated land use information is shared at the inter-agency coordination meetings for discussion. 4d Seminars to promote synergy among the relevant sectors are organized annually 4e A donor/NGO coordination meeting for the Target Area organized by the FD once a year</p>	<p>4a: Meeting records 4b: Land use maps 4c: Meeting records 4d: Project reports 4e: Meeting records</p>	
<p>X (Additional Output after the Cyclone Nargis in May 2008) Recovery from damage of Cyclone Nargis is promoted.</p>	<p>Xa By March 2009, a hazard map of the Target Area is developed based on the latest satellite images (2009) for distribution to the local communities Xb By March 2010, a report on damage & recovery survey on the communities in the Target Area is prepared Xc By March 2010, Centre for CF Extension & Nursery in each RF is rehabilitated. Xd In 2009 & 2010, materials necessary for disaster recovery or prevention work are provided to the FD and the Cooperating Agencies based on the needs Xe By December 2011, a report on recovery condition of mangrove vegetation (2008-2010) is prepared</p>	<p>Xa: Hazard map, Xb-e: project reports</p>	

<p>Activities:</p> <p>1-1 Select villages to introduce CF from the ones that express interest.</p> <p>1-2 Conduct baseline survey on the basic socio-economic conditions of the selected villages.</p> <p>1-3 Organize/reorganize CFUSGs in the selected villages</p> <p>1-4 Assist the CFUSGs in preparing/updating their CF Management Plans and proposals for CF certificates through participatory planning process</p> <p>1-5 Issue CF certificates to the CFUSGs based on the proposals as per the CF Instruction (CFI)</p> <p>1-6 Assist the CFUSGs in implementing the certified CF Management Plans</p> <p>1-7 Implement various capacity strengthening programs to enhance the income levels of the CFUSGs in partnership with Cooperating Agencies such as Department of Fisheries (DOF), Myanmar Agriculture Service (MAS), and other institutions.</p> <p>1-8 Monitor and evaluate the implementation of the certified CF Management Plans</p> <p>1-9 Conduct impact survey regarding the effects of CF on the livelihoods of the members of the CFUSGs.</p> <p>2-1 Identify necessary activities for CF management (*4) and CF extension & support(*5) by each Reserve Forest (RF) based on review of the CF contents of the Integrated Mangrove Management Plan (IMMP).</p> <p>2-2 Confirm the roles and responsibilities of the technical members of CF Task Force (technical MCFTF)(*6) for the identified activities</p> <p>2-3 Assess the needs of the technical MCFTF (e.g. financial, logistics and human resource development needs) to implement the identified activities</p> <p>2-4 Develop training plan & materials based on the assessment of the human resource development needs conducted in 2.3.</p> <p>2-5 Train the technical MCFTF according to the plan</p> <p>2-6 Construct/renovate the CF Extension Center & Nursery in each RF</p> <p>2-7 Provide extension services and support to the CFUSGs in each RF</p> <p>2-8 Carry out public awareness campaigns regarding CF and the conservation of mangrove forests</p> <p>2-9 Draft detailed SOP for CF for the mangrove forests based on the existing SOP of the FD (i.e. Departmental Instructions) and feedback from the Project activities</p> <p>3-1 Conduct surveys for identification of silvicultural techniques for both community and non-community forestry with respect to the eco-geographical / management zones in the Ayeyawady Delta</p> <p>3-2 Prepare the specific Action Research (AR) test designs for each of the identified silvicultural technique (e.g. seedling production, planning designs and methods, thinning, pruning, forest management).</p> <p>3-3 Execute the AR in each RF</p> <p>3-4 Conduct periodic technical monitoring / preliminary assessment on the AR plantation (ARP)</p> <p>3-5 Prepare a technical report on action research (AR) for mangrove in English and Myanmar</p> <p>3-6 Develop technical guidelines for rehabilitation and management of mangrove forests based on the findings of the AR.</p> <p>4-1 Organize an inter-agency coordination meeting, consisting of relevant authorities (e.g. agriculture, fisheries, settlement and land records) at the Regional level to examine the underlying causes for mangrove deforestation in the Ayeyawady Delta.</p> <p>4-2 Update the land use information on periodic basis based on the up-to-date satellite images for discussion by the coordination meeting members, including overall forest resource assessment of the region and mangrove forest conversion.</p> <p>4-3 Organize seminars to promote synergies among the relevant sectors for the sustainable management of the mangrove ecosystem in the Ayeyawady Delta.</p> <p>4-4 Organize a coordination meeting with donors/NGOs active in the Target Area at District Level</p> <p>X-1 Prepare a hazard map based on analysis of damage of the cyclone Nargis</p> <p>X-2 Conduct quick damage & recovery survey in the Target Area</p> <p>X-3 Conduct village profile survey in the Target Area</p> <p>X-4 Conduct survey for recovery condition of mangrove vegetation from damage of Cyclone Nargis in the Target Area.</p> <p>X-5 Rehabilitate the CF Extension Center and Nursery in each RF including facility with cyclone-proof structure</p> <p>X-6 Support recovery or disaster prevention work of Implementation and Cooperative Organizations in the Target Area through material supply</p> <p>X-7 Conduct public awareness activities on disaster prevention in the Target Area</p> <p>X-8 Arrange necessary coordination among donors in the integrated mangrove management</p>	<p style="text-align: center;">Inputs</p> <p><Myanmar Side></p> <p>Personnel (Members of CF Task Force: MCFTF)</p> <ol style="list-style-type: none"> 1. Project Director 2. Project Manager 3. Project Coordinator 4. Field Project Manager 5. Other MCFTF 6. Other personnel mutually agreed upon as necessary <p>Land, Building and Facilities</p> <ol style="list-style-type: none"> 1. Office building and facilities necessary for the implementation of the Project 2. Office space and necessary facilities for the Japanese experts and related staff members 3. Land for the action research 4. Jetty and space necessary for storage of boats and vehicles 5. Other facilities mutually agreed upon as necessary <p>Local Operational Costs Minimum of US\$100,000 equivalent in 5 years</p> <p><Japanese Side></p> <p>Personnel</p> <ol style="list-style-type: none"> 1. Chief Advisor 2. Participatory community development 3. Mangrove forestry 4. Coordinator 5. Other experts in specific fields (e.g. Extension, GIS, Agro-forestry, Fish culture, Forestry Value-added Production, Marketing and Distribution) upon mutual agreement <p>Machinery and Equipment</p> <ol style="list-style-type: none"> 1. Boat(s) 2. Vehicle(s) 3. Other equipment would be provided if necessary upon mutual agreement. <p>Training in Japan</p> <p>Local Costs</p>	<ol style="list-style-type: none"> 1 No significant natural hazards occur that will impact the rehabilitation of mangrove forests (e.g. cyclones, tsunami, floods, pests, diseases). 2 Relevant authorities and stakeholders are supportive to promote sustainable management of mangrove forests <p style="text-align: center;">Pre-Conditions</p> <ol style="list-style-type: none"> 1 Local communities accept CF instructions 2 No significant changes occur in the Government's policy on CF
--	---	--

(*1)Based on Laputta and Pyar Pon District Management Plans (2011/12-2020/21). (*2):The area reflecting the CF area delineated in the CF Management Plans of the CFUSGs reselected in 2011 and outer boundary areas of Action Research Plantation Plots as well as the area rehabilitated during 2009-2010 by the CFUSGs which were not reselected. (*3): The CF areas 1,460 acres (as of April 2012) including plantation areas and natural forest area in the six CF Management Plans of the CFUSGs reselected in 2011. (*4): "CF management" by FD is defined as planning, supervision, monitoring and evaluation, and data organization and analysis of the activities related to CF. "CF support" consists of extension service and extension support to CF. (*5): "CF extension services" may include organization of the CFUSGs, strengthening of the organizational/management capacity of CFUSGs, provision of technical support for preparation and implementation of the CF Management Plans and income generation activities of CFUSGs, etc. "CF extension support" is defined as material support to CFUSGs, which include provision of seedlings for CF plantation delineated in the CF Management Plans, making the facilities of the CF Extension and Nursery available to the CFUSG