

Forest Department  
Ministry of Environmental  
Conservation and Forestry  
The Republic of The Union  
of Myanmar



Japan International  
Cooperation Agency



# **THE INTEGRATED MANGROVEREHABILITATION AND MANAGEMENT PROJECT THROUGH COMMUNITY PARTICIPATION IN THE AYEYAWADY DELTA IN MYANMAR**

## **PROJECT COMPLETION REPORT**

**March 2013**

**MANGROVE COMMUNITY FORESTRY TASK FORCE /  
FOREST DEPARTMENT  
JICA EXPERT TEAM (NIPPON KOEI CO., LTD)**

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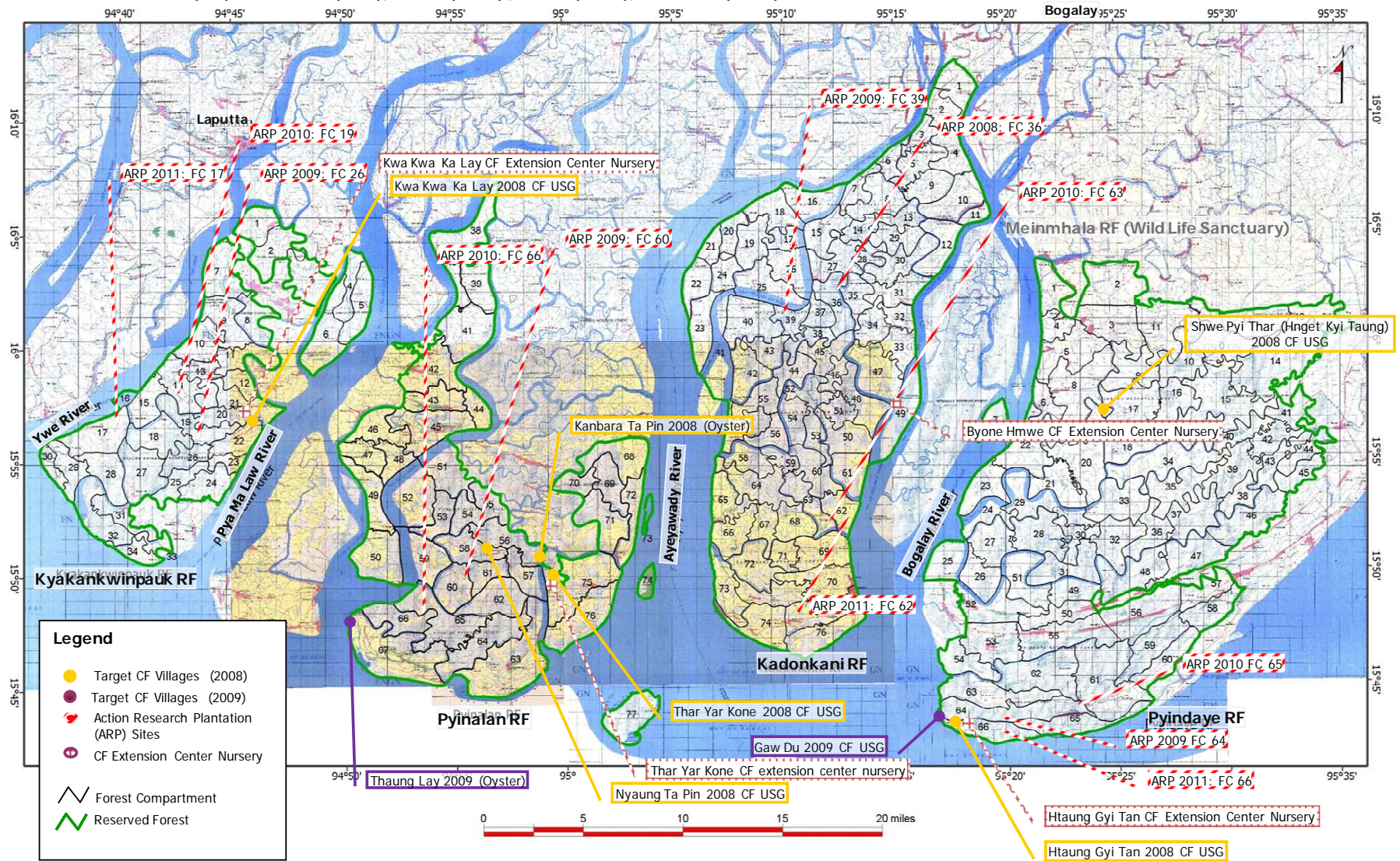
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### Location Map of the Project Activities (March 2013)

Target Reserved Forest (Four RFs)  
 Target CF User Groups 2008 (yellow) and 2009 CF villages are in purple color, Target Oyster Trial Village (2 villages)  
 CF Extension Centre Nurseries (4 sites)  
 Action Research Plantation (ARP) Sites: FY2008 (1 site), FY2009 (4 sites), FY2010 (4 sites), and FY2011 (3 sites)



March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule																		Person in charge	Implementors	Other Major Inputs		Remarks
		2007		2008			2009			2010			2011			2012			Japanese			Myanmar		
		Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug					Sep	
<b>Output 1: The selected communities practice environmentally and economically sustainable community forestry (CF).</b>		Project Manager (PM):																				JE Chief Advisor (CA)		
1.1	Select villages to introduce CF from the ones that express interest.																			Field Project Manager (FPM)	SOs (LPT, BGL, PYP), ROs, DR Os, Foresters (KDK, KKK, PND, PNL)	JE PCD (participatory community development), CA		
1.1.1	Confirm interest and willingness of villages and select villages for the Project																			ditto	ditto	ditto		
1.1.2	Reconfirm interest and willingness of selected villages																			ditto	ditto	ditto		
1.1.3	Re-select villages to be covered in the Project																			FPM	SOs (LPT, BGL, PYP)	ditto		
a	List up villages re-selected to be covered in the Project																			ditto	ditto	ditto		
b	Get approval of re-selected villages at JCC																			ditto	ditto	ditto		
1.2	Conduct baseline survey on the basic socio-economic conditions of the selected villages																			FPM	ROs, DR Os, Foresters (KDK, KKK, PND, PNL)	JE PCD, project staff LC Baseline and market survey (Contract work)		
1.2.1	Conduct baseline survey on the basic socio-economic conditions of the selected villages																			ditto	ditto	ditto		
1.2.2	Review basic socio-economic conditions of re-selected villages																			ditto	ditto	ditto		
1.2.3	Reconduct survey for CF usefulness and household income of re-selected villages (based on necessity)																			FPM	ditto	ditto		
1.3	Organize/reorganize CFUSGs in the selected villages																			FPM	SOs (LPT, BGL, PYP), ROs, DR Os, Foresters (KDK, KKK, PND, PNL)	JE PCD, project staff		
1.3.1	Elect Management Committee (MC)																			ditto	ditto	ditto		
1.3.2	Register members																			ditto	ditto	ditto		
1.3.3	Develop by-laws																			ditto	ditto	ditto		
1.3.4	Reconfirm status of CFUSGs in re-selected villages and reorganize CFUSGs																			SOs (LPT, BGL, PYP)	ROs, DR Os, Foresters (KDK, KKK, PND, PNL)	ditto		
a	Reconfirm status of MC and its members and reorganize MC																			ditto	ditto	ditto		
b	Reconfirm status of CFUSG members and prepare updated member list																			ditto	ditto	ditto		
c	Organize meetings with CFUSG for formulation of by-law																			ditto	ditto	ditto		
d	Formulate by-law																			ditto	ditto	ditto		
e	Incorporate MC member list, CFUSG member list and by-law into CF proposal																			ditto	ditto	ditto		
1.4	Assist the CFUSGs in preparing/ updating their CF Management Plans and proposals for CF certificates through participatory planning process																			FPM	SOs (LPT, BGL, PYP), ROs, DR Os, Foresters (KDK, KKK, PND, PNL)	JE PCD, Project Staff LC operation cost		
1.4.1	Review the Management Plan (MP) developed by the Project and make necessary updates																			ditto	ditto	JE PCD, GIS, MF (mangrove forestry)	Same activities as 1.4.2	
1.4.2	Update the pre-existing MP																			ditto	ditto	JE PCD, GIS, MF	CFUSGs at Pyin Oan RF	
a	Reconfirm/ re-delineate CF area boundary with CFUSG members and relevant stakeholders																			ditto	ditto	JE GIS, MF, PCD		
b	Reconfirm and reformulate CF activities to be covered by CFUSG																			ditto	ditto	JE PCD		
c	Update content of CF MP																			ditto	ditto	ditto		
d	Update CF management maps																			ditto	ditto + SO (GIS Section)	JE GIS, MF, PCD		

March, 2013

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Activity as per PDM2	Expected Results During Project Period	Schedule																								Person in charge	Implementors	Other Major inputs		Remarks												
		2007			2008			2009			2010			2011			2012			Japanese	Myanmar																					
		Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun	Apr	May	Jun																							
e Township FD office and CFUSG MC members to confirm and share content of CF proposal (MP and map)	Finalized CF proposal																																		Átto	Átto	JE PCD					
f CFUSG to submit updated CF proposal to township FD	Submission letters																																	Átto	Átto	JE PCD						
1.5 Issue CF certificates to the CFUSGs based on the proposals as per the CF Instruction (CFI)	6 CFUSGs issued/ re-issued CF certificates																																			Director of AYW	FPM	JE, CA, C (Coordinator),				
1.5.1 Prepare evaluation criteria for issuing CF certificate	Prepared evaluation criteria																																		Átto	Átto	JE, CA, C					
1.5.2 Issue certificates for CFUSGs with MP developed by Project	4 certificates issued																																		Átto	Átto	JE, CA, C		Same activities as 1.5.3			
1.5.3 Re-issue certificates for CFUSGs with updated MP	2 certificate re-issued																																		Átto	Átto	JE, CA, C		CFUSGs at Pyin'an RF			
a District FD office to submit updated CF proposals received from township offices to regional FD office	Submission letters																																		Átto	Átto	JE, CA, C					
b District FD office to receive CF certificates from Regional FD office	Issued CF certificates																																		Átto	Átto	JE, CA, C		District Officer signed certificates on 31 July.			
c Conduct CF certification ceremony cum CF/Mangrove public awareness activity at CF target villages	Ceremony records																																			FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP), DRO, Forester (KDK, KKK, PND, PNL)	JE, C, CA				
1.6 Assist the CFUSGs in implementing the certified CF Management Plans	CF activities implemented as per CFMP (annual report)																																				FPM	SOs(LPT, BGL, PYP), ROs, DROs, Foresters (KDK, KKK, PND, PNL)	JE, PCD, ME, MA (marketing)			
1.6.1 Prepare assisting plan for implementation of CF activities by CFUSG	Prepared plan																																		Átto	Átto	JE, PCD, ME, MA, CA					
1.6.2 Assist the CFUSGs Batch I	CF activities implemented as per CFMP (annual report)																																			Átto	Átto	JE, PCD, ME, MA,		Same activities as 1.6.3		
1.6.3 Assist the CFUSGs Batch II	CF activities implemented as per CFMP (annual report)																																			Átto	Átto	Átto				
a Provide necessary amount and type of seedlings to CFUSG as per CF MP	Seedling distributed as per request in CF MP (seedling distribution records)																																		Átto	Átto	Átto					
b Provide necessary technical guidance to CFUSG for implementation of CF activities	Prepared records																																		Átto	Átto	Átto					
c Provide necessary support to CFUSG for monitoring of CF activities	Prepared records																																		Átto	Átto	Átto					
d Provide necessary information/ support to CFUSG related to production, harvesting and selling of CF products	Knowledge about production, harvesting, selling of CF products increases (prepared records, distribute material)																																		Átto	Átto	Átto					
e Support harvesting and selling of CF products (sales voucher, removal pass, etc), if applicable	Implementation of harvesting and selling (prepared records, sales/ removal records)																																		Átto	Átto	Átto					
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.	Income/ profit gained to CFUSG from implementation of capacity strengthening programs																																				FPM	SOs(LPT, BGL, PYP), ROs, DROs, Foresters (KDK, KKK, PND, PNL)	JE, PCD, ME, FC (fish culture) and MA L/C material cost/ operaton cost for implementation of programs	MAS, DoF, SLRD		
1.7.1 Design the programs based on needs	Prepared implementation programs																																			Átto	Átto	Átto				
1.7.2 Review and update the programs	Revised programs																																			Átto	Átto	JE, PCD, ME, FC, MA, CA				
a Revise implementation plan of capacity strengthening programs by CFUSG	Prepared plan																																		Átto	Átto	JE, PCD, ME, FC, MA					
b Prepare assisting plan for implementation of capacity strengthening programs by CFUSG	Prepared plan																																		Átto	Átto	Átto					
1.7.3 Assist the CFUSGs I	Income/ profit gained from implemented programs (implementation records)																																			Átto	Átto	Átto		Same activities as 1.7.4		
1.7.4 Assist the CFUSGs II	Átto																																		Átto	Átto	Átto					
a Formulation/ activation of subgroups	Subgroup member list, by-law																																		Átto	Átto	Átto					

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule												Person in charge	Implementors	Other Major inputs		Remarks						
		2007			2008			2009			2010					2011			2012					
		ME	VO	FY 2007	Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct			Apr	Jul		Oct	Apr	Jul	Oct		
b Agroforestry	Knowledge/ production/ profit gained																			ditto	ditto	ditto	MAS	
c Fish culture	Knowledge/ production/ profit gained																			ditto	ditto	ditto	DOF	
d Fast growing & value added wood production	Knowledge/ production/ profit gained																			ditto	ditto	ditto		
e Harvesting of products	Knowledge/ production/ profit gained																			ditto	ditto	ditto		
f Trading and selling of products	Knowledge/ production/ profit gained																			ditto	ditto	ditto		
1.7.5 Assist non- CF target villages already with Project intervention (2 in total)	Income/ profit gained from implemented programs (implementation records)																			ditto	ditto	JET, PC		
a Formulation/ activation of subgroups	Subgroup member list, by-law																			ditto	ditto	ditto		
b Fish culture	Knowledge/ production/ profit gained																			ditto	ditto	ditto	DOF	
1.8 Monitor and evaluate the implementation of the certified CF Management Plans.	Implementation in accordance with CF MP (Monitoring Records/ reports)																			FPM	SO <sub>1</sub> (LPT, BGL, PYP), RO <sub>1</sub> , DR <sub>1</sub> , Foresters (KDK, KKK, PND, PNL)	JE, PCD, MF		
1.8.1 Draft/ update monitoring plan and forms in accordance with certified CF MPs	Prepared monitoring plan and forms																			ditto	ditto	ditto		
1.8.2 Monitor progress/ achievement	Prepared monitoring records, reports																			ditto	ditto	ditto		
1.9 Conduct impact survey regarding the effects of CF on the livelihoods of the members of the CFUGs.	Project intervention to contribute to livelihood of CFUG members (Result of evaluation, lessons learnt)																			FPM	SO <sub>1</sub> (LPT, BGL, PYP), RO <sub>1</sub> , DR <sub>1</sub> , Foresters (KDK, KKK, PND, PNL)	JE, PCD, (MF)		
1.9.1 Draft/ update implementation plan and forms	Prepared plan and forms																			ditto	ditto	ditto		
1.9.2 Conduct field survey	Survey records																			ditto	ditto	ditto		
1.9.3 Compile impacts, issues, lessons learnt regarding effects of CF on the livelihood of the members of CFUGs	Compiled results (in report)																			ditto	ditto	ditto		
<b>Output2: The management and the support system of the Forest Department (FD) for CF is effective.</b>												PM (Overall)												
2.1 Identify necessary activities for CF management and CF extension & support by each Reserve Forest (RF) based on review of the CF contents of the Integrated Mangrove Management Plan (IMMP).	Identified activities for CF management and CF extension & support																			Project Coordinator (FC)	ATW Director, FC, FPM, SO <sub>1</sub> , RO <sub>1</sub>	JE, CA		Explanation of IMMP by JET to FD counterparts at first year and where new counterparts were assigned
2.1.1 Review CF contents of IMMP	Prepared memos/ record for review																			ditto	ditto	ditto		
2.1.2 Identify necessary activities for CF management and CF extension and support	Prepared list of identified activities																			ditto	ditto	ditto		
2.1.3 Incorporate identified activities in respective APOs and implementation plans	Updated APOs and plans																			ditto	ditto	ditto		
2.2 Confirm the roles and responsibilities of the technical members of CF Task Force (technical MCFTF) for the identified activities	Confirmed roles and responsibilities of MCFTF to improve CF management and support																			FC	ATW Director, FC, FPM, SO <sub>1</sub> , RO <sub>1</sub>	JE, CA, TE (Training and Extension), (PCD)		During 2007, as part of Needs Assessment of CF task force, confirmed roles and responsibilities of CF Task Force
2.2.1 Identify required roles and responsibilities of technical MCFTF	Identified roles and responsibilities																			ditto	ditto	ditto		
2.2.2 Compile, identified roles and responsibilities of respective levels of MCFTF in project operation manual	Updated project operation manual																			ditto	ditto	ditto		
2.3 Assess the needs of the technical MCFTF (e.g. financial, logistics and human resource development needs) to implement the identified activities	Confirm needs which enable to improve CF management and support of MCFTF (result of assessment)																			FC	ATW Director, FC, FPM, SO <sub>1</sub> , RO <sub>1</sub>	JE, CA, TE, (PCD)		Conducted Need Assessment of CF Task Force during FY 2007
2.3.1 Conduct needs assessment of MCFTF	Compiled assessment record																			ditto	ditto	ditto		
2.3.2 Review and reconfirm need of MCFTF	ditto																			ditto	ditto	ditto		
2.3.3 Organize workshop(s) to confirm training needs and draft training plans/ SOP preparation plan	Confirmed training needs and requirement for SOP (prepared workshop records)																			ditto	ditto	ditto		
2.3.4 Compile training needs of MCFTF	Compiled and reconfirmed training needs (prepared training needs and training plan)																			ditto	ditto	ditto		

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule												Person in charge	Implementors	Other Major Inputs		Remarks										
		2007			2008			2009			2010					2011			2012									
		Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct			Apr	Jul		Oct	Apr	Jul	Oct						
2.4	Develop training plan & materials based on the assessment of the human resource development needs conducted in 2.3.	Training plan and materials reflecting needs of MCFTF and to improve CF management and support to be developed																					FC	FPM, SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, TE, PCD, MF, FC, CA		Training may include OJT, training through existing CF training course, and development of CF training program for mangrove, etc.	
2.4.1	Develop overall training plan and training materials	Prepared training plan and materials																						ditto	ditto	ditto		Development of CF training program/materials for mangrove CF based on the existing ones such as CFOTC is being considered
a	Based on results of workshop (2.3), design training plan	Prepared plan																						ditto	ditto	ditto		
b	Based on results of workshop (2.3), design SOP preparation plan	Prepared plan																						ditto	ditto	ditto		
c	Develop training materials based on finalized training plan	Prepared training materials																						ditto	ditto	ditto		
2.4.2	Update the training materials based on feedbacks	Updated training plan and materials																						ditto	ditto	ditto		
2.5	Train the technical MCFTF according to the plan	Training courses implemented and participated by selected trainees as per plan (Implemented training courses and evaluation records)																						FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, TE, PCD, MF, AE, FO		LC training material and operation cost
2.5.1	Implement & monitor the training program	Implemented training courses (number of participant)																						ditto	ditto	ditto		
a	Implement training program based on plan	Prepared implementation records																						ditto	ditto	ditto		
b	Organize feedback interview/ survey to review and monitor results of training programs	Prepared feedback records																						ditto	ditto	ditto		
2.5.2	Evaluate the training program & conduct the follow-up as appropriate	Result of evaluation (ACR, SOP)																						ditto	ditto	ditto		
a	Organize feedback meetings/ workshops to evaluate training programs	Prepared feedback records																						ditto	ditto	ditto		
b	Based on evaluation, revise training plan and its programs	Revised plan, programs, SOP																						ditto	ditto	ditto		
2.6	Construct/renovate the CF Extension Centre & Nursery in each RF	Completion of facilities construction/ renovation at 4 CFECNs																						FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, CA, GIS		KKKL: Ewa Kwa Ka Lay CFECN TYK: Thar Yar Kone CFECN BYM: Byone Hwaue CFECN TGT: Huang Gyi Tan CFECN HKT: Hngat Kyi Tsang CFECN
2.6.1	Prepare design and implementation plan	Prepared design and plan																						ditto	ditto	ditto		
2.6.2	Conduct construction/ renovation based on design/ plan	Constructed/ renovated facilities																						ditto	ditto	ditto		
2.6.3	Conduct maintenance and repair based on necessity	Maintenance records																						ditto	ditto	ditto		
2.7	Provide extension services and support to the CFUSGs in each RF	Necessary extension services and support provided to target CFUSGs based on prepared extension materials																						FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, PCD, TE		Through Activities 1.3-1.7
2.7.1	Develop extension materials	Prepared extension materials																						ditto	ditto	ditto		
a	Prepare implementation plan for extension services & support	Prepared plan																						ditto	ditto	ditto		
b	Develop extension materials based on plan	Prepared materials																						ditto	ditto	ditto		
2.7.2	Implement extension services & support (i.e. Activity 1.3-1.7)	Prepared work/ monitoring records																						ditto	ditto	ditto		
2.8	Carry out public awareness campaigns regarding CF and the conservation of mangrove forests	Implemented campaigns to contribute to mangrove conservation/ rehabilitation (campaign materials, campaign records)																						FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, TE		Extension Division under FD may be able to collaborate with the Project in some part of the activities
2.8.1	Identify the target for public awareness	Identified target groups																						ditto	ditto	ditto		
2.8.2	Develop/update a public awareness plan	Prepared plan																						ditto	ditto	ditto		
2.8.3	Carry out the plan	Implementation records, result of evaluation																						ditto	ditto	ditto		
a	Carry out activities in accordance with the plan	Prepared records																						ditto	ditto	ditto		
b	Monitor and evaluate result of public awareness activities	Results of evaluation																						ditto	ditto	ditto		

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule												Person in charge	Implementors	Other Major inputs		Remarks
		2007		2008		2009		2010		2011		2012				Japanese	Myanmar	
		Apr	May	Apr	May	Apr	May	Apr	May	Apr	May	Apr	May					
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	SOP (English, Myanmar) to be approved and utilized by FD												FC	FPM, SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, TE, PCD, MF, AF, FC	LC preparation cost for SOP	
2.9.1	Develop an initial draft	Prepared draft SOP												átto	átto	átto		
a	Based on SOP preparation plan (activity 2.4), draft SOP	Drafted SOP												átto	átto	átto		
b	Share and review prepared SOP among MCTF and other relevant FD offices	Prepared comments/ records												átto	átto	átto		
2.9.2	Finalize the draft	Finalized and approved SOP												átto	átto	átto		
a	Based on comments and feedbacks, finalize draft SOP	Finalized SOP												átto	átto	átto		
b	Get approval of finalized SOP by FD-DG	Approval letter												átto	átto	átto		
<b>Output 3: Some silvicultural techniques for the rehabilitation and its associated forests for the Ayeyawady Delta are established.</b>												Overall: PC						
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	Silvicultural techniques important for mangrove rehabilitation to be identified (survey records and plans prepared based on surveys)												FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, MF, LC	In the FY2007 conduct surveys to determine over all test designs for ARP.	
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)	AR designs and plans to be developed in accordance with identified silvicultural techniques												FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, MF		
3.2.1	Prepare the specific design	Prepared AR design												átto	átto	átto		
3.2.2	Prepare an annual execution plan	Prepared annual plan												átto	átto	átto		
3.3	Execute the AR in each RF	AR implemented as per designs/ plans (implemente d sites, records/ reports based on implementation of AR)												FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, MF	LC material and operation cost for AR activities	
3.3.1	Implement activities in accordance with annual execution plan	AR implemented sites, records/ reports based on implementation of AR												átto	átto	átto		
3.3.2	Prepare and install ARP signboards	Installed ARP signboards and plot description signboards												átto	átto	átto		
3.4	Conduct periodic technical monitoring / preliminary assessment on the AR plantation (ARP)	Monitoring results to be reflected to succeeding years' ARP and technical report/ guidelines (monitoring reports, technical report)												FPM	SOs (LPT, BGL, PYP), ROs (LPT, BGL, PYP)	JE, MF	LC labour cost for monitoring	
3.4.1	Prepare a monitoring and assessment plan	Monitoring plan												átto	átto	átto		
3.4.2	Implement monitoring and assessment based on the plan	Monitoring Records/ reports												átto	SO, RO, DRO, F			
a	Prepare/ update plot allocation tables, plot records, nursery activity records	Prepared tables and records												átto	átto	átto		
b	Prepare/ update monitoring records	Monitoring records												átto	átto	átto		
3.4.3	Prepare monitoring and assessment reports	Monitoring Records/ reports												átto	SO, RO			
3.4.4	Prepare a technical report, compiling the above results (activity 3.5)	Monitoring reports, technical report												átto	átto			



March, 2013

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		2007		2008		2009		2010		2011		2012		Japanese			Myanmar		
		Apr	May	Apr	May	Apr	May	Apr	May	Apr	May	Apr	May						
3.5 Prepare a technical report on action research (AR) for mangrove in English and Myanmar	Final technical reports (English and Myanmar) to be approved and referred by FD														FPM	SOs (LPT, BGL, PYP), RCs (LPT, BGL, PYP)	JE MF	L/C preparation cost for technical reports	
3.5.1 Develop an initial draft	Draft technical report (English and Myanmar)														ditto	ditto	ditto		
a Organize workshop(s) to confirm/ share progress, achievement, issues in relation to ARP (activity 3.6)	Records/reports of workshops														ditto	ditto	ditto		
b Based on results of workshop, prepare initial draft of technical report	Draft technical report (English and Myanmar)														ditto	ditto	ditto		
3.5.2 Finalize the draft	Approved technical report (English and Myanmar)														ditto	ditto	ditto		
a Share and review prepared draft among MCTF and other relevant FD offices	Review comments/ feedbacks														ditto	ditto	ditto		
b Based on comments and feedbacks, finalize technical report	Final technical report (English)														ditto	ditto	ditto		
c Translate finalized technical report in Myanmar	Final technical report (Myanmar)														ditto	ditto	ditto		
d Get approval of finalized technical report by FD-DG	Approval letter, approved technical report (English and Myanmar)														ditto	ditto	ditto		
3.6 Develop technical guidelines for rehabilitation and management of mangrove forests based on the findings of the AR	Technical guideline (English and Myanmar) to be approved and utilized by FD														FPM	SOs (LPT, BGL, PYP), RCs (LPT, BGL, PYP)	JE MF	L/C preparation cost for technical guideline	
3.6.1 Develop a preliminary draft	English draft technical guideline														ditto	ditto	ditto		
3.6.2 Develop an initial draft	Draft technical guideline (English and Myanmar)														ditto	ditto	ditto		
a Based on preliminary draft, organize workshop(s) to confirm/ share progress, achievement, issues in relation to ARP (activity 3.5)	Records/reports of workshops														ditto	ditto	ditto		
b Based on results of workshop, prepare initial draft of technical guideline	Initial draft technical guideline (English)														ditto	ditto	ditto		
3.6.3 Finalize the draft	Approved technical guideline (English and Myanmar)														ditto	ditto	ditto		
a Share and review prepared draft among MCTF and other relevant FD offices	Review comments/ feedbacks														ditto	ditto	ditto		
b Based on comments and feedbacks, finalize technical guideline	Final technical guideline (English)														ditto	ditto	ditto		
c Translate finalized technical guideline in Myanmar	Final technical guideline (Myanmar)														ditto	ditto	ditto		
d Get approval of finalized technical guideline by FD-DG	Approval letter, approved technical guideline (English and Myanmar)														ditto	ditto	ditto		
<b>Output 4: A coordination mechanism is established among key sectors to address the underlying causes of mangrove deforestation in the Ayeyawady Delta.</b>											Overall: PM								
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	Issues related to Project and Mangrove Management to be shared/ discussed among relevant authorities (Prepared meeting records/ minutes)														AYW Director	PC, FPM	JE, CA, C	L/C meeting organizing cost	Aimed to be held concurrently with mangrove seminar as much as possible.
4.1.1 Pre-inform about coordination meeting to relevant authorities	Prepared letters														ditto	ditto	ditto		
4.1.2 Hold coordination meeting at regional level	Prepared meeting records/ minutes														ditto	ditto	ditto		
4.1.3 Consolidate and share meeting records among participants/ project stakeholders	Prepared letters, comments														ditto	ditto	ditto		
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 on-oral forest resource assessment of the region and mangrove forest cover conversion	Updated land use map and data to be utilized at coordination meeting and various project activities														PC	SO + RCs (GIS Section), FPM	JE GIS		
4.2.1 Procure the satellite images	Procured satellite images for 2007, 2009, 2012														ditto	ditto	ditto		
4.2.2 Develop/update the land use map based on analysis of the images	Prepared land use map and data														ditto	ditto	ditto		

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule												Person in charge	Implementors	Other Major inputs		Remarks	
		2007		2008		2009		2010		2011		2012				Japanese	Myanmar		
		Apr	May	Apr	May	Apr	May	Apr	May	Apr	May	Apr	May						
4.2.3	Confirm CF/ ARP area boundaries and integrate in land use map																		
4.3	Organize seminars to promote synergies among the relevant sectors for the sustainable management of the mangrove ecosystem in the Ayeeyawady Delta.																		
4.3.1	Prepare annual implementation plan(s)																		
4.3.2	Organize seminars annually																		
4.3.3	Organize project final seminar																		
4.4	Organize a coordination meeting with donors/NGOs active in the Target Area at District Level																		
4.4.1	Prepare list of donors/NGOs active in the target area																		
4.4.2	Hold coordination meeting at district level																		
4.4.3	Consolidate and share meeting records among participants/ project stakeholders																		
<b>Output X: Recovery from Cyclone Nargis is promoted (Additional Output after Cyclone Nargis in May 2008)</b>																			
X.1	Prepare a hazard map based on analysis of damage of the cyclone Nargis																		
X.2	Conduct quick damage & recovery survey in the Target Area																		
X.3	Conduct village profile survey in the Target Area																		
X.4	Conduct survey for recovery condition of mangrove vegetation from damage of Cyclone Nargis in the Target Area																		
X.4.1	Set plots for survey																		
X.4.2	Continue monitoring of plots																		
X.4.3	Analyze results of survey and compile data/ information into draft technical report/ guideline																		
X.5	Rehabilitate the CF Extension Centre and Nursery in each RF including facility with cyclone proof structure																		
X.6	Support recovery or disaster prevention work of Implementation and Cooperative Organizations in the Target Area through material supply																		
X.7	Conduct public awareness activities on disaster prevention in the Target Area																		
X.8	Arrange necessary coordination among donors in the integrated mangrove management																		
<b>0. Activity related to project management and public relations</b>																			

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule																		Person in charge	Implementors	Other Major Inputs		Remarks		
		2007			2008			2009			2010			2011			2012					Japanese	Myanmar			
		ME	VI	Y	2007	2008	2009	2009	2010	2011	2010	2011	2012	2011	2012	2013										
0.1	Organize JCC at least once a year	Project progress / plans shared and decisions made in timely manner (Signed minutes of Meeting of JCC)																			PD	PM, PC, FPM	JE, CA, C			
0.1.1	Organize JCC for approval of PDM2, PO2, DPO2, and APO2011	ditto																				ditto	ditto	ditto		
0.1.2	Organize JCC for approval of indicators for PDM2, and APO2012	ditto																				ditto	ditto	ditto		
0.1.3	Organize JCC in relation to joint terminal evaluation	ditto																				ditto	ditto	ditto		
0.1.4	Organize JCC in relation to termination of the Project	ditto																				ditto	ditto	ditto		
0.2	Develop a DPO based on PO for approval by JCC	Approved DPO to be fully utilized by technical MCFTF staff																				PD	PM, PC, FPM	JE, CA, C		
0.2.1	Draft DPO based on PO	Drafted DPO																				ditto	ditto			
0.2.2	Conduct DPO review meeting and finalize DPO	Finalized DPO																				ditto	ditto			
0.2.3	Approve DPO at JCC (Activity 0.1)	Approved DPO																				ditto	ditto			
0.3	Develop an annual PO (APO) based on the DPO for approval by JCC	Approved APO for smooth implementation of Project activities																				PD	PM, PC, FPM	JE, CA, C		
0.3.1	Draft APO based on DPO	Drafted APO																				ditto	ditto	ditto		
0.3.2	Conduct APO review meeting and finalize APO	Finalized APO																				ditto	ditto	ditto		
0.3.3	Approve APO at JCC (Activity 0.1)	Approved APO																				ditto	ditto	ditto		
0.4	Develop an annual report for review by JCC	Project progress and achievements to be timely shared at JCC (Prepared annual reports)																				FC	FPM, SOs (LPT, BGL, PYP)	JE, CA, C		
0.4.1	Draft annual report based on progress and achievement of project activities	ditto																				ditto	ditto	ditto		
0.4.2	Review the draft report and finalize	ditto																				ditto	ditto	ditto		
0.5	Organize internal project meeting regularly	Progress and issues confirmed and necessary actions to be taken in timely manners (Prepared meeting records)																				FC	FPM, SOs (LPT, BGL, PYP)	JE, CA, C		
0.5.1	Organize Township level meeting monthly (SO+RO+JET)	ditto																				SOs (LPT, BGL, PYP)	ROs under township	JE Team members on site		
0.5.2	Organize District level meeting quarterly (FPM+SO+(RO)+(PC)+JET)	ditto																				FPM	SOs (LPT, BGL, PYP), (RO), (PC)	ditto		
0.5.3	Organize Project Management meeting quarterly (PM+PC+FPM+JET)	ditto																				PM	PC, FPM,	ditto		
0.6	Monitor the achievement of the Indicators periodically	Indicators appropriately monitored to confirm achievement of outputs/ outcome																				FC	FPM, SOs (LPT, BGL, PYP)	JE, CA, C		
0.6.1	Draft monitoring plan and forms	Prepared monitoring plan and forms																				ditto	ditto	ditto		
0.6.2	Monitor progress/ achievement	Prepared monitoring records, reports																				ditto	ditto	ditto		
0.7	Prepare for joint evaluation	Provide data/ information readily available for evaluation																				FC	FPM	JE, CA		
0.7.1	Compile progress and achievement of project activities	Prepared reports																				ditto	ditto	ditto		
0.7.2	Collaborate with joint evaluation mission and provide necessary information	Data/ information on readily available for evaluation																				ditto	ditto	ditto		
0.8	Follow up the recommendations of the review/evaluation	Recommendations incorporated in Project and contribute to outputs/ outcome (Annual Completion Reports, relevant meeting minutes)																				FC	FPM	JE, CA		
0.8.1	Integrate recommended activities into APO	Prepared APO																				ditto	ditto	ditto		
0.8.2	Confirm progress/ achievement of recommended activities and integrate results as part of monitoring	Results/ records of follow-up																				ditto	ditto	ditto		

March, 2013

Progress of Project Activities (As of March 2013: Based on DPO)

Activity as per PDM2	Expected Results During Project Period	Schedule																		Person in charge	Implementors	Other Major inputs		Remarks	
		2007			2008			2009			2010			2011			2012					Japanese	Myanmar		
		Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct	Apr	Jul	Oct						
0.8.3	Update APO based on progress/ achievement of recommended activities	Prepared APO																		ditto	ditto	ditto			
0.9	Conduct public relations for the Project	Announce about Project and its activities (Prepared agendas, public relation materials)																		FC	PPM, SOs (LPT, BGL, PYP)	JE, TE, CA			
0.9.1	Draft public relation plan	Prepared plan																		ditto	ditto	ditto			
0.9.2	Implement public relation plan	Prepared agendas, public relation materials																		ditto	ditto	ditto			project brochures, webpage, news letter
0.9.3	Monitor and evaluate result of public relation activities	Records of monitoring/ evaluation																		ditto	ditto	ditto			

The Integrated Mangrove Rehabilitation and Management Project through Community Participation  
in the Ayeyawady Delta in Myanmar

**Project Completion Report**

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## Abbreviation Table

Abbreviation	Full Description
AD	Assistant Director
ARP	Action Research Plantation
C/P	Counter Part
CDMA	Code Division Multiple Access (one system of mobile phone)
CF	Community Forestry
CFUSG (CFUG*)	Community Forestry User Group (*The project and former JICA study was using the abbreviation “CFUSG” since 2002. However in order to avoid confusions among relevant stakeholders, gradually replacing “CFUSG” into “CFUG”.)
CFECN	Community Forestry Extension Centre Nursery
CFI	Community Forestry Instruction
DOF	Department of Fishery
DPDC	District Peace and Development Council
DRO	Deputy Range Officer
EC	Electric Conductivity
FAPC	Foreign Affairs Policy Committee
FD	Forest Department
FPM	Field Project Manager
FRI	Forest Research Institute
GIS	Geographic Information System
GPS	Global Positioning System
It/R	Interim Report
IMMP	Integrated Mangrove Management Plan
JCC	Joint Coordinating Committee
JET	JICA Expert Team
JICA	Japan International Cooperation Agency
LBVD	Livestock Breeding and Veterinary Department
MAS	Myanma Agriculture Service
MCFTF	Mangrove Community Forestry Task Force
MOF	Ministry of Forestry
NDVI	Normalized Difference Vegetation Index
NGO	Non Government Organization
NFIO	Natural Forest Improvement Operation
PDC	Peace and Development Council
PSD	Planning and Statistic Division (FD)
PSD	Planning and Statistic Department (MOF)
POM	Project Operation Manual
Pr/R	Progress Report
RECOFTC	Regional Community Forestry Training Centre
R/D	Record of Discussions
RF	Reserved Forest
RO	Range Officer
SLRD	Settlement and Land Record Department
SO	Staff Officer
TPDC	Township Peace and Development Council
UNDP	United Nations Development Program



*The Integrated Mangrove Rehabilitation and Management Project  
through Community Participation in the Ayeyawady Delta*

<b>Abbreviation</b>	<b>Full Description</b>
UNICEF	United Nations International Children's Emergency Fund
USAID	United States Agency for International Development
USDA	Union Solidarity Development Association
USG	User's Group/User Group
VPDC	Village Peace and Development Council
WFP	World Food Programme

<b>Area Abbreviation</b>	<b>Full Description</b>
APG	Ahpyin Pade Gaw
ATS	Ahtet Su
AYW	Ayeyawady
BGL	Bogalay
BYM	Byone Hmwe
DMD	Daming Daung
GCG	Gway Chaung Gyi
GAD	Gaw Du
KADK	Kadonkani (Reserved Forest)
KKKL	Kwa Kwa Ka Lay
KKKP	Kyakankwinpauk (Reserved Forest)
KTP	Kanbala Ta Pin
KTS	Kwin Thone Sint
LPT	Laputta
MYM	Myaung Mya
NPT	Nay Pyi Taw
NTP	Nyaung Ta Pin
PNDY	Pyindaye (Reserved Forest)
PNK	Peine Kone
PNLN	Pyinalan (Reserved Forest)
PYP	Pyar Pon
SPT	Shwe Pyi Thar
TGT	Htaung Gyi Tan
TYK	Thar Yar Kone
TWL	Thaung Lay
YGN	Yangon

<b>NGO</b>	<b>Full Description</b>
ACTED	Agency Cooperation Technology and Development
CARE	Care Myanmar
FREDA	Forest Resource and Environmental Development Association
GRET	Group of Research Exchange Technology
MSF	Medici an Sans Frontiers
Metta	Metta Development Foundation
SC	Save the Children
WC	World Concern

### Unit Conversion Table

<u>Item</u>	<u>Units in Myanmar</u>	<u>Metric Units</u>
<b>Length</b>	1 inch <sup>1)</sup>	2.54 cm
	1 foot <sup>1)</sup>	0.305 m
	1 mile <sup>1)</sup>	1.609 Km
	1 chain = 66 feet <sup>1)</sup>	20.13 m
	1 furlong = 10 chains	201.3 m
	1 mile = 8 furlongs = 1760 yards	
<b>Area</b>	1 acre <sup>1)</sup>	4,046.9 m <sup>2</sup> = 0.405 ha
	1 square mile = 640 acres	2.59 Km <sup>2</sup>
	1 square feet	0.11 m <sup>2</sup>
<b>Weight</b>	1 basket <sup>2)</sup> of paddy *	20 kg (46 lb)
	1 bag <sup>2)</sup> of rice **	51 kg (120 lb)
	1 viss	1.6 kg (3.6 lb)
	1 pyi <sup>2)</sup> of rice **	2.0 kg (5 lb)
	1 pyi <sup>2)</sup> of paddy **	1.2 kg (2.87 lb)
	1 pound	0.454 kg
<b>Volume</b>	1 ft <sup>3</sup> <sup>1)</sup>	0.02 m <sup>3</sup>
	1 gallon <sup>1)</sup>	4.546 liter

- 1) Some units used in Myanmar are “Imperial Units” that are utilized in Great Britain from 1824 until they changed to “The International System of Units”.
- 2) “Basket”, “Bag” and “Pyi” are traditional units of volume used in Myanmar. Those units are used for estimation of weight for paddy, rice, beans etc. (1 basket = 16 pyi, 1 bag = 1.5 basket)

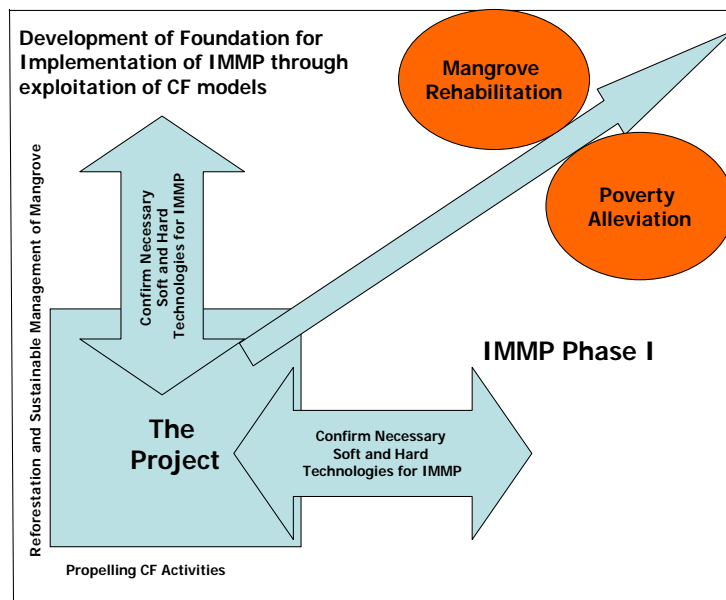
\* paddy : unhulled  
 \*\* rice : hulled

# 1. Framework of the Project

## 1.1 Basic Approach of the Project

In view of the importance of managing the forest resources in the Ayeyawady Delta, Japan International Cooperation Agency (JICA) conducted the study on Integrated Mangrove Management through Community Participation in the Ayeyawady Delta” (the development study) during the period of 2002 to 2005, and formulated “Integrated Mangrove Management Plan” (IMMP) to achieve the coexistence of the mangrove conservation and the livelihood improvement of the people in the study area. The IMMP is composed of following three phases, (I) foundation period (5 years), (II) extension period (5 years), and (III) de-centralization period (30 years).

The Integrated Mangrove Rehabilitation and Management Project (the Project) is aimed to support Phase I of IMMP. The Relationship between IMMP and the Project is explained by the figure below. The Project will prepare a foundation of IMMP Phase I based on confirmation of necessary soft and hard technologies for IMMP to be achieved through implementation of the activities that is described on the Project Design Matrix (PDM) for the Project.



Source: JET, September 2010, Annual Completion Report

Figure 1.1.1 Relationship of the Project and IMMP

## 1.2 Project Design Matrix (PDM)

As of February 2013, the Project is framed by PDM version 3 and Plan of Operation (PO) version 2. Changes made in PDM during the implementation of the Project are summarized here under. Previous PDM as well as PO and DPO are described in **Attachment 1** and **Attachment 2**, respectively.

### 1.2.1 PDM Version 0

PDM version 0 was adopted when, Myanmar side represented by FD, Department of Fisheries (DOF) and Myanmar Agriculture Service (MAS: Now Department of Agriculture), and JICA signed the “Record of Discussions (R/D)” of the Project on 29 September, 2006. From the commencement of the Project, this PDM version 0 was the foundation for the Project.

### 1.2.2 PDM Version 1

PDM Version 0 was revised as PDM Version 1 at the 3<sup>rd</sup> Joint Coordinating Committee (JCC) Meeting held on 28 January, 2009. PDM version 1 included possible supports for recovery as one of the project

activities from Cyclone Nargis damages. In addition to inclusion of cyclone recovery activities, following major changes were made in PDM version 1.

- Project duration was extended one year (Project duration April 2007 to March 2013)
- Set concrete figures for indicators such as the area of mangrove rehabilitation. The indicators were noted that they were prepared based on the content of IMMP and were not referred to the progresses of FY2007 Project activities because of change of important assumptions of the Project.

### **1.2.3 PDM Version 2**

Based on the draft PDM version 2 prepared by the mid-term review conducted between February to March 2011, the Project scrutinized and finalized the PDM version 2 by the end of June 2011. The finalized PDM version 2, together with PO version 2 and DPO, was approved at the 5th JCC meeting held on 14 July, 2011. In the PDM version 2, existing four outputs were restructured into following five outputs, and activities as well as indicators have been reorganized and modified.

- Output 1: The selected communities practice environmentally and economically sustainable community forestry (CF).
- Output 2: The management and the support system of the Forest Department (FD) for CF is effective.
- Output 3: Some silvicultural techniques for the rehabilitation of the degraded and the management of the mangrove and its associated forests for the Ayeyawady Delta are established.
- Output 4: A coordination mechanism is established among key sectors to address the underlying causes of mangrove deforestation in the Ayeyawady Delta.
- Output X: Recovery from damage of Cyclone Nargis is promoted. (Additional Output after the Cyclone Nargis in May 2008)

### **1.2.4 PDM Version 3**

The PDM version 3 was approved at the 6<sup>th</sup> JCC meeting held on 3 May, 2012. The PDM version 3 has following modifications from the previous version 2.

- Finalization of area-based indicators and capacity development related indicators
- Editing errors.

However, project framework itself has not changed from the previous PDM version 2. Therefore, the project framework based on the approved PDM version 2 is illustrated in **Figure 1.2.4.1**.

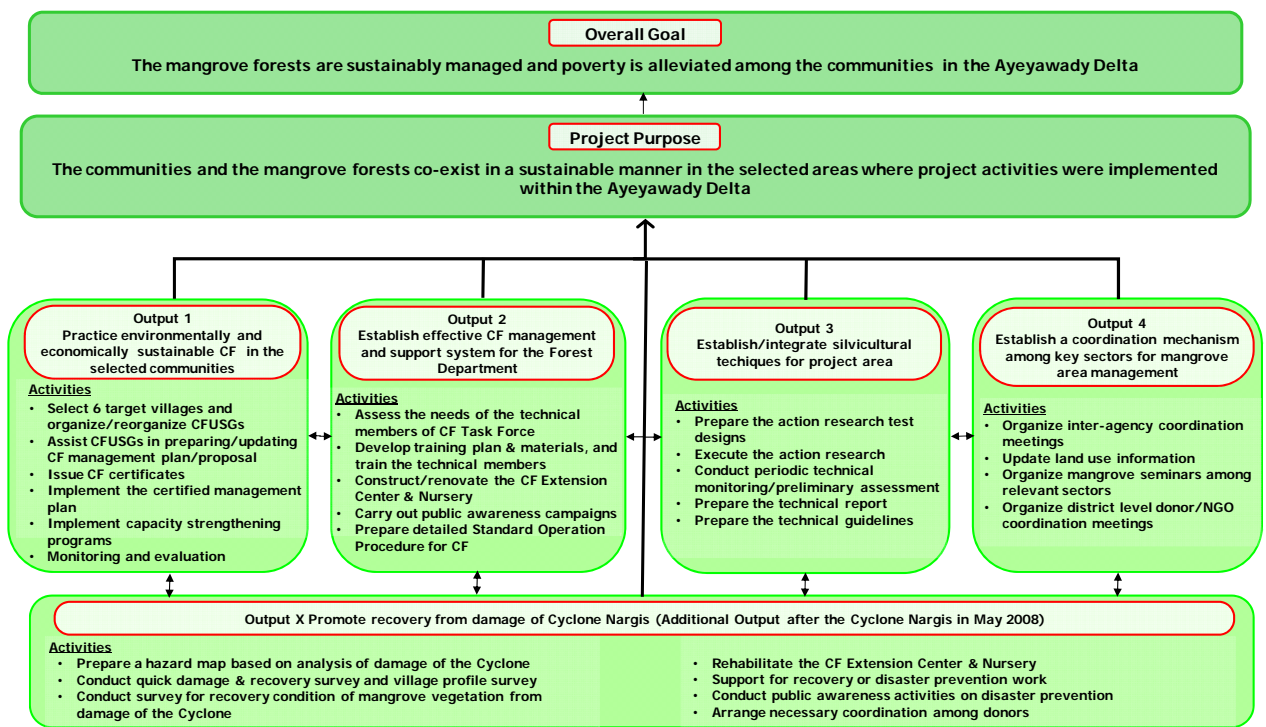


Figure 1.2.4.1 Project Framework Based on PDM Version 2

### 1.3 Implementation Framework

#### 1.3.1 Implementation Setup

The current agencies undertaking implementation of the Project are same as agencies agreed at the First JCC Meeting held on 25 June, 2007, which was based on the R/D of the Project (Table 1.3.1.1).

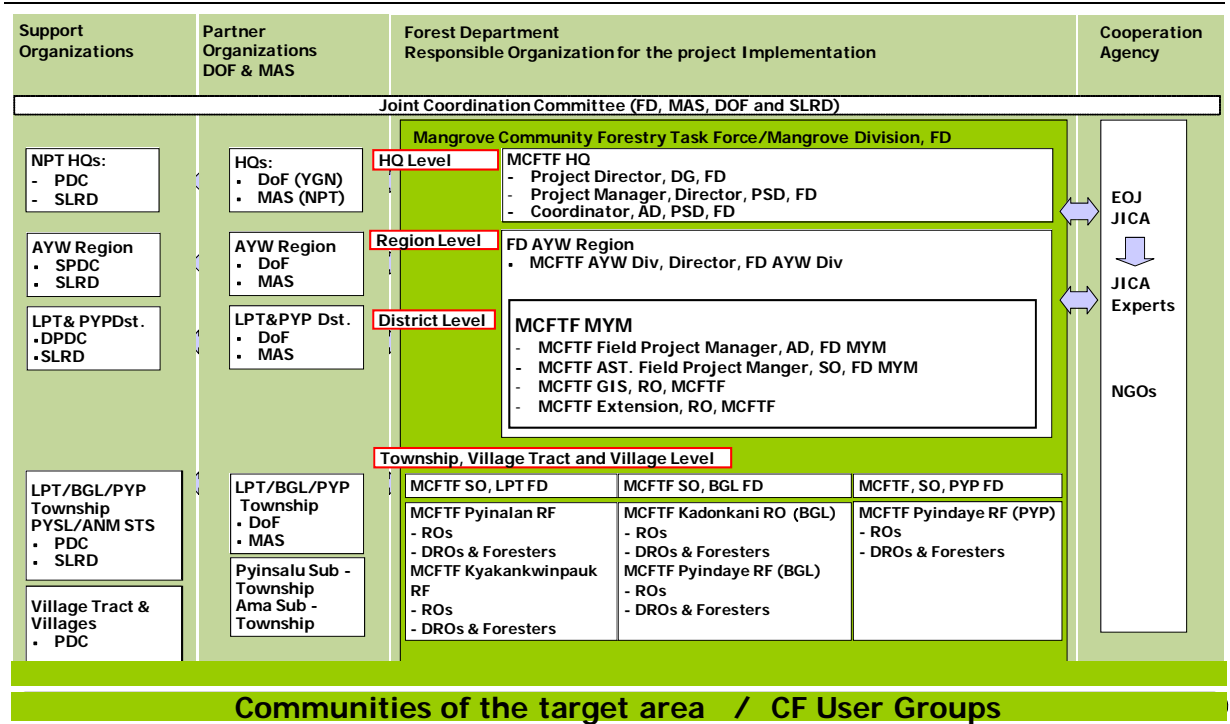
Table 1.3.1.1 Project Implementation Agencies

Name of Agencies	Signed on the RD	
	Responsible Agency	Signed
Forest Department, Ministry of Forestry (FD)	Responsible Agency	Signed
Myanmar Agriculture Services, Ministry of Agriculture and Irrigation (MAS: Now Department of Agriculture: DoA)	Cooperating Agency	Ditto
Department of Fisheries, Ministry of Livestock and Fisheries (DoF)	Cooperating Agency	Ditto
Settlement and Land Record Department, Ministry of Agriculture and Irrigation (SLRD)	Supporting Agency	-

Source: JET prepared based on R/D

FD is the responsible agency for implementation of the Project and undertaking the Project in accordance to the cooperation of MAS and DoF, and also support of the SLRD.

The operation structure of current project organizations is in accordance with contents agreed in the third JCC meeting and shown in Figure 1.3.1.1.



Source: JET prepared based on JCC Meeting No.3

**Figure 1.3.1.1 Organization Structure of Project Organizations**

As the responsible implementing agency, FD offices at the headquarter level worked for decision making through JCC meetings and the offices at the division and the districts level worked as responsible organizations for implementation of the Project in collaboration with township FD offices and reserved forests offices. At each level, Mangrove Community Forestry Task Force (MCCTF) and its assigned staff are the implementers of the Project. Particularly, Field Project Manager (FPM) cum assistant director (AD) at the project office in Myaung Mya district lead the field level implementation of the Project and staff officers (SOs) cum field leaders at township offices, range officer (ROs) cum field chief, deputy range officers (DROs), and foresters at reserved forests were directly working for the implementation of the Project. However, as stated in 1.3.2 of this report, nearly all of MCCTF members were involved in the Project at part time basis and also there were frequent transfer of staff, MCCTF at each level was not always fully functional as a task force (organization).

MAS, DoF and SLRD, as partner and support organizations, took part in the Project at respective level. However, in 2008, Laputta District was newly formed after Cyclone Nargis, and all other concerned government departments in Myaung Mya District, except FD, are no longer involved in the Project. After formulation of the PDM version 2, involvement of partner and support organizations were somewhat limited to oyster trial activities under Output 1 (DoF), and participation in Regional Coordination Meetings, District Level Donors/ NGOs Coordination Meetings, and JCC Meetings.

### 1.3.2 Counterparts (FD Project Personnel)

Following table indicates comparison of FD's major counterparts among, April 2007, September 2010, March 2012, October 2012, and February 2013. Except for the Assistant Field Project Manager (SO) stationed in Myaung Mya District from September 2009 to November 2010, all of counterparts were part time engaged in the Project.

There is regular transfer of officers within the department and the ministry. Therefore, as of February 2013, there were only four officers (Field Project Manager, SO of Bogalay, Township, SO of Pyar Pon Township, and RO of Laputta Township) who have engaged in the Project for more than two years.

After 2012 and onward, there were more frequent transfer of officers and vacancies in positions were more prevalent than previous years. In case of field level officers (DRO and below), frequencies of transfer within and outside of township were more frequent than senior officers. Lists of counterparts from the beginning of the Project to February 2013 are described in **Attachment 5**.

**Table 1.3.2.1 Assignments of FD Counterparts (February 2013)**

	Position	Counterparts				
		April, 2007	September, 2010	March, 2012	October, 2012	February 2013
1	Project Director (Director General:DG)	U Sow Win Hlaing	U Aye Myint Maung	U Aye Myint Maung	Dr Ni Ni Kyaw	Dr Ni Ni Kyaw
2	Deputy Project Director(Deputy DG)	n.a.	Dr Ni Ni Kyaw	Dr Ni Ni Kyaw	U Zaw Win (4)	U Zaw Win (4)
3	Project Manager (Director)	U Sein Htun	U Zaw Win (4)	U Zaw Win (4)	U Khin Maung Oo	U Khin Maung Oo
4	Director Ayeyawady Division	U Win Min	U Win Naing	U Zaw Win (5)	U Zaw Win (5)	U Zaw Win (5)
5	Project Coordinator	U Bo Ni	U Bo Ni	U Bo Ni		U Thaug Oo
6	Assistant Project Coordinator (SO)		U Tual Chin Khai	U Moe Zaw		U Min Zaw Oo
7	Assistant Project Coordinator (RO)			U Htay Aung	U Htay Aung	U Tin Myo Aung U Htay Aung
8	Field Project Manager (FPM /AD) Myaung Mya District	U Win Maung	<b>U Khin Maung Lwin</b>	<b>U Khin Maung Lwin</b>	<b>U Khin Maung Lwin</b>	<b>U Khin Maung Lwin</b>
9	SO Myaung Mya FD/Assistant FPM	n.a.	U Min Maw	U Hla Myo Aung		
10	SO Laputta Township FD	U Win Naing	U Win Naing	U Aung Gyi	U Hla Myint	U Myint Hlaing
11	SO Bogalay Township FD	<b>U Khin Maung Lwin</b>	<b>U Kan Htun</b>	<b>U Kan Htun</b>	<b>U Kan Htun</b>	<b>U Kan Htun</b>
12	SO Pyar Pon Township FD	U Nay Myo Htun	<b>U Kyi Lin</b>	<b>U Kyi Lin</b>	<b>U Kyi Lin</b>	<b>U Kyi Lin</b>
13	RO Myaung Mya FD / GIS			-		
14	RO Myaung Mya FD / Extension			-		
15	RO Laputta FD (Kyakankwinpauk RF)	U Naing Win	U Hla Shwe	<b>U Zaw Min</b>	<b>U Zaw Min</b>	<b>U Zaw Min</b>
16	RO Laputta FD (Pyinalan RF)	U Win Maung Aye	<b>U Zaw Min</b>	U Than Min Aye	U Zaw Thway	U Zaw Thway
17	RO Bogalay FD (Pyindaye RF North)	U Myo Min Htun	U Kyaw Kyaw Myo			
18	RO Bogalay FD (Kadonkani RF)	U Zaw Min Htun	U Myo Min Htun			
19	RO Pyar Pon FD (Pyindaye RF South)		U Zaw Min Htun, U Win Maung Aye	U Pyae Phyo Aung	U Pyae Phyo Aung	U Pyae Phyo Aung
20	GIS			Daw Mi Mi Cho	Daw Mi Mi Cho	Daw Mi Mi Cho
21	GIS				U Nyan Hlaing	U Nyan Hlaing

Source: based on FD's information, February, 2013

#### 1.4 Implementation Schedule

The project duration in Myanmar is from April 2007<sup>1</sup> to March 2013, and progresses of project activities based on DPO are described in the cover table.

<sup>1</sup> However due to visa obtainment procedure, actual dispatch of experts were from May 2007..

## 2. Actual Inputs to the Project

### 2.1 JICA Expert Team

The original input of JET experts was scheduled for a total of 111.00 M/M (Men/Months). Then, in order to tackle recovery activities and other additional activities after Cyclone Nargis in 2008, additional 29.41 M/M was allocated and the total M/M became 140.41 M/M. As of fiscal year 2012, the planned total M/M of JET became 144.90 M/M (139.40 M/M in Myanmar and 5.50 M/M in Japan). The actual inputs in terms of M/M as well names of experts who engaged in the project activities are summarized in the **Table 2.1.1**. The total M/M consumed by experts in Myanmar was 139.40 M/M (excluding M/M for coordinators<sup>2</sup> and Nippon Koei self-funded assignments). The additional inputs up to March 2013 was 39.23 M/M (coordinator: 23.87 M/M<sup>3</sup>, self-funded experts: 11.43M/M, and other personnel: 3.93 M/M), thus the actual total input in Myanmar sums up to 178.63 M/M. The detail assignments of JET including self-funded experts/ personnel are described in **Attachment 6**.

**Table 2.1.1 Men-Months of Experts Engaged in Myanmar (up to March 2013)**

Position	Name	2007.04- 2008.03	2008.05- 2008.11	2009.01- 2009.08	2009.09- 2010.09	2010.12- 2011.03	2011.06- 2012.03	2012.04- 2012.3	Total
Chief Adviser (CA)/ Community Forestry (CF)1	SHIBAYAMA T.						6.80	8.10	14.90
CA/ Agroforestry	ARAI S.	8.30	2.73	4.90	9.80	1.00			26.73
Deputy CA/ CF1	SHIBAYAMA T.					3.00			3.00
Participatory Community Development (PCD)	SAITO T.	5.07	3.70	6.17	4.63				19.57
CF2 /PCD2/ MF	YASU H.					1.00	1.17	2.60	4.77
CF3 /PCD3	KITAUCHI Y.						2.40	1.33	3.73
Mangrove Forestry (MF) 1	MATSUI N.	4.00			4.33	1.50	1.83		11.66
MF 2	CABAHUG D.		0.67	1.97					2.64
MF 3 / GIS 1	SAKURAI A.	4.13	0.90	2.27	1.00	1.00	1.17		10.47
GIS 2	MORITA I.		1.17						1.17
MF/ GIS 3/ Landuse	BABA (OTSUKA) A.							2.03	2.03
MF	CHIKARAISHI H.							1.03	1.03
Training and Extension(TE)	SHIBAYAMA T.			3.13	5.83				8.96
TE / Marketing	TANAKA M.					1.00	3.20		4.20
TE / Marketing	KITAUCHI Y.						0.37		0.37
TE / Marketing	EBATO M.							3.06	3.06
Agroforestry	CABAHUG D.	2.50			0.73				3.23
Fish Culture	IWAO T.	3.73		2.63	3.97	1.40	1.8	0.67	14.20
Marketing	MORI A.	2.17			1.50				3.67
<b>Total</b>		<b>29.90</b>	<b>9.17</b>	<b>21.07</b>	<b>31.79</b>	<b>9.90</b>	<b>18.74</b>	<b>18.82</b>	<b>139.40</b>
Coordinator	OGAWA K.	8.40							8.40
Coordinator	SAITO T.				2.00				2.00
Coordinator	TANAKA M.					2.00			2.00
Coordinator	USUKI H.						3.40		3.40
Coordinator	BABA (OTSUKA) A.							6.90	6.90
Coordinator	CHIKARAISHI H.							1.17	1.17
<b>Grand Total (including Coordinator's M/M)</b>		<b>38.3</b>	<b>9.17</b>	<b>21.07</b>	<b>33.79</b>	<b>11.90</b>	<b>22.14</b>	<b>26.89</b>	<b>163.27</b>

Source: JET, March, 2013

Followings were key situations and issues in relation to dispatch of experts during the project period.

Limited Field Activities: Throughout the project period, there was a tendency that experts' stay at the project site was somewhat limited and not always flexibly corresponding to needs and requirements at the field in comparison to the duration of the assignment in Myanmar. This situation resulted from following reasons.

<sup>2</sup> Coordinators were categorized as self-funded experts, since the coordinator only receives allowances up to 60 days per year from JICA

<sup>3</sup>When excluding coordinators' M/M which receives allowances from JICA, the total M/M for purely self-funded experts is 25.97M/M



- Basically foreign experts were required to obtain a travel permit for each and every travel outside of Yangon. This travel permit needed to be applied at least 14 days in advance, causing difficulties to respond to urgent needs and requests from the field.
- Besides certain limitations in mobility due to the travel permit arrangement, project activity sites are scattered within four reserved forests where boat is the only means of transportation. During the rainy season, travel by boat was not always possible as per scheduled due to weather and safety reasons.
- Key FD personnel were scattered in three township FD offices, Myaung Mya District, Patheingyi (Ayeyawady Region), and Nay Pyi Taw, therefore for the coordination and discussion purposes, experts had to also spent certain time in different FD offices which had also reduced the time in the field.

Changes of Experts: In the beginning of the Project, dispatch of 9 experts in 9 fields was planned. However as of March 2013, 17 experts were dispatched and engaged in the project activities (in field/ position-wise, total of 25 experts were engaged). Frequent changes of experts had caused following issues.

- In order for new experts to get approval from the Myanmar Government and obtain GOC (official) visa, it normally took two to five months. Therefore, it was not always possible to timely dispatch new experts in accordance with the needs and requirements of the Project.
- Changes of experts were mainly due to health issues. Therefore there were cases that information sharing/ handing over between predecessors and successors was not sufficient and had to spent more time to confirm and rectify the assigned activities. In addition, frequent changes of experts may have caused certain confusions to Myanmar side.

Necessity of Additional Input of Experts: In order to contribute to achieve the project outputs, additional inputs of experts were made as follows:

For construction of CFECNs (FY2009-FY2010)	7.45M/M {Existing Experts:5.07 M/M (CA:1.03 M/M, PCD: 1.37 M/M, GIS:1.07 M/M, TE:1.60 M/M) Additional Personnel: 2.38M/M (Construction Supervision (CS)1: 0.47M/M, CS2: 0.80 M/M, CS3: 1.11M/M)}
FY 2011	5.29 M/M (CA : 0.83 M/M, TE/ Marketing: 0.5 M/M, Coordinator: 2.40 M/M, Technical Advisor: 0.23 M/M, Activity Support: 1.33 M/M)
FY 2012	11.58M/M (CA: 2.81 M/M, MF/GIS3/Land Use /Coordinator: 6.90 M/M, MF/ Coordinator 1.87M/M)

## 2.2 Assignment of Counterpart Personnel

Assignments of the FD counterparts are summarized in **1.3.2** and details are described in **Attachment 5** of this report.

FD formulated mangrove CF Task Force (MCFTF) for commencement and implementation of the Project in accordance with agreement on R/D. However, functions and roles of MCFTF were not always well understood by its members. Therefore, as a result, MCFTF was not fully functioning as an organization.

In addition, without full time assigned FD personnel, and also without FD counterparts in Yangon where JET experts need to make there as the base in relation to the travel permit issue, majority of FD personnel assigned to the Project had a tendency to think that the project itself is donor funded project and they were additionally working from their routine tasks. Therefore, many of personnel tend to think that “they are supporting the Project” and active/ leading involvements to the Project activities were somewhat limited except for some specific activities like Output 3.

Project related information and data tended to be accumulated not to organization (office) but to each

concerned individual. There were frequent cases that project related reports/documents were not fully handed over from predecessors and project related information was not fully managed by respective offices (organizations).

Counterparts who participated at trainings in Japan had low retention rate to the Project. Though, a total of 13 FD counterparts had participated at trainings in Japan (Details are shown in **Attachment 7**), majority of participants had already left from the project and/or mangrove related activities. As of February 2013, only two range officers (Pyar Pon 1, Nay Pyi Taw 1) are involved in the project related activities.

### 2.3 Provision of Equipments

Details of the equipment for the Project (equipments for delivery and equipment for experts) procured by Japanese side are described in **Attachment 8**

Inputs of equipment and budget were significantly increased after Cyclone Nargis. Existing facilities in four CF Extension Centre Nursery (CFECN) were damaged and two out of three fibre grass boats procured were unable to use due to damages from the cyclone. Coconuts trees in the villages, which served as cover trees for layered crops (such as pepper and bamboo) were also extensively damaged by Cyclone. In consideration of damages situations, survey equipment and new boats were provided after Cyclone along with fast-growing dwarf-type coconuts seedlings and peppers. For rehabilitation of CFECNs, some facilities had been re-designed to tolerate wind and high tide having the similar magnitude with Cyclone Nargis.

The table below describes expenditure spent for recovery and disaster prevention, excluding the cost for equipment listed in **Attachment 8**.

**Table 2.3.1 Input of Japanese Side for Cyclone Recovery**

		2008.5 ~ 2008.10	2009.01 ~ 2009.08	2009.09 ~ 2010.09	Total (USD)
1	Recovery related Survey	6,132	0	0	6,132
2	CFECN Rehabilitation	0	12,615	852,617	865,232

Source: JET, January, 2011

Equipments were procured based on needs and requests, and procured equipments were generally utilized effectively. However, there were few cases which, the procured equipment were not fully utilized for project activities due to certain changes in the framework and approached of the Project (e.g. survey equipments procured for usage by SLRD).

### 2.4 Local Cost Incurred by Japanese Side

The summary of the budget covered by Japanese side is shown in **Attachment 9**. Though it is still indicative as of February 2013, in total approximately 180,500,000 JPY was spent by Japanese side as the local cost for the project implementation.

### 2.5 Local Cost Incurred by Myanmar Side

The summary of the budget covered by Myanmar side is shown in **Attachment 10**. In total 299,141,000 MMK (direct cost 131,309,000 MMK, human resource 167,832,000 MMK) was spent by FD in relation to the project implementation.

## 2.6 Sub-Contract Works

During the Project, works indicated in the table below were subcontracted to outside organizations.

**Table 2.6.1 Sub-Contract Works in Project**

<b>Fiscal Year</b>	<b>Subcontract Name</b>	<b>Major Output</b>
2007	Baseline Survey in Candidate Villages	Survey Report
2007	Zoning Survey	Survey Report
2008	Geotechnical Boring, Soil Mechanical and Chemical Tests and Design Calculation for Construction of the CF Nursery Office	Survey Report, and Structural Calculation Report
2008 – 2010	Supervision Work for Construction of the CF Nursery Offices	Supervision Report
2009 – 2010	Construction Work for the Construction of Community Forestry Extension Centers and Nurseries)	RC-structure Office Building x 4, RC-structure Jetty x 1
2012	Baseline Survey and Resource Assessment in Target Villages	Survey Report
2012	Impact Survey and Capacity Assessment in Target Villages	Survey Report

Source: JET, March, 2013

### 3. Progresses and Achievements of Project Activities

#### 3.0 Achievement Status of PDM Indicators

##### 3.0.1 Terminal Evaluation

The terminal evaluation of the Project was carried out from 18 November to 7 December 2012 by the Joint Evaluation Team consisting of four members from Myanmar side and four Japanese members. The summary of evaluation result is described in the following table.

It was concluded that the project purpose is “expected to achieve mostly” and the Project to be terminated in March 2013, as per scheduled.

**Table 3.0.1.1 Summary of Terminal Evaluation**

Field	Evaluation Item	Evaluation Result
Achievement of the Project by Output	Output 1	Largely achieved
	Output 2	Likely to be achieved to a certain extent
	Output 3	Likely to be achieved
	Output 4	Achieved
	Output X	Likely to be achieved
Evaluation based on 5 Evaluation Criteria	Relevance	High
	Effectiveness	Relatively High
	Efficiency	Fair
	Impact	Some positive impacts have been observed. Negative impacts have not been observed
	Sustainability	Relatively High
Conclusions	Project Purpose	Expected to achieve mostly. Therefore, the Project can be completed in March 2013 as scheduled.
	Overall Goal	CF activities will not automatically lead to improvement of income levels of communities, therefore Overall Goal “is hardly expected to achieve within three (3) years after the completion of the Project.

Source: Report on Joint Evaluation, December, 2012

##### 3.0.2 Project Purpose

Achievement status of project purpose indicators is summarized as follows.

**Table 3.0.2.1 Achievement Status of Project Purpose Indicators**

Indicator	Verification	Indicator Achievement Status
1. By the Project end, mangrove forest coverage is increased by 3,550 acres (1,438 ha) 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.	Project Reports, CF Progress Reports, FD reports	In total 3,542acre was treated by the Project activities Current 6 CFUGs: 1,670acre Previous CFUGs: 285acre ARP: 1,587acre
2. At the end of the Project, among the registered members of all the target CF user groups (CFUGs) reselected in 2011 more than 80% consider CF useful.	CFUG Survey Results	Results from 6 CFUGs (298Member Households) revealed that more than 80% of registered members considered CF useful. Members answered “Useful” : 297 Members (99.7%)

Source: JET, March, 2013

##### 3.0.3 Output 1

Achievement status of Output 1 indicators is summarized as follows.

**Table 3.0.3.1 Achievement Status of Output 1 Indicators**

Indicator	Verification	Indicator Achievement Status
1-1 By September 2011, all the CF Management Plans of the CFUGs, reselected in March 2011, are developed/updated.	CF Management Plans	CF management plans for 6 CFUGs were finalized in June 2012.
1-2 By the end of the Project, organizational capacity of the Management Committee of all target CFUGs reaches the 3rd level (meaning that they achieve more than half of the full fulfilment) of the evaluation rating composing of five achievement levels set by the Project.	Project Reports, Impact and Capacity Assessment Results	All of Management Committees of 6 reselected CFUGs reached the 3 <sup>rd</sup> level of the evaluation rating composing of five achievement levels.
1-3 The certified CF Management Plans (i.e. CF plantation and NFIO) of all the target CFUGs reselected in 2011 are implemented according their annual plans.	CF Management Plans, CF Progress Reports,	Each of 6 reselected CFUG, in principle practice their CF activities based on 5 year plan determined in their CF management plans.
1-4 By the Project end, more than 1,460 acres (591ha) (*3) of mangrove forests are rehabilitated and managed by the CFUGs reselected in 2011 based on the certified CF Management Plans, including CF plantation and NFIO when applicable.	Project Reports, CF Progress Reports, FD reports	From 2009 to 2012, total of 1,670acre of CF areas had been treated.
1-5 By the Project end, all the CFUGs reselected in 2011 start to gain profit from CF.	Project Reports, CF Progress Reports	In some CFUGs, there were cases that by-products from thinning and other tending operations were sold. However these are nominal and profit from CF has not been quantified yet.

Source: JET, March, 2013

### 3.0.4 Output 2

Achievement status of Output 2 indicators is summarized as follows.

**Table 3.0.4.1 Achievement Status of Output 2 Indicators**

Indicator	Verification	Indicator Achievement Status
2-1 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 fulfilment) of the evaluation rating composing of five achievement levels set by the Project.	Project Reports, FD Capacity Assessment Results	For the assessment, technical capacity and core capacity were assessed. Based on the assessment, More than 80% of interviewees (10 numbers) who are currently engaging in the Project (as of March 2013) had reached above the 4 <sup>th</sup> level of the evaluation (technical 80%, core 100%) 1. More than 80% of all of interviewees (including additional 10 interviewees who were previously assigned in the Project) reached above the 4 <sup>th</sup> level for the “Core Capacity” which is regarded as the basic capacity. This implies that FD staff have the basic capacity to proceed participatory mangrove management. 2. Regarding “Technical Capacity”, staffs currently engaging in the Project show enough knowledge and techniques. However, staffs who left the project or mangrove area seem to have not continuously and sufficiently attaining such knowledge and techniques. Thus, it implies necessity of technical trainings for staff who are newly assigned to mangrove areas.
2-2 On average, more than 80% of all registered members of the CFUGs 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.	Project Reports, CFUG Survey Results	Results from 6 CFUGs (298Member Households) revealed that more than 80% of registered members gave the highest or medium rate as follows: Understanding: 292 Members (98.0%) Applicability: 294 Members (98.6%) Satisfaction: 293Members (98.3%)
2-3 By the Project end, a training program for CF for mangrove forest, including materials, is developed based on the	Project Reports, CF-SOP	CF- SOP was arranged as training material and training curriculum was included in CF-SOP

Indicator	Verification	Indicator Achievement Status
existing ones for confirmation by the DG for further action (in English & Myanmar).		
2-4 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).	Project Reports, CF-SOP	CF-SOP finalized and completed in March 2013.

Source: JET, March, 2013

### 3.0.5 Output 3

Achievement status of Output 3 indicators is summarized as follows.

**Table 3.0.5.1 Achievement Status of Output 3 Indicators**

Indicator	Verification	Indicator Achievement Status
3-1 By the Project end, a technical report on Action Research (AR) for mangrove are prepared (in English and Myanmar).	Project Reports, Technical Report	Technical Report finalized and completed in March 2013.
3-2 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).	Project Reports, Technical Guideline	Technical Guideline finalized and completed in March 2013.

Source: JET, March, 2013

### 3.0.6 Output 4

Achievement status of Output 4 indicators is summarized as follows.

**Table 3.0.6.1 Achievement Status of Output 4 Indicators**

Indicator	Verification	Indicator Achievement Status
4-1 By December 2011, an inter-agency coordination meeting is organized by the FD.	Meeting Records, Proceedings	Regional Coordination Meetings were held on November 2011 and October 2012.
4-2 Land use information of the Target Area is updated based on the satellite images of 2007, 2009 and 2012.	Land Use Maps	Based on the satellite images of 2007, 2009, and 2012, land use maps and posters describing land use changes were prepared.
4-3 The updated land use information is shared at the inter-agency coordination meetings for discussion.	Meeting Records, Proceedings	Land use maps and land use information were presented and shared at Regional Coordination Meetings held on November 2011 and October 2012.
4-4 Seminars to promote synergy among the relevant sectors are organized annually.	Meeting Records, Proceedings, Project Reports	In total 8 seminars as Mangrove Seminar, and 1 technical workshop were held.
4-5 A donor/NGO coordination meeting for the Target Area organized by the FD once a year.	Meeting Records, Proceedings	In both 2011 and 2012, meetings were held and Laputta District and Pyar Pon District, respectively (total of 4 meetings)

Source: JET, March, 2013

### 3.0.7 Output X

Achievement status of Output X indicators is summarized as follows.

**Table 3.0.7.1 Achievement Status of Output X Indicators**

Indicator	Verification	Indicator Achievement Status
X-1 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.	Hazard Maps	By March 2009, Hazard Map was prepared. Project updated the hazard map by February 2013.
X-2 By March 2010, a report on damage & recovery survey on the communities in the Target Area is prepared.	Project Reports	Described survey results in Project reports.
X-3 By March 2010, Centre for CF Extension & Nursery in each RF is rehabilitated.	Facilities completed, Construction related reports, Project Reports,	Due to unexpected difficulties in material procurement and delivery, there were delay in the progress, but by July 2010, rehabilitation of CFECNs were completed.
X-4 In 2009 & 2010, materials necessary for disaster recovery or prevention work are provided to the FD and the Cooperating Agencies based on the needs.	Equipment list, Project Reports	By 2010, all of equipment and material which were considered to be necessary at that time were procured. (Refer 2.3 and 3.5.6 of this report)
X-5 By December 2011, a report on recovery condition of mangrove vegetation (2008-2010) is prepared.	Technical Report	The results and data were incorporated into technical report for the action research.

Source: JET, March, 2013

### 3.1 Output 1

**Output1: The selected communities practice environmentally and economically sustainable community forestry (CF).**

#### 3.1.1 Select Villages to Introduce CF

Activity 1-1: Select villages to introduce CF from the ones that express interest

##### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- The IMMP adopted by FD targeted 20 villages as the target for its phase I from 2006. In early 2007, FD proposed 14 candidate villages to select the target for the first 3 years of the Project. Candidates villages were selected based on 1) location of village, 2) condition of mangrove, 3) pressure to mangrove forest and its use, and 4) interest of villagers to CF. By FY 2009, the total number of the CF target villages under the Project was 13 as indicated in the following table.

**Table 3.1.1 List of Target Villages Fixed in 2009**

No.	District	Township	Reserved Forest	Village Tract	Village	Selected FY
1	Laputta	Laputta	Kyakankwinpauk	Hlwa Zar	Kwa Kwa Ka Lay	2008
2	Laputta	Laputta	Kyakankwinpauk	Sa Lu Seik	Kwin Thone Sint	2009
3	Laputta	Laputta	Pyinalan	Ye Twin Seik	Kanbala Ta Pin	2008
4	Laputta	Laputta	Pyinalan	Pyin Alan	Thar Yar Kone	2008
5	Laputta	Laputta	Pyinalan	Ye Twin Seik	Nyaung Ta Pin	2008
6	Laputta	Laputta	(Pyinalan)	Dani Seik	Peine Kone	2009
7	Laputta	Laputta	Pyinalan	Pyinalan	Thaung Lay	2009
8	Laputta	Laputta	Kadonkani	Kyein Chaung Gyi	Ahpyin Pade Gaw	2008
9	Pyar Pon	Bogalay	Kadonkani	Kyein Chaung Gyi	Gway Chaung Gyi	2009
10	Pyar Pon	Bogalay	Pyindaye (North)	Set San	Shwe Pyi Thar	2008
11	Pyar Pon	Bogalay	Pyindaye (North)	Set San	Daming Daung	2009
12	Pyar Pon	Pyar Pon	Pyindaye (South)	Ba Wa Thit	Htaung Gyi Tan	2008
13	Pyar Pon	Pyar Pon	(Pyindaye (South))	Ba Wa Thit	Gaw Du	2009

Source: JET, January 2011

##### **【March 2011 to End of the Project】**

- In consideration of capacity and available resources of both FD and JET, and situations of target villages, it was recommended by the mid-term review to narrow down number of CF target villages

into around six. Based on this recommendation, six CFUGs in the following table were re-selected as the project CF target villages.

**Table 3.1.2 List of Target Villages Re-selected in 2011**

No.	District	Township	Reserved Forest	Village Tract	Village	Selected FY
1	Laputta	Laputta	Kyakankwinpauk	Hlwa Zar	Kwa Kwa Ka Lay	2008
2	Laputta	Laputta	Pyinalan	Pyin Alan	Thar Yar Kone	2008
3	Laputta	Laputta	Pyinalan	Ye Twin Seik	Nyaung Ta Pin	2008
4	Pyar Pon	Bogalay	Pyindaye (North)	Set San	Shwe Pyi Thar	2008
5	Pyar Pon	Pyar Pon	Pyindaye (South)	Ba Wa Thit	Htaung Gyi Tan	2008
6	Pyar Pon	Pyar Pon	(Pyindaye (South))	Ba Wa Thit	Gaw Du	2009

Source: JET, September 2012

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- In the original CF target villages, there were villages which selection process was not clear in details. For example, Peine Kone village itself was located outside of Reserved Forests (i.e. excluded areas) and CF area was quite in distance from the village.
- Targeted model CFUGs number of IMMP Phase I was 20, whereas number of project targeted villages determined in PDM version 1 was 22. Since the Project was originally intend to support part of IMMP phase I, the number of target CF villages for the Project was excessive in terms of operation and support.

### **【March 2011 to End of the Project】**

- In all of six re-selected villages, it took significant time for reconfirmation of willingness to continue CF activities, reformulation of CFUG, demarcation of CF areas, and finalization of CF management plan. Thus it took more than a year from re-selection to CF certification.

## 3.1.2 Baseline Survey for Selected Communities

Activity 1-2: Conduct baseline survey on the basic socio-economic conditions of the selected villages

### (1) Achievement

#### **【2007 to February 2011 (up to Mid-term Review)】**

- Baseline survey was conducted through subcontracting in 2007 to grasp natural environment and socioeconomic conditions in the 14 candidate villages before the Project activities were started. The results and outputs were compiled in August 2007 as the report “Baseline Survey for the Integrated Mangrove Rehabilitation and Management Project through Community Participation in the Ayeyawady Delta” which was prepared by Technologies Development Group Company Ltd., a contractor of JET for the survey.

#### **【March 2011 to End of the Project】**

- In consideration of effects of Cyclone Nargis and re-selection CF target villages, supplemental baseline survey was conducted in six re-selected villages through subcontracting in 2012. The results and outputs were compiled in August 2012 as the report “Baseline Survey for the Project Target Villages” which was prepared by Myanmar Engineering Consulting Co., Ltd., a contractor of JET for the survey. The survey report is described in **Attachment 11**. Based on the result of this survey a impact survey and CFUG capacity assessment were conducted in the re-selected villages (Activity 1-9).



## **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Due to the damages by Cyclone Nargis, the result of the original baseline survey could not be used after the cyclone.

### **【March 2011 to End of the Project】**

- Since, it took longer time than expected for reconfirmation of CFUGs and their activities in six re-selected villages, the supplemental baseline survey was only possible to proceed in the final year of the Project.

## **3.1.3 Organize/reorganize CFUGs in the selected villages**

### Activity 1-3 Organize/reorganize CFUGs in the selected villages

#### **(1) Achievement**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Although the selection of the original 13 target villages was not much in delay, mobilization and formation of CFUG were behind the schedule. In most targeted villages, USG were formed / reformed after Cyclone Nargis when FD staff and JET visited the village. Formation of CFUG, Management Committee (MC), and preparation of member list were considered to be the integral part of this activity. However, as of February 2011, target CFUGs which fulfilled these requirements or properly functioning as a group were nil.

### **【March 2011 to End of the Project】**

- When the Project re-confirmed the MC members and CFUG members in July 2011, for the re-selected six villages, differences in opinions within a CFUG for MC members as well as CFUG members were observed. In addition to preparation of CF management plans, formation/reformation of CFUGs and preparation of CFUG by-law were covered in CF Management Plan / CFUG Confirmation Workshops conducted in each respective villages (five times per village during July 2011 to January 2012)
- In CF management plans (proposals) finalized in June 2012, MC member list, CFUG member list, and by-law were attached in the proposal and submitted to FD. After the submission of proposals the Project supported updates of member lists and by-laws based on necessity.

#### **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- In most of CFUGs, even though group and MC were formed, a function to work in CF activities and managing CF as a group was not well attained yet.
- There were cases that, consensus about MC members and CFUG members were not developed in some CFUGs

### **【March 2011 to End of the Project】**

- It took much time than expected to confirm and share, CFUG situations, by-law preparation. Therefore more than one year was required from re-selection of villages to finalization of CFUG and CF management plans.

## **3.1.4 Assist the CFUGs in Preparing/updating their CF Management Plans**

### Activity 1-4 Assist the CFUGs in preparing/updating their CF Management Plans and proposals for CF certificates through participatory planning process

## (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- In general, CF Management Plans were drafted by FD office/ officers who were in charge of the target village areas, and were not fully drafted through participatory planning process. As of February 2011, CF Management Plans were prepared (before/after Cyclone) in 8 villages out of 13 target villages. The preparation status of proposals (CF management plans) in the 13 targeted village as of January 2011, is summarized in following Table (As of September 2010, 6 villages out of 13 target village had not prepared or not updated the management plan).

**Table 3.1.4.1 Preparation of CF Management Plan**

No.	Village	Year of preparation	Remarks
1	Kwa Kwa Ka Lay	September 2009	Submitted to the district office. Not approved yet.
2	Kwin Thone Sint	Not prepared yet	
3	Kanbala Ta Pin	September 2009	Submitted to the district office. Not approved yet.
4	Thar Yar Kone	2003	Not updated yet.
5	Nyaung Ta Pin	2003	Not updated yet.
6	Peine Kone	1995 – 1998	Not updated yet.
7	Thaung Lay	Not prepared yet	
8	Ahpyin Pade Gaw	May 2009	Submitted to the district office. Not approved yet. Plan was prepared and submitted before the cyclone in 2007
9	Gway Chaung Gyi	July 2010	Submitted to the district office. Not approved yet.
10	Shwe Pyi Thar	May 2009	Submitted to the district office. Not approved yet. (As the former-Hnget Kyi Taung Village, plan was prepared in Dec 2007)
11	Daming Daung	August 2010	Submitted to the district office. Not approved yet.
12	Htaung Gyi Tan	June 2009	Submitted to the district office. Not approved yet.
13	Gaw Du	December 2010	Submitted to the district office. Not approved yet.

Source: JET, January 2011

- As of December 2010, only Kwa Kwa Ka Lay and Htaung Gyi Tan CFUGs possessed the copy of CF Management Plan. Most CFUGs did not know the detail of their Management Plan or their understandings were different from the documented Management Plans or understating about their plan differed even among MC members. Only two out of 8 prepared plans described 5- year operation plans whereas other plans only indicated for single year operation.

### **【March 2011 to End of the Project】**

- During April to May, 2011, CF management plans were re-drafted upon reselection of CFUGs
- In July, 2011, FD personnel, CFUG's major members (MC members) and JET jointly confirmed the content of re-drafted management plans as well as CFUG situations in each village. Major issues confirmed were as follows:
  - All CFUGs did not have a copy of their latest management plan (therefore provided copy)
  - In general, the content of plans was not well confirmed / shared even between FD (officers in charge) and MC members.
  - Some management plans attached old CFUG member lists (before cyclone Nargis).
  - Locations as well as boundaries of some CF areas had certain discrepancies between CF maps and ground situations/ CFUG understandings (Thar Yar Kone CFUG and Nyaung Ta Pin CFUG).
- Therefore, in order to confirm details of above, CF Management Plan / CFUG Confirmation workshops were scheduled in each target village for reconfirmation/ finalization of CF management plans as well as preparation of bylaws.
- Originally, it was expected to finalize CF management plans and by-law by not later than end of 2011. However, CFUG workshops were conducted for five times at each CFUG from July 2011 to January 2012. It took much more time to confirm and settle following issues:
  - Who are MC members/ CFUG members?
  - CF area problems (boundaries, locations, area, conflicts with other interest groups)

- Difference in understanding about By-law (within CFUG, by FD)
- Moreover, further confirmations were required between February to June 2012 for documentation of CF management plans and CF area finalization. After all, CF management plans were finalized in June 2012

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- JET could not provide timely and enough training / support for FD field staff to conduct participatory planning for preparation of CF management plans.

### **【March 2011 to End of the Project】**

- It took much time than expected to confirm and share about CFUG situations, CF area, CF activities, and by-law preparation. Therefore more than one year was required from re-selection of villages to finalization of CFUG and CF management plans.

## 3.1.5 Issue CF Certificates to the CFUGs Based on the Proposals as per the CFI

Activity 1-5 Issue CF certificates to the CFUGs based on the proposals as per the CF Instruction (CFI)

### (1) Achievement

#### **【2007 to February 2011 (up to Mid-term Review)】**

- As of January 2011, no CF certificate had been issued for 13 targeted villages, though proposals for eight CFUGs were submitted during the Project period. Under current FD's regulation, CF Certificate will be issued at Division/ State FD offices. However all of submitted proposals were kept in the District FD office, and not submitted to the Divisional FD office.

#### **【March 2011 to End of the Project】**

- CF certificates were issued on 31 July, 2012 to all of six CFUGs in re-selected villages. At the back side of the certificate, duration of land use right (i.e. 30 years from the certification) was indicated .

**Table 3.1.5.1 Summary of Certified CFUGs**

Township	CFUG Name	No of HH Member	Area of CF(Acre)
Laputta	Kwa kwa Ka Lay (KKKL)	39	202
	Thar Yar Kone (TYK)	59	1,051
	Nyaung Ta Pin (NTP)	68	693
Bogalay	Shwe Pyi Thar (SPT)	106	50
PyarPon	Gaw Du (GAD)	83	50
	Htaung Gyi Tan (TGT)	63	157
	Total	382	2,203

Source: JET, October 2012

- From 18 to 24 September, 2012, CF certification ceremonies were conducted in KKKL CFECN, TYK CFECN, TGT CFECN and SPT village. In each of the ceremony, FD personnel, CFUG members, and JET participated. In connection with the ceremony, CF Group management trainings were conducted mainly targeting management committee members of CFUGs (3.2.7).

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- CF Management Plan and Land Use Plan are as essential for CFUG itself. However, there was no village where its Management Plan was approved and certified since 2009. Hence on-going CF activities did not have back up / justify as CF.

**【March 2011 to End of the Project】**

- There were not much clear and fixed detail process as well as criteria for approval of CF proposals, and issuance of CF certificates. Therefore, it took certain time till the actual certification.
- In respect to the content of CF certificate, the form determined in CFI is currently the rigid foundation of the certificate. At this moment, it is not flexible and possible to modify the content of certificate, even though some information are required in the certificate but not determined in prescribed form (Indication of 30 years of land use right was only possible in the back side of the certificate and not the front side).

**3.1.6 Assist the CFUGs in Implementing the Certified CF Management Plans**

Activity 1-6 Assist the CFUGs in implementing the certified CF Management Plans

**(1) Achievement**

**【2007 to February 2011 (up to Mid-term Review)】**

- There was no certified CF management plans during this period, and CF activities were implemented without CF certification.
- In 2009 and 2010, FD mainly conducted distributions of seedlings. According to records available at MYM district FD office, CF area achievement for the CF target villages was 690 acres in total. Details per village are described in the following table. However, since details of gap plantations (actual areas and seedling planned and actually planted) were not fully recorded in the seedling distribution records and in the CF management plans, there is some possibilities that actual plantation (operation) areas may have some differences from figures indicated below.

**Table 3.1.6.1 CF Area Achievement in Target Village in 2009 and 2010**

Village		Selected FY	Total CF Area (acre)	Treated Area (2009) (Acre)	Treated Area (2010) (Acre)	Total Treated Area (Acre)
1	Kwa Kwa Ka Lay	2008	462.56	100	70	<b>170</b>
2	Kwin Thone Sint	2009	0	0	(20)	<b>(20)</b>
3	Kanbala Ta Pin	2008	780	100	10	<b>110</b>
4	Thar Yar Kone	2008	1295.18	0	25	<b>25</b>
5	Nyaung Ta Pin	2008	637.5	0	25	<b>25</b>
6	Peine Kone	2009	780		25	<b>25</b>
7	Ahpyin Pade Gaw	2008	50	50	0	<b>50</b>
8	Gway Chaung Gyi	2009	50		50	<b>50</b>
9	Shwe Pyi Thar	2008	50	50	0	<b>50</b>
10	Daming Daung	2009	50		50	<b>50</b>
11	Htaung Gyi Tan	2008	100	100	0	<b>100</b>
12	Gaw Du	2009	35		35	<b>35</b>
Total			4,290.24	400	290	<b>690</b>

Source: January 2011 based on FD records.

**【March 2011 to End of the Project】**

- Based on the certified CF management plans in July 2012, five-year annual plan of CF area of six CFUGs are as follows.

**Table 3.1.6.2 Five year Annual Plans of CF Areas for RE-selected Villages**

Township	CFUG	CF Operation	2009 acre	2010 acre	2011 acre	2012 acre	2013 acre	2014 acre	Total acre
Laputta	Kwa kwa Ka Lay (KKKL)	Plantation	18.0	37.0	45.0	45.0	27.0		172
		Natural Forest	6.0	6.0	6.0	6.0	6.0		30
		Total	24.0	43.0	51.0	51.0	33.0	0.0	202
	Thar Yar Kone (TYK)	Plantation	118.0	118.0	118.0	177.0	177.0		708
		Natural Forest	59.0	59.0	59.0	59.0	107.0		343
		Total	177.0	177.0	177.0	236.0	284.0	0.0	1,051
	Nyaung Ta Pin (NTP)	Plantation	68.0	68.0	68.0	136.0	136.0		476
		Natural Forest	34.0	34.0	34.0	58.0	57.0		217
		Total	102.0	102.0	102.0	194.0	193.0	0.0	693
Bogalay	Shwe Pyi Thar (SPT)	Plantation	6.5	6.5	6.5	7.5	8.0		35
		Natural Forest					15.0		15
		Total	6.5	6.5	6.5	7.5	23.0	0.0	50
PyarPon	Gaw Du (GAD)	Plantation		30.0	10.0	5.0			45
		Natural Forest		5.0					5
		Total	0.0	35.0	10.0	5.0	0.0	0.0	50
	Htaung Gyi Tan (TGT)	Plantation	40.0		20.0	27.0			87
		Natural Forest	60.0		10.0				70
		Total	100.0	0.0	30.0	27.0	0.0	0.0	157
Total	Plantation	250.5	259.5	267.5	397.5	348.0	0.0	1,523	
	Natural Forest	159.0	104.0	109.0	123.0	185.0	0.0	680	
	Grand Total	409.5	363.5	376.5	520.5	533.0	0.0	2,203	

Source: Prepared based on certified CF management plans (October, 2012)

- As it took up to the final year of the Project for confirmation of CF area boundary, CF area size, area achievements of past years' CF activities are indicative estimates, and annual planned areas in the five year-annual plan were more determined based on requests and capacities of CFUGs.
- Therefore, CFUGs are basically conducting CF activities in accordance with the certified CF management plans but in the reality annual plans (planned year and planned area) are tended to be regarded as indicative targets
- Though there are missing implementation/ monitoring records, in consideration of available FD records and CF management plans, from 2009 to 2012, it is reasonable to say that approximately around 1,900 acres and above CF areas were treated in six-reselected villages and the originally targeted villages (range of 1,870 acres to 1,955 acres).

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- FD has distributed seedlings and planting activities had been conducted. However, there were four major issues found during the monitoring process; 1) Inconsistency between CF Management Plan and actual implementation 2) Inappropriate selection of species in respect to site suitability 3) Insufficient technical guidance from FD side, and 4) Limited monitoring activities after planting.
- Though CF management plans were prepared in most of targeted CFUGs, sharing of the plan and confirmation of the actual CF area were not fully conducted. Therefore, there were cases with certain discrepancies in terms of CF area between the plan and the actual implementation.

### **【March 2011 to End of the Project】**

- Area and boundaries of CF areas became much clear to relevant stakeholders, however, the finalized CF management plans were not always selecting appropriate species and operations in accordance with the site conditions of CF areas.
- Since it took much time for CFUG reformulation and CF management plan finalization, support to the actual CF implementation was somewhat limited during the project period.
- Concrete stake installation had been conducted at CF boundaries (January to February 2013).

### 3.1.7 Implement Various Capacity Strengthening Programs to the CFUGs

Activity 1-7 Implement various capacity strengthening programs to enhance the income levels of the CFUGs in partnership with Cooperating Agencies such as Department of Fisheries (DOF), Myanma Agriculture Service (MAS), and other institutions.

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- From the commencement of the Project, production and marketing of CF products (i.e. agroforestry, aquaculture) were considered as an essential component to increase the income levels of the user groups. In the initial stage of the Project, the possibilities of agroforestry as well as testing of fast growing species, such as Melaleuca were examined. Market survey was also conducted in 2007 to study local markets, types of products, and transportation, which revealed the high local competition and low price of forest products such as nypa sheet and pole. Based on discussions among stakeholders and market survey, high potential products with coherence to sustainability were selected, such as oyster culture, Melaleuca, and pepper cultivation.
- Income generating activities associated to this output was discontinued after Cyclone Nargis. It was resumed after January 2009, but due to the drastic socio-economic change in the target villages and damages of coconuts trees, production and marketing will start only after this Project.

##### **【March 2011 to End of the Project】**

- After Cyclone Nargis, oyster culture trial and other aqua-agroforestry related activities were implemented as livelihood improvement activities by CFUGs. The aqua-agroforestry related guidelines prepared in the Project are described in **Attachment 12**.
- Though the remaining project period was short, examination of additional livelihood improvement and support activities for CFUGs was conducted FY2011 and onward. After discussion with respective CFUGs, and reflecting knowledge gained from market visits, candidate products/activities which their resources are available within target villages and possible to add value for increasing market price are listed in the following table.

**Table 3.1.7.1 Candidates for Potential Livelihood Activities**

Activities	Laputta	Bogalay
1. Crab fattening	○	○
2. Nipa	○	—
3. Firewood	○	○
4. Pole	○	○

- As a part of providing information for additional livelihood improvement and group strengthening activities, livelihood profile sheets for CFUGs were prepared by the Project with collaboration of some NGOs. The prepared profile sheets are described in **Attachment 13**.

#### (2) Issues and Considerations

- CF activities based on the existing CFI basically covers forestry component only and linkages with livelihood activities and group capacity developing activities are weak. Livelihood improvement related activities were hardly described in the CF management plans.
- Since livelihood related activities were somewhat limited in terms of contents and extent after Cyclone Nargis and the mid-term review, collaborations with DoF and MAS (DoA) were also limited.

### 3.1.8 Monitor and Evaluate the Implementation of the Certified CF Management Plans

Activity 1-8 Monitor and evaluate the implementation of the certified CF Management Plans.

## **(1) Achievement**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Process and reporting system of CF monitoring and evaluation were planned and described in the POM. POM was distributed to relevant organizations but monitoring was not sufficiently conducted.

### **【March 2011 to End of the Project】**

- Since finalization of CF management plans and CF certification were only possible in 2012, not much of support to targeted CFUGs were done for monitoring and recording of CF activities. Therefore, preparation of monitoring form cum CF progress report form for targeted CFUGs based on a form attached to CFI was prepared by the Project. Using this form, trainings to support monitoring activities and CF progress reports were conducted during January to February 2013.

## **(2) Issues and Considerations**

- In Myanmar, CFUGs which prepared CF progress report as per determined in CFI are nil. Also CFUGs targeted in the Project had also not prepared CF progress report yet.
- At the project targeted CFUG, support for monitoring of CF activities and training for progress report preparation were conducted. However, completion as well as submission of CF progress reports by CFUGs were not materialized during the project period.

### **3.1.9 Conduct Impact Survey Regarding the Effects of CF on the Livelihoods**

Activity 1-9 C Conduct impact survey regarding the effects of CF on the livelihoods of the members of the CFUGs.
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## **(1) Achievement**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Though it was envisaged to conduct intermediate impact survey prior to the mid-term review, there were no certified CFUGs after project commencement and planted trees were not ready for harvest since there were less than 2 years old from planting at that time. Therefore, it was regarded not yet at the stage of assessing the impact of CF on livelihoods of selected communities and assessment was not conducted.

### **【March 2011 to End of the Project】**

- An impact survey cum CFUG capacity assessment was conducted in six re-selected villages through subcontracting from September to December 2012. The survey was conducted by Myanmar Engineering Consulting Co., Ltd., the contractor who conducted the baseline survey. The survey report is described in **Attachment 14**.
- At the time of termination of the Project, impacts as well as effectiveness of CF which contribute to income generation had not been fully appeared. However from the results of the impact survey, it has been revealed that through CF certification, by-law formulation, and group management trainings, CF is somewhat contributing to livelihood improvement of CFUGs.

## **(2) Issues and Considerations**

### **【March 2011 to End of the Project】**

- CF certification of reselected CFUGs was only taken into place in July 2012. Therefore, time for implementing livelihood activities and other CF activities under certified CFUG and CF management plan were very short. And by the end of the Project, target CFUGs were still not in stage to evaluate effects of CF on the livelihood of members.

## 3.2 Output 2

**Output2: The management and the support system of the Forest Department (FD) for CF is effective.**

### 3.2.1 Identify Necessary Activities for CF Management and CF Extension & Support by each RF

Activity 2-1 Identify necessary activities for CF management and CF extension & support by each Reserve Forest (RF) based on review of the CF contents of the Integrated Mangrove Management Plan (IMMP).

“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.. “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

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- In general, the content of IMMP was reviewed together with MCFTF members and shared with new MCFTF staff members (counterparts) upon the time of appointment. However, detailed activity plan for IMMP Phase I for each of four reserved forests in the Project Area was not drafted during this period.

##### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted in August, 2011, field level technical MCFTF staff (11 participants), discussed about activities for CF management and CF extension and support as a part of session for confirming roles and responsibilities of MCFTF. Also necessary activities for CF management and CF extension and support were reconfirmed during PCM/IMMP training held from 24 to 25 November, 2011.
- Though specifying necessary activities for each reserved forest was not achieved necessary activities for CF management and CF extension and support were confirmed among MCFTF members.

#### (2) Issues and Considerations

- In views of strategies and approaches, such as private forestry, newly introduced in reserved forests of the Project area, IMMP currently adopted by FD may have certain changes from the original IMMP. However, reconfirmation and review of IMMP were not fully initiated yet and the content of the original IMMP was not fully share among relevant stakeholders.

### 3.2.2 Confirm the Roles and Responsibilities of the Technical Members of CF Task Force

Activity 2-2 Confirm the roles and responsibilities of the technical members of CF Task Force (technical MCFTF) for the identified activities.

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- The Project Operation Manual (POM) was updated annually, but it did not fully describe the responsibility of each level of MCFTF. As of February 2011, JET’s guidance and support toward each level of MCFTF were limited. JET was collaborating widely with township and district levels, whereas collaboration with Division and Central level MCFTF were limited due to degree of involvement toward the actual project activities as well as existence of technical MCFTF staff.



### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, field level technical MCFTF staff, discussed about “desired/ ideal activities for CF extension”.
- Based on above, necessary workloads/ resources as well as roles and responsibilities of FD (MCFTF) were confirmed among participants.
- Reconfirmed roles and responsibilities during PCM/IMMP training held from 24 to 25 November, 2011.
- Also reconfirmed roles and responsibilities during CF short trainings conducted in February 2012 (2 to 4 February: Myaung Mya, 6 to 8 February: Bogalay) and during CF Extension Planning Workshop held from 21 to 25 February, 2012.

### **(2) Issues and Considerations**

- MCFTF’s role and responsibility as well as its position were not so clear. Therefore, though roles and responsibility of MCFTF members were confirmed and reviewed, it has not reached to specific application at practice yet.

### **3.2.3 Assess the Needs of the Organization Related to the Integrated Mangrove Management**

Activity 2-3 Assess the needs of the technical MCFTF (e.g. financial, logistics and human resource development needs) to implement the identified activities.

#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- In FY 2007, needs assessment of MCFTF (organization and individual) based on the discussion with MCFTF was conducted. As for the cooperating agencies (MAS, DoF, SLRD), confirmed their needs in relation to concerned project activities. Based on the assessment, required equipments were provided, and counterpart (C/P) allowance and transportation cost were covered by Project.

##### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, existing resources of FD and necessary resources for further CF management and CF extension and support were confirmed among participants. Also experience as well as capacity of participants (MCFTF staff) was confirmed through, questionnaires, test and presentations.
- Reconfirmed roles and responsibilities during CF Extension Planning Workshop held from 21 to 25 February, 2012.

#### **(2) Issues and Considerations**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Procurement and delivery of equipments/materials were conducted based on the needs assessment, but these supplies simply fulfil the specific activity or individual sections/offices and were not fully assessed in accordance with consistency and coherence with overall project frameworks and output bases.

##### **【March 2011 to End of the Project】**

- It was not fully possible to deploy necessary supporting activities corresponding to needs of MCFTF.

### **3.2.4 Develop Training Plan & Materials Based on the Assessment**

Activity 2-4 Develop training plan & materials based on the assessment of the human resource development needs conducted in 2.3.

## (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- A technology transfer plan was prepared at the inception stage of the Project (2007). In accordance with the technology transfer plan, a training plan was drafted during FY2007. However, the implementation of trainings described in the training plan was not done at full scale during this period.

### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, needs for training was confirmed through questionnaires and test to participants. Training plan was re-drafted based on this activity.
- Training materials for CF short trainings conducted in February, 2012 were developed in collaboration with CFDTC-subcenter trainers (December 2011 to January 2012)
- After all, it was decided by the Project to use CF-SOP (refer Activity 2-9 and **Attachment 15**) also as training material and training curriculum was also included in the finalized CF-SOP.
- Training materials used in the trainings conducted in the Project are compiled in **Attachment 16**.

## (2) Issues and Considerations

- In the initial stage of the Project, linkage with existing training curriculum as well as usage of existing training materials were not fully explored.

### **3.2.5 Train FD Staff on CF and Integrated Mangrove Management**

Activity 2-5 Train the technical MCFTF according to the plan
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## (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- Up to February 2011, OJT and other collaboration were un-periodically conducted between JET experts, especially with district and township levels counterparts. FD counterparts attended relevant seminars held in Yangon and field together with Experts.
- In total, 9 counterparts from FD have received training in Japan by February 2011. Training courses attended by counterparts are listed in Table 3.2.5.2.
- Also, technology exchange programs to third countries were held during FY 2008 and FY 2009. Post-Workshop of Technology Exchange Program was conducted in 2009 to summarize and share the experiences and skills learnt in the previous two programs in Vietnam and Thailand. Two FD officers and three DoF officers participated into the second Technology Exchange Programme which confirmed CF activities and aquaculture in Thailand. The following table summarizes the Technology Exchange Program conducted in third countries. Names of participants for the Technology Exchange Program are listed in **Attachment 17**.

**Table 3.2.5.1 Technology Exchange Program Conducted in the Project**

<b>Training</b>	<b>Date</b>	<b>Place</b>	<b>Theme/ No of Participants</b>
Technology Exchange Programme 2008	23-28 Mar. 2009	Vietnam	Melaleuca Plantation Technologies / 5 Participants from FD
Technology Exchange Programme 2009	28 Feb. - 6 Mar., 2010	Thailand	CF Activities and Aquaculture in Delta Area / 5 Participants from FD and DoF
Post-Workshop on Technology Exchange Programs	8 Apr., 2010	Yangon	Confirmed the technologies learnt / applied in the field.

Source: JET, January 2011

### **【March 2011 to End of the Project】**

- After March 2011, 4 counterparts from FD have received training in Japan. By the end of the Project, total of 13 FD counterparts participated in the training in Japan. Training courses attended by counterparts and number of participates are listed in the following table.

**Table 3.2.5.2 Trainings in Japan**

Sr.	Title of Course	Fiscal Year	Total No. Trainees
1.	Conversation and Sustainable Management of Mangrove Ecosystem (GRT: Group Training)	2007	1
		2008	1
		2009	1
		2010	2
		2011	1
2.	Environmental Education for Sustainable Development-Conservation of Coastal Ecosystems for Lives of Local Communities (GRT: Group Training)	2009	1
		2010	1
		2011	1
		2012	1
3.	Seminar on Forest Management Policy- Sustainable Forest Management with Collaboration of Local Government and Community C/P Training)	2007	1
4.	Forest Management Policy in Asia - Sustainable Forest Management with Collaboration between Local Government and Community C/P Training)	2008	1
5	Roles of Forests in Natural Disaster and Revival of Forests and Forestry C/P Training)	2011	1

Source: JICA Myanmar Office, January 2011, October 2012

- After March 2011, following trainings were conducted by the Project.

**Table 3.2.5.3 Trainings Conducted in the Project after March 2011**

Training / Workshop Name	Dates	Theme	Duration (days)	Venue	Number of Trainees
CF Standardised Tools and Operation Procedure (SOP) Residential Meeting	24-26 Aug, 2011	CF procedures/ Training Needs Assessment	3	CFDTC, Hmawbi	11
PCM and IMMP Confirmation Training	24-25 Nov, 2011	Project Management	2	Yangon	13 (6 FD members) (7 JET members)
CF Short Training	2-4 Feb, 2012	Principles of CF	3	Myaung Mya	7
CF Short Training	6-8 Feb, 2012	Principles of CF	3	Bogalay	10
Community Forestry Extension Planning	21-25 Feb, 2012	Community Forestry / Participatory Extension	5	TGT CFECN	28 (12 USG members) (11 FD members) (5 JET members) (2 TNRP members)
Short Training on Basic Skills for Community Forestry Development	23-29 Oct, 2012	CF Basic Training	7	TGT CFECN	24 (21 FD members) (3 JET members)
<b>Total Number of persons</b>					<b>93</b>
<b>Total Number of Project Front Line Staff at FD</b>					<b>66</b>
<b>Total Number of UG members trained</b>					<b>12</b>

Source: JET, October 2012

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- Training opportunities for FD counterparts were limited to OJT/ other collaboration with Experts and a few overseas trainings, and no specific trainings (Off-JT) have been designed and conducted for field-level C/P. Revision of training plan / materials based on the needs assessment of FD C/P has not been fully conducted during this period.

### **【March 2011 to End of the Project】**

- Though trainings were planned and conducted based on reconfirmation of training needs, it was a bit difficult to gather certain numbers of field level MCFTC staff at one place at one time due to staff's other tasks. Therefore, the Project had to divide trainings or changes of the training schedule.

### 3.2.6 Construct/Renovate the CF Extension Centre & Nursery in Each RF

#### Activity 2-6 Construct/renovate the CF Extension Centre & Nursery in each RF

##### (1) Achievement

- Refer Activity X-5 under the Output X (3.5.5 of this report). All of the construction work completed by July 2010, and after the final inspection of facilities, all of facilities in each of four CFECNs were handed over to FD. After the delivery to the end of the Project, maintenance and repair of some facilities were conducted by the Project.

##### (2) Issues and Considerations

- Refer Activity X-5 under the Output X (3.5.5 of this report).

### 3.2.7 Provide Extension Services and Support to the CFUGs in Each RF

#### Activity 2-7 Provide extension services and support to the CFUGs in each RF

##### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- As of February 2011, interaction with CFUG (training / information sharing) was limited to only once or twice meetings per year in most of targeted villages. CF Management Plans were mostly drafted by FD and few CFUG members were aware of the contents of these prepared plans as well as the content of IMMP.
- For the aqua-agroforestry related activities (CF activities), technical transfer of oyster culture trail toward target subgroups had been progressed through DoF counterparts and fish culture expert of JET.

##### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, necessary extension services and support to CFUSGs were confirmed among participants. For increasing CFUSG's interest toward CF and public awareness, participants considered followings as preferred services to CFUSGs:
  - Discussion about CFI/CF
  - Training for CFUSG
  - Planting Advice
  - Study Tour to Other CFUSG
  - Social / Economic Support
  - Information Disclosure /Dissemination
- Township FD offices and respective CFUSG members jointly prepared action plans for CF extension during the CF Extension Planning Workshop organized from 21 to 25 February, 2012. After all the action plans for Bogalay Township and Pyar Pon Township were implemented in January 2013.
- In connection with CF certification ceremonies conducted from 18 to 24 September, 2012, CF Group management trainings intend for record taking and cashbook keeping, and general accounting. From each CFUG, approximately 10 members participated and also some field level FD staff participated. Number of participants for training is described in the table below.

**Table 3.2.7.1 Number of Participants for CFUG Group Management Training**

Venue	CFUG Name	CFUG Members in Ceremony	Training Participants	
			CFUG	FD
KKKL CFECN	KKKL	39	12	3
TYK CFECN	TYK	59	9	1
	NTP	68	9	
TGT CFECN	TGT	63	12	1
	GAD	83	16	
SPT Village	SPT	106	18	2

Source: JET, October 2012

## (2) Issues and Considerations

- Selection and implementation of effective extension services & support toward each CFUG were not fully exercised in consideration of different needs and situations among CFUGs.
- Also implementation of the actual trainings was mainly conducted in the final year of the Project after finalization of CFUGs and their activities.

### 3.2.8 Carry out Public Awareness Campaigns

Activity 2-8 Carry out public awareness campaigns regarding CF and the conservation of mangrove forests

#### (1) Achievement

##### **[March 2011 to End of the Project]**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, field level technical MCFTF staff, discussed and confirmed about possible effective public awareness campaigns and materials.
- Also during the CF Extension Planning Workshop organized from 21 to 25 February, 2012, possible effective public awareness materials were confirmed among field level key project stakeholders (FD, CFUSG).
- Public awareness raising materials prepared by the Project up to March 2013 are summarized in the table below.

**Table 3.2.8.1 Awareness Raising Material Prepared by the Project**

Type of Material	Title of the Material	Date Prepared	No. of copies printed
Pamphlet	Mangrove for All, All for Mangrove! – Towards the Co-existence of	Jul 2007	10,000
	Mangrove for All, All for Mangrove! – Towards the Co-existence of		
	Project Pamphlet (Oyster Culture)	Nov 2011	1,000
News letters	Mini News Letter (1) – Project Overview	Mar 2008	1,000
	Mini News Letter (2) – Land Use Data in Delta Region (Revised)	Sep 2010	3,000
	Mini News Letter (3) – Oyster Culture – An Experiment	Dec 2011	1,000
Poster	Poster 1: RECOFTC International Conference		
	Poster 2: Oyster Culture – an Experiment	Aug 2010	1,000
	Poster3: Cyclone Hazard Map (with Land Use Data as of January)	Sep 2010	3,000
	Poster4: Land Use Change and Land Use Map	Feb 2013	500
	Poster5: Updated Hazard Map	Feb 2013	500
Calendars	2008 Project Calendar	Mar 2008	1,000
	2009 Project Calendar	Feb 2009	1,500
	2010 Project Calendar	Feb 2010	3,000
	2011 Project Calendar	Sep 2011	2,500
	2012 Project Calendar/ Output 0 Desktop Calendar	Dec 2011	350
	2012 Project Calendar/ CF Seasonal Calendar (desktop)	Dec 2011	1,200
	Calendar 2012/ CF Seasonal Calendar (banner)	Dec 2011	500
Garment	T-Shirt	Jan 2010	600
	PloloShirt	Sep 2010	600
	Rain Coat	Sep 2010	510
	Eco Bag	Sep 2010	1,400
Stationeries	Project Stickers (4" x 4")	Jan 2011	2,500

Source: JET, February 2013

## (2) Issues and Considerations

- Since most of materials were translated into Myanmar, it took quite a long time for confirmation of Myanmar translation by FD and other relevant organizations, time for distribution of materials was often delayed than originally scheduled.
- Awareness raising to communities were mainly done through distribution of materials. Preparation of materials was normally in accordance with schedule, but distribution of materials was often delayed due to un-accessibility caused by rainy season and lack of human resource to cover entire project areas.

### 3.2.9 Detailed SOP

Activity 2-8 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

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Though topics related to standard operational procedures for CF have been discussed between JET and FD counterparts occasionally from the beginning of the Project, such procedures for CF were not drafted during this period, except for draft CFI Application Standard prepared by JET during 2007.

##### **【March 2011 to End of the Project】**

- During the CF-SOP residential meeting conducted on 24 -26 August, 2011, field level technical MCFTF staff, discussed about items which shall be included in CF-SOP. Followings are items suggested to be included in CF-SOP by participants.
  - Formulating Management Plan of Village Level (CFUSG)
  - Difficulties from Implementation
  - Abstract from CFI that must be known
  - Role of Extension Staff
- Based on the above, schedule for preparation of CF-SOP and draft table of contents were determined (September – October 2011)
- The actual preparation schedule was as follows.
  - 1st Draft CF-SOP in Myanmar was prepared (December, 2011)
  - 2nd Draft CF-SOP in Myanmar was prepared (April, 2012)
  - English translation of 2nd Draft CF-SOP and further review/ feedbacks by JET (May, 2012)
  - 3<sup>rd</sup> Draft CF-SOP in English (September 2012)
  - Completion of 3<sup>rd</sup> Draft CF- SOP in English and Myanmar (December 2012)
  - Finalization and FD's approval of CF-SOP in English (February, 2012)
  - Finalization and FD's approval of CF-SOP in Myanmar (March, 2012)
- CF-SOP dedicated for the delta mangrove area, and with information required by field level FD staff and supplement CFI to support and supervise preparation, planning and implementation of CF activities by CFUG was completed. The finalized CF-SOP is described in **Attachment 15**.

#### (2) Issues and Considerations

##### **【2007 to February 2011 (up to Mid-term Review)】**

- As this activity was quite similar to activities 2-4 and 2-5 of PDM/PO that time, merging and sorting of activities were required (reflected after PDM version 2)

**【March 2011 to End of the Project】**

- It took quite much time to build a consensus among stakeholders for the content of CF-SOP. This was because most of field level FD staffs were not fully aware about the detail content of the existing CFI but in the actual support and supervision of CF they tend to heavily rely on conditions and formats depicted in CFI. On the other hand, there are various interpretations and understandings toward CF and CFI within FD, and consensus as well as information sharing was nominal up to the preparation of CF-SOP.

**3.3 Output 3**

**Some silvicultural techniques for the rehabilitation of the degraded and the management of the mangrove and its associated forests for the Ayeyawady Delta are established**

**3.3.1 Conduct Surveys for Identification of Silvicultural Techniques for Both Community and Non-community Forestry**

Activity 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.

**(1) Achievement**

**【2007 to February 2011 (up to Mid-term Review)】**

- In Action Research Plantation (ARP) plan prepared during FY2007, nine ARP sites were selected. The Project conducted i) site condition survey (mean tide level, measurement of ground level based on the mean tide level) and ii) confirmation of species-site matching. Based on these findings, detail ARP plans were prepared and implemented for three years during this period.

**【March 2011 to End of the Project】**

- After the mid-term review, for ARP implementation plans for three ARP sites were added and implemented. In total there was 12 ARP sites established.

**(2) Issues and Considerations**

- Necessary silvicultural techniques to be confirmed were identified. However, at the beginning of the Project, trials had started without fully sharing and discussing definitions and purpose of survey items among the relevant stakeholders (FD and JET). This made more time required for reconfirmation and discussion at later stage.
- Also, in the beginning of the Project, there were not enough considerations in terms of input efficiency and practicability upon identifying necessary silvicultural techniques to be confirmed. Therefore, it also took much time than expected to judge practicability of the tested silvicultural techniques.

**3.3.2 Prepare the Specific Action Research Test Designs for Identified Silvicultural Technique**

Activity 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).

**(1) Achievement**

**【2007 to February 2011 (up to Mid-term Review)】**

- Based on the result of Activity 3-1, following test designs were prepared and tested; i) species selection/ planting density trial based on mean tide level / ground level and other site conditions, ii)

preparatory/tending operation trials such as ploughing and weeding. Type of respective technologies of ARP activities and the interaction of each technology are shown below (Table 3.3.2.1).

- As a ground level is recognized as one of most important factors for mangrove plantation, it is necessary to identify ground levels of the plantation sites. Mean water level serve as reference level to determine ground levels. Therefore, tidal level measurement had been conducted in four CFECNs during February to March 2010 (dry season).to find out the mean water level, and the ground level was surveyed in 2009 ARP sites. In addition, soil characters, such as soil moisture content, pH, and EC were analyzed to identify site conditions.
- Mangrove Forestry Experts of JET initiated preparation of succeeding year's annual action research implementation plan based on the test designs and the progress/ findings made in the previous year ARP activities. MCFTF/FD of each township finalized the ARP annual implementation plan.

**Table3.3.2.1 Objective and Contents of ARP Designs**

		Contents	Objectives
<b>Species Trial (ST)</b>			
ST-1	Mangrove species	More than 10 mangrove species were tested in FD plantation area.	1) To establish silviculture techniques other than two major mangrove species widely used in the delta. 2) To confirm suitable ground level for mangrove species.
ST-2	Mixed planting	Fast growing species and slow growing species were mixed planted in middle and high ground with weeds using 6'x6'.	1) To confirm suitable method of mix plantation and suitable density of mix plantation.
ST-3	Spacing	To confirm suitable spacing for mangrove species, five kinds of spacing was introduced into ARP.	1) To confirm suitable spacing for respective mangrove species. 2) Suitability of spacing to be defined from the tree growth and survival rate, will be defined.
ST-4	First growing species	Planted fast growing species ( <i>Melaleuca leucadendron</i> and <i>Casuarina equisetifolia</i> ) in high ground level area and sandy area.	1) To establish silviculture techniques for fast growing species. 2) To confirm suitable land condition for fast growing species.
<b>Land Treatment (LT)</b>			
LT-1	Mound	Introduced two kinds of mound method (spot and line) for fast growing species. Mound height was approximate 1.5 feet which was set to exceed the highest water level of treatment sites.	To define suitable mound treatment for fast growing species.
LT-2	Weeding	Conducted weeding (spot weeding, line weeding and clear weeding before plantation.	To define suitable weeding method based.
LT-3	Mulching	Mulching materials using weeds were covered around planted seedlings. For a comparison of growth and survival rates, non-mulching area is also introduced.	To confirm mulching effects at initial stage of mangrove plantation establishment.
LT-4	Ploughing	After the ploughing 5cm in depth, planted more than two mangrove species and applied four kinds of spacing. For a comparison of growth and survival rates, non-ploughing area was also introduced.	To confirm ploughing effects at initial stage of mangrove plantation establishment.
<b>Natural Regeneration (NR)</b>			
NR-1	Natural regeneration	Monitored natural regeneration sites and consider necessary operation for natural regeneration based on ground condition.	To confirm mechanism of natural regeneration and feed back to mangrove management

Source: JET, January 2013

**[March 2011 to End of the Project]**

- Tidal level measurement had been conducted in four CFECNs during July and August 2011(rain season). However, it was difficult to correspond with tidal level data collected in 2010 dry season because of some insufficiency of measurement.
- Based on results of previous monitoring surveys, the record format was revised, New format for recording and analysing temporal changes was also prepared.
- Because actual area and boundary (outer and treatment boundaries) of ARP sites were not fully confirmed among the project stakeholder (FD and JET), ARP boundary re-confirmation survey was conducted between September 2011 and May 2012.



## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- To define mean water level, it was necessary to record tidal level of both dry season and rainy season. After FY2011, the tidal level measurement was conducted in rainy season, but the result was not able to utilize effectively.
- At the stage of site selection of ARP, information of land condition survey, species matching and implementation plan were not shared properly among the stakeholders.

### **【March 2011 to End of the Project】**

- At the stage of site selection of ARP, details designs for condition survey and species matching were not always shared properly among the stakeholders. Also boundaries of ARP sites were not always possible to confirm at sites and also on maps. Therefore, the ARP boundary reconfirmation and ground level re-measurement were additionally required at the latter stage of the Project.

### 3.3.3 Execute the AR in each RF

#### Activity 3-3 Execute the AR in each RF

#### (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- Based on prepared ARP plan, FD township offices had implemented ARP in nine sites (one ARP in FY2007, four ARPs in FY2009 and four ARP in FY2010).

### **【March 2011 to End of the Project】**

- In FY 2011, FD township offices had implemented three new ARP sites. In total 12 ARP sites had been established and continually implemented. Trial activities had completed by March 2013.
- Results of previous ground level measurement were not fully and effectively recorded. Therefore the Project re-conducted ground level measurement for monitoring plots of major ARP sites during FY 2011 and FY2012.

**Table 3.3.3.1 Outline of APR Sites**

Reserved Forest(Township)	Sr.	Forest Compartment	Planting year	ARP reported area (acre)
Kyakankwinpauk (Laputta)	1	FC-26	FY2009	250
	2	FC-19	FY2010	120
	3	FC-17	FY2011	25
Pyinalan (Laputta)	4	FC-60	FY2009	250
	5	FC-66	FY2010	120
Kadonkani (Bogalay)	6	FC-36	FY2008	212
	7	FC-39	FY2009	200
	8	FC-63	FY2010	80
	9	FC-62	FY2011	25
Pyindaye (Bogalay, Pyar Pon)	10	FC-64	FY2009	200
	11	FC-65	FY2010	80
	12	FC-66	FY2011	25
TOTAL	-	-	-	1,587

*Note: ARP reported area means outer boundary area of ARP, and not the treatment area.*

*Source: JET, October 2012*

## (2) Issues and Considerations

### 【2007 to February 2011 (up to Mid-term Review)】

- Even after the implementation of ARP, detail experimental designs for surveys and trials (such as condition surveys, species selection) were not fully shared and understood among the stakeholders (FD and JET).

### 【March 2011 to End of the Project】

- Since the above was still major issue during this period, at result compilation stage, additional confirmations and survey works were required.
- Some of tidal gage in CFECNs had been destroyed and washed away. Thus not able to re-measure. It is necessary to re-install tidal gage, if FD continues tidal level measurement for ground level confirmation in delta.

### 3.3.4 Conduct Periodic Technical Monitoring / Preliminary Assessment on the AR plantation

Activity 3-4 Conduct periodic technical monitoring / preliminary assessment on the AR plantation (ARP)
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#### (1) Achievement

### 【2007 to February 2011 (up to Mid-term Review)】

- Technical monitoring has been periodically conducted by project staff (FD and JET). However, it was found that in some sites monitoring was not fully conducted or records were not always recorded and maintained properly. Therefore, there were cases that monitoring results were not able to utilize sufficiently.

### 【March 2011 to End of the Project】

- Therefore, during this period, reconfirmation and recompilation of the past monitoring records were extensively conducted. It was found that there were certain monitoring plots which were not able to proceed further monitoring due to discrepancies in GPS data and difficulties in locating plots.
- Therefore, monitoring plots which were able to continuously monitor were re-selected and re-established and extensive monitoring was conducted for two times during FY2011 and FY2012.
- In principle, Technical Report and Technical Guideline were prepared in based on the results of monitoring surveys in FY2011 and FY2012.

**Table 3.3.4.1 Summary of ARP and Condition of Monitoring Plots**

	Township	RF	FC	ARP Area (acre)	Planted Fiscal year	Total Number of Monitoring plot	Monitoring (2011)	Monitoring (2012)
1	Laputta	Kyakankwinpauk	17	25	2011	26	2012.1	2012.11
2	Laputta	Kyakankwinpauk	19	120	2010	59	2011.12 ~2012.1	2012.11
3	Laputta	Kyakankwinpauk	26	250	2009	23	2011.12 ~2012.1	2012.11
4	Laputta	Pyinalan	60	250	2009	15	2012.2	2012.11
5	Laputta	Pyinalan	66	120	2010	18	2012.1~2	2012.11
6	Bogalay	Kadonkani	62	25	2011	37	2012.2	2012.12
7	Bogalay	Kadonkani	63	80	2010	123	2012.2	2012.12
8	Bogalay	Kadonkani	36	212	2008	10	2010.7~12	2012.8
9	Bogalay	Kadonkani	39	200	2009	9	2010.7~12	2012.8
10	Pyar Pon	Pyindaye (South)	66	25	2011	57	2012.1	2013.1
11	Pyar Pon	Pyindaye (South)	64	200	2009	16	2012.1	2013.1
12	Pyar Pon	Pyindaye (South)	65	80	2010	78	2012.1	2013.1

Source: JET, February 2013

**Table 3.3.4.2 ARP Sites Clarification based on Monitoring Surveys**

		1	2	3	4	5	6	7	8	9	10	11	12
Reserved Forest		KKKP			PNLN		KADK			PYND			
Forest compartment		17	19	26	60	66	62	63	36	39	66	64	65
<b>1. Species Trial (ST)</b>													
ST-1	Mangrove species				✓	✓		✓	✓	✓	✓		✓
ST-2	Mixed planting											✓	✓
ST-3	Spacing								✓	✓			✓
ST-4	Non-mangrove species								✓	✓			
<b>2. Land Treatment (LT)</b>													
LT-1	Mound	✓				✓	✓		✓	✓	✓		
LT-2	Weeding		✓	✓								✓	
LT-3	Mulching												
LT-4	Ploughing	✓					✓				✓		✓
<b>3. Natural Regeneration (NR)</b>													
NR-1			✓								✓		

Source: JET, February 2013

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- The independent monitoring of ARP by MCFTF/FD was not continually conducted due to limitation of staff and budget for the activity.
- There was lack of consensus among project staff (FD and JET) regarding location of monitoring plots, criteria for size/ selection of the plots and data recording.
- In some monitoring plots, it was not possible to continue further monitoring due to missing of previous data or difficulties for re-locating plots.

### **【March 2011 to End of the Project】**

- During the Project, JET initiated the monitoring but for the further monitoring, it is necessary to consider proper budget and staff allocation by FD to continue ARP monitoring after the project.
- Through the monitoring survey, some of originally introduced ARP trials were not able to verify their monitoring plots or in some cases treatment areas. Reconsideration of trials to be examined was necessary reflecting the actual ground situations.

## **3.3.5 Prepare a Technical Report on Action Research for Mangrove in English and Myanmar**

Activity 3-5 Prepare a technical report on action research (AR) for mangrove in English and Myanmar
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### **(1) Achievement**

#### **【2007 to February 2011 (up to Mid-term Review)】**

- At beginning of the project, preparation of technical report was not included as Output 3 activity.

#### **【March 2011 to End of the Project】**

- After the implementation of ARP, the results and methods of previous monitoring were compiled into draft technical report. However, the contents and structures of this document were significantly revised by the project end after reflecting the latest monitoring results of FY2011 and FY2012.
- The finalized technical report was prepared by using only reliable monitoring data and applicable technical procedures in order to enable usage in the delta mangrove area. The finalized technical report is indicated in **Attachment 17**.

## **(2) Issues and Considerations**

- Due to lack of sufficient information sharing /confirmation on experimental design and methodology of ARP trials among project stakeholders. The experimental design and methodology had to be reconfirmed by monitoring results of FY2011 and FY2012. The technical report as well as the technical guideline was prepared based on the monitoring results collected in FY2011 and FY2012.

### **3.3.6 Develop Technical Guidelines for Rehabilitation and Management of Mangrove Forests**

Activity 3-6 Develop technical guidelines for rehabilitation and management of mangrove forests based on the findings of the AR

#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- From the first year of the project, FD and JET discussed preparation of technical guideline and table of contents for technical guideline was drafted.

##### **【March 2011 to End of the Project】**

- The technical guideline was revised using selected certain monitoring data and probably applicable techniques which confirmed through the ARP activities.
- The finalized technical guideline by the Project is indicated in **Attachment 18**.

#### **(2) Issues and Considerations**

- The technical guideline was prepared based on results of initial few years of action research. Thus the guideline only indicates intermediate results and not final conclusions nor recommendations. The current positions and usages of the technical guidelines shall be properly informed to users of the guideline to avoid any misunderstandings about the content of the guideline.

## **3.4 Output 4**

**A coordination mechanism is established among key sectors to address the underlying causes of mangrove deforestation in the Ayeyawady Delta.**

### **3.4.1 Organize an Inter-agency Coordination Meeting, Consisting of Relevant Authorities**

Activity 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.

#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Originally, establishment of the inter-disciplinary committee at regional level for the mangrove management was planned up to PDM version 1. Establishment of the committee by a single project was difficult, thus after the mid-term review, this activity had been modified to organize regional level coordination meeting by FD with support from JET.

##### **【March 2011 to End of the Project】**

- Regional Level Coordination Meetings were held in November, 2011 (Bogalay Township) and in October, 2012 (Patheingyi).
- In these meetings, issues related to mangrove management and land uses within reserved forest areas were shared/ discussed among relevant authorities. Appropriate management as well as

possible collaborations were discussed among participants. Proceedings of two meetings are described in **Attachment 19**.

## **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- This activity somewhat stagnated due to difficulties in establishment of the committee.

### **【March 2011 to End of the Project】**

- It was possible to organize two meetings during the project period. However, in order for FD to regularly continue organizing such meetings, human resources, budgetary and coordination arrangements are required.

## **3.4.2 Update the Land Use Information on Periodic Basis Based on the Up-to-date Satellite Images**

Activity 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.

## **(1) Achievement**

### **【2007~May 2008】 (before Cyclone Nargis)**

- During this period, the procurement of satellite images and analyses of land use changes were conducted by the FD GIS Section with assistance of the JET GIS expert. At that time, 16 land use categories were fixed for updating land use map in two-year interval.
- The satellite images of three (3) periods (2003, 2005 and 2007) were analyzed during FY2007 to update the land use classification of the project area.

### **【2007 to February 2011 (up to Mid-term Review)】 (after Cyclone Nargis)**

- Using new satellite image (ALOS AVNIR-2, resolution 10m, 2009), land use map was updated and analyzed change detection from 2007 to 2009.

### **【March 2011 to End of the Project】**

- In the regional level mangrove coordination meeting in 2011 and 2012, updated land use information was introduced and shared with project stakeholders.
- The latest satellite image (Rapid Eye, resolution 5m, January and April 2012) was purchased by JET. JET and FD GIS section/GIS counterpart conducted land use analysis and finalized the map using revised land use categories.
- Rapid Eye image which provides high resolution image was utilized not only for updating land use map in whole project area, but also to interpret land cover in specific area such as CF and ARP areas related to Output 1 and 3.
- At final mangrove seminar and technical workshop in February 2013, the latest information of land use map and land use change from 2007 to 2012 were provided to participants.

## **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- FD GIS section was not always fully involved to land use confirmation activities for land use and land cover analysis during this period.
- Land use information was not sufficiently shared and discussed among the stakeholders during this period.
- Land use change analysis and related activities in specific forest compartments for CF or FD operations were not conducted.

**[March 2011 to End of the Project]**

- During the project period, the Project had to chose different satellite images for updating land use map every time because of expired satellite operation period. It took more time to consider practical procedure/method of land use map using different satellite images and to maintain map accuracy in every updating.
- It is necessary to support budget allocation arrangements for purchasing satellite images for updating land use map in the future.

**3.4.3 Organize Seminars to Promote Synergies for the Sustainable Management**

Activity 4-3 Organize seminars to promote synergies among the relevant sectors for the sustainable management of the mangrove ecosystem in the Ayeyawady Delta.

**(1) Achievement**

- As of a part of training and extension on sustainable use of mangrove vegetation, the project has conducted “Mangrove Seminars” since January 2007. Originally the purpose of seminar was to confirm techniques project stakeholders. In total, 8 seminars were organized and summary of seminars are listed as follows. In addition to mangrove seminars, a technical workshop specifically to disseminate achievements of CF-SOP and ARP was conducted in February 2013.
- In the most seminars, stakeholders (from government departments and NGOs) who are involved in reserved forests and mangroves participated and active discussions as well as information sharing were made for topics selected in the respective seminar.

**Table 3.4.3.1 Summary of Mangrove Seminars**

No.	Seminar	Date	Place	Theme
1	First Mangrove Seminar	14 Jan., 2008	Myaung Mya	Introduction of JICA/FD Mangrove Project 1
2	Second Mangrove Seminar	28 Jan., 2008	Pyar Pon	Introduction of JICA/FD Mangrove Project 2
3	Third Mangrove Seminar	13 Oct., 2009	Bogalay	CF Activities and River Bank Plantation
4	Forth Mangrove Seminar	24 Nov., 2009	Laputta	CF Activities and River Bank Plantation / Melaleuca Plantation
5	Fifth Mangrove Seminar	21 Jan., 2011	Nay Pyi Taw	Introduction of Hazard Map
		23 Feb., 2011	Laputta	
6	Sixth Mangrove Seminar	8 Nov., 2011	Bogalay	Progresses and Achievements of Project Activities
7	Seventh Mangrove Seminar	2 Oct., 2012	Pathein	Progresses and Achievements of Project Activities
8	Final Mangrove Seminar	7 Feb., 2013	Nay Pyi Taw	Progresses and Achievements of Project Activities
9	Technical Workshop	27 Feb., 2013	Yangon	Achievements of CF-SOP and Mangrove Action Research

Source: JET, February, 2013

**(2) Issues and Considerations**

- During the initial years, most of seminars were initiated by JET, therefore organizing seminars which enable more active involvements and participation by FD personnel were required.
- Even after the Project, it is necessary to discuss about opportunities for establishing mechanisms for sharing information and technology related to mangrove. Thus considerations for further information dissemination by FD is highly required.

**3.4.4 Organize a Coordination Meeting with Donors/NGOs at District Level**

Activity 4-4 Organize a coordination meeting with donors/NGOs active in the Target Area at District Level

## **(1) Achievement**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Refer activity X-8 under the Output X.

### **【March 2011 to End of the Project】**

- The 1<sup>st</sup> District Level Donors/ NGOs Mangrove Coordination Meetings were held in November and December, 2011 in Pyar Pon District and in Laputta District, respectively. The 2<sup>nd</sup> District Level Donors/ NGOs Mangrove Coordination Meetings were held in July, 2012 in Pyar Pon District and in Laputta District, respectively.
- Information sharing and discussions on directions of CF activities, linkages between livelihood improvement activities and forestry activities were held among participants.
- Proceedings of 1<sup>st</sup> and 2<sup>nd</sup> meetings are described in **Attachment 20**.

## **Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Refer activity X-8 under the Output X.

### **【March 2011 to End of the Project】**

- For sustainably supporting and propelling CF activities, livelihood improvement of CFUG members and villagers of neighbouring areas is highly required. However, FD itself tend to have less know-how and experience in respect to this aspect. Therefore, not only for information exchange but also collaborations for practical implementation of livelihood activities with donors and NGOs which have more filed experiences are highly required after the Project.
- All of district level donors/NGOs mangrove coordination meetings scheduled in the Project were accomplished. There were many opinions from participants that importance and necessity of facilities for information sharing and discussion like this activity. Therefore, continual implementation of similar coordination meetings should be considered even after the Project termination.
- It was possible to organize four meetings during the project period. However, in order for FD to actively and regularly continue organizing such meetings, human resources, budgetary and coordination arrangements are required.

## **3.5 Output X**

**Recovery from Cyclone Nargis is promoted (Additional Output after Cyclone Nargis in May 2008)**

### **3.5.1 Prepare a Hazard Map Based on Analysis of Damage of the Cyclone Nargis**

**Activity X-1 Prepare a hazard map based on analysis of damage of the cyclone Nargis**

## **(1) Achievement**

### **【2007 to February 2011 (up to Mid-term Review)】**

- 1) Cyclone damage analysis using satellite imagery and GIS in the delta area
  - The risk distribution maps (thematic maps) were prepared for clarifying vulnerable areas in order to consider more effective and safer land-use in the delta and coastal area.
- 2) Analyzing the risk degrees by each village, based on the survey results for the surveyed villages
  - Risk distribution maps of hazardous villages were prepared in July 2009 based on disaster

situations, evacuation ways/methods, site conditions, vegetative conditions, and etc. The map consist of estimation of degree of damages, conditions of village location, relationship between vegetation cover and damages, mortality and height of tidal wave.

3) Preparation of Hazard Map in the Project Area based on Vegetation Cover

- As the result of analyses for the surveyed villages, the two Risk Levels (less than or equal to 10% and more than 10% vegetation cover) were confirmed to have the significant differences in terms of mortality. Therefore, these risk levels were used to express the risk distribution for the whole project area. Finally a hazard map was prepared by 500m-interval mesh in the whole Project Areas.

**【March 2011 to End of the Project】**

- JET and FD GIS section started discussion for updating hazard map from September 2012. Finally, hazard map was updated using three factors (vegetation covers, distance from river/creek and distance from existing cyclone shelters), and four risk levels were set based on scoring of these three factors..
- The procedure of hazard mapping, importance and utilization of the map were explained at final mangrove seminar in February 2013.

**(2) Issues and Considerations**

**【2007 to February 2011 (up to Mid-term Review)】**

- As the hazard map was prepared mainly by JET, collaboration with GIS section staffs, including GIS counterpart, was somewhat limited.
- The purpose and target users of hazard map were not well confirmed/defined, and the level of hazard was solely determined by statistical significance of the relationship between the death tolls and the damage toward mangrove vegetation. The purpose and target users of hazard map should have been clearly defined in advance before setting the level of hazard for more useful usages of the hazard maps.

**【March 2011 to End of the Project】**

- Hazard map has been updated. However for more effective usage of the map, it is required by FD that obtaining and updating of information such as cyclone shelters and villages locations, population and other social factors are essential even after the project termination.

**3.5.2 Conduct Quick Damage & Recovery Survey in the Target Area**

Activity X-2 Conduct quick damage & recovery survey in the Target Area
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**(1) Achievement**

**【2007 to February 2011 (up to Mid-term Review)】**

- A rapid damage survey and recovery monitoring surveys were implemented and results were described in project related reports.
- The rapid damage survey for the target villages was conducted in June 2008 in order to grasp the extent of damages and necessary supports for their recovery in the short, mid and long term. Following the rapid damage survey, recovery monitoring surveys were conducted in the surveyed villages with the first monitoring between August and October 2008 and the second monitoring in February 2009.



**Table 3.5.2.1 Record of Damage and Recovery Monitoring Survey after Cyclone Nargis**

Stage of the Survey	Period	Objective	Target Villages
Rapid Damage Survey	May-Jun 2008	To confirm necessary support for early recovery and mid – long term recovery through the damages survey	11 project villages (FY2008 and FY2009) before Nargis and 10 adjacent major villages to the project villages and eight AR target FCs at the 4 RFs
Recovery Monitoring Survey (I)	Aug-Oct 2008	To confirm necessary support for early recovery and mid – long term recovery through the recovery monitoring survey	Same with rapid survey targets
Recovery Monitoring Survey (II)	Feb 2009	Same with the Survey (I) after the harvest of paddy in December	Seven 2008 target villages selected for the survey from the 11 ex-project villages in 4 RFs
Recovery Monitoring Survey (part)	Jun-Jul 2009	Non-structured monitoring of the recovery condition, especially on paddy sowing	Random interview survey with villagers in 4 RFs
Recovery Monitoring Survey (III)	Jan-Feb 2010	Same with the Survey (I) after the harvest of paddy in December	Seven 2008 target villages selected for the survey from the 11 ex-project villages in 4 RFs

Source: JET, September 2009, In Progress Report No.2 April – August 2009

## (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- Recovery Monitoring Surveys were effective to grasp the overall socioeconomic conditions as well as damages of target villages in the Project area. However since lacking of sufficient numbers of household data, which makes it difficult to conduct statistically significant comparisons.

### **3.5.3 Conduct Village Profile Survey in the Target Area**

Activity X-3 Conduct village profile survey in the Target Area
--

#### (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- The rapid recovery survey in 2008 and continuous monitoring until February 2009 indicated the natural and socioeconomic conditions in the target villages have been largely changed by the damages given by Cyclone Nargis if they were compared to the time of Project commencement in 2007. This posed a necessity to conduct the profile survey in the target villages to grasp the baseline of socioeconomic conditions in the communities before starting the Project activities after the cyclone. In this context, Village Tract and Village Profile Surveys (herein after referred to as “Village Profile Survey”) were decided to be implemented.
- From August 2009 until May 2010, the Project carried out the Villager Profile Survey. After confirmation of village tract/ village status at the village tract level, profiles of 39 villages including the 13 CF target villages of that time were surveyed to focus on the items such as 1) population and number of households, 2) housing conditions, 3) access to fresh water, 4) medical institutions and sanitary conditions, 5) education, 6) main source of income, 7) agriculture, fishery and employment, 8) forest and forestry activities, 9) access to the market and selling of agricultural/fishery products, 10) community organization, 11) collective actions of the community, and 12) social safety network (micro-credit and loan).

#### (2) Issues and Considerations

### **【2007 to February 2011 (up to Mid-term Review)】**

- Criteria and justification for number as well as selection of target villages to be surveyed were not fully clear.
- Village Profile Survey was effective to grasp the overall socioeconomic conditions as well as

damages of target villages in the Project area. However since lacking of sufficient numbers of household data, which makes it difficult to conduct statistically significant comparisons.

- Household income and source of income are not sufficiently collected as the baseline; therefore, the results were not effectively utilized to evaluate the increase of income level by the project interventions.

### **3.5.4 Conduct Survey for Recovery Condition of Mangrove Vegetation from Damage of Cyclone Nargis**

Activity X-4 Conduct survey for recovery condition of mangrove vegetation from damage of Cyclone Nargis in the Target Area

#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- After Cyclone Nargis in 2008, recovery survey of mangrove vegetation was conducted in total of 42 survey plots located at 5 locations within the project area where damage of the cyclone was severe. The monitoring of established plots continued up to January 2011.

##### **【March 2011 to End of the Project】**

- Reconfirmation of monitoring results as well as field reconfirmation were conducted during this period, and reorganized the survey results. The results are compiled as part of the technical report (**Attachment 17**).

#### **(2) Issues and Considerations**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- The survey was intended for confirmation of recovery of mangroves after Cyclone Nargis, and not intend for establishment of permanent plots. Therefore, there were pots which were damaged or destroyed by cutting and other development activities.

##### **【March 2011 to End of the Project】**

- The original design as well as methodologies was not fully shared among relevant project stakeholders and it took much time to reconfirm methodologies and monitored results.

### **3.5.5 Rehabilitate the CFEC N in Each RF Including Facility with Cyclone Proof Structure**

Activity X-5 Rehabilitate the CF Extension Centre and Nursery in each RF including facility with cyclone proof structure

#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Though there were certain delays for the completion of construction work due to unexpected reasons (delay in procurement and delivery of construction materials), all the construction works were completed by July 2010 and all facilities were handed over to FD after series of completion checks.

##### **a) Construction of the Office Buildings by Contractor**

- The facilities covered by the contractor were: i) three office buildings with pilotis on the ground floor constructed in TYK, BYM and TGT CFECNs; ii) one office building without pilotis in KKKL, and iii) one concrete jetty in KKKL. The construction was completed in early July 2010, and the facilities was delivered to JET and then handed over to FD in mid-July 2010.

##### **b) Direct Construction Work by FD**

- Other facilities within each of four CFECNs were directly implemented by FD. Though minor changes in quantities as well as designs/specifications of facilities were made among sites, during the construction period, the facilities and their functions originally planned in the first half of FY 2010 were achieved.

### **【March 2011 to End of the Project】**

- Maintenance and repair works had been planned and conducted in some facilities of CFECNs.
- Based on facilities constructed and rehabilitated within CFECNs, FD could manage to further implement and expand seedling production for CF, ARP as well as departmental plantation. In addition, FD can utilize CFECNs as hubs for extension and awareness raising of CF activities.

## **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- FD frontline staffs at sites did not have much experience on progress control of construction work based on drawings and bill of quantities. In the beginning, some construction works had not proceeded in accordance with the agreed designs/ bill of quantities. Through the construction/ renovation work, FD staff gained knowledge and experience for construction management of nursery facilities.
- Many experts spent most of their assignment for the construction related work. Thus this had caused certain delay in other project activities.

## **3.5.6 Support Disaster Prevention Work of Cooperative Organizations through Material Supply**

Activity X-6 Support recovery or disaster prevention work of Implementation and Cooperative Organizations in the Target Area through material supply
--

### **(1) Achievement**

#### **【2007 to February 2011 (up to Mid-term Review)】**

- Procurement of equipments and materials for recovery support were conducted in appropriate timings. As a part of agroforestry recovery activities, distribution of coconut and pepper seedlings were also conducted to Project target villages.
- Not only for FD but also necessary equipments and materials for partner and supporting organizations were procured. The table below describes major equipments and materials procured by the Project for recovery support.

**Table 3.5.6.1 List of Major Equipments and Goods Procured after Cyclone Nargis**

Equipment	Specifications	Quantity	Procured Amount	Relevant Activities
Survey equipment	EC Meters pH meters etc	1set	JPY 323,028	Outputs 1,2,3
Satellite image	LANDSAT 5/TM, ENVISAT ASAR Image, ALOS PALSAR (NO UNIT COST)	1set	JPY 1,065,400	Output4-3
Forest survey equipment	Measuring Tape / Pole	1set	USD 44.65	Outputs 1,3
Safety Boat (1) (JET)	Pharku Boat (50' x 14' x 4.5')	1	USD 15,000	General Use
test chemicals for soil analysis (MAS)		1	JPY 102,700	Output X
CDMA Phoe • SIM(2)	CDMA Costal RUIIM Card	2	USD 3,662	General Use
Life Raft Boat (2)	Life Raft (for 6 people)	2	USD 2,780	General Use
Boat for Reserved Forest (2) (FD)	Fiber Glass Boat (QTY 2)	2	USD 7,200	General Use
Cargo Boat for Reserved Forest (3) (FD)	Cargo Boat (QTY3) for BGL, LPT, PYP	3	USD 29,400	Outputs 2,3,
Canoe (8:CFECN)	20ft local call 14 taung	8	USD 1,920	General Use

Equipment	Specifications	Quantity	Procured Amount	Relevant Activities
CDMA Phone • SIM(1)	CDMA Costal RUIM Card	1	USD 1,685	General Use
CDMA Phone accessories		1	USD 385	General Use
Generator	7.5 KvA	4	USD 3,828	General Use
CDMA Phone • SIM (x 2 for FD)	Coastal CDMA Phone SIM & ZTE 52 OC	2	USD 3,654	General Use
CDMA Phone • SIM(x 1 for FD)	Coastal CDMA Phone SIM & ZTE 52 OC	1	USD 1,880	General Use
CDMA Phone • SIM(x 1 for FD)	Coastal CDMA Phone SIM & ZTE 52 OC	1	USD 1,685	General Use
TV (5)	SONY BRAVIA EX4/32	5	USD 3,291	Outputs 2,4, X
DVD Player (5)	LG DVD497	5	USD 489	Outputs 2,4, X

Source: JET, January, 2011

### **【March 2011 to End of the Project】**

- No activities scheduled during this period.

### **(2) Issues and Considerations**

- Distribution plan and criteria for coconut and pepper seedlings distributions were not fully confirmed/ shared among relevant stakeholders. Therefore, there were some cases, that seedlings were not distributes to all of CFUG members, and in comparison, some CFUGs received more seedlings than they can plant, and donating seedlings to monasteries and schools in their villages.

### **3.5.7 Conduct Public Awareness Activities on Disaster Prevention**

Activity X-7 Conduct public awareness activities on disaster prevention in the Target Area
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#### **(1) Achievement**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- For propelling understanding and cooperation of the related organizations and people for the mangrove rehabilitation and management, public awareness/ information materials such as project calendar, poster, mini-newsletters, etc. were prepared and had been distributed to government departments, CFUSGs, and other organizations.
- In order to enhance coordination among different donors, information notice board (sign board) was set up in front of Bogalay Township FD office in 2009.

##### **【March 2011 to End of the Project】**

- Conducted public awareness activities as part of Activity 2-8 under Output 2 and Activity 0-9 under Output 0.

#### **(2) Issues and Considerations**

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Distribution of materials was delayed due to un-accessibility caused by rainy season and lack of human resource to cover entire project areas.
- Distribution targets and field-level distribution methods were not always clear in prepared materials. Published information should have more strategically prepared and distributed.

##### **【March 2011 to End of the Project】**

- Since most of materials were translated into Myanmar, it took quite a long time for confirmation of Myanmar translation by FD and other relevant organizations, time for distribution of materials was often delayed than originally scheduled.

### 3.5.8 Arrange Necessary Coordination among Donors in the Integrated Mangrove Management

Activity X-8 Arrange necessary coordination among donors in the integrated mangrove management

#### (1) Achievement

##### **[2007 to February 2011 (up to Mid-term Review)]**

- There were no concrete initiatives made from this Project to coordinate donors. Quite a few relief organizations entered Ayeyawady Division right after Cyclone Nargis since 2008, and the following coordination was conducted.
  - During FY2008, “Implementation Plan for Guiding Donor Coordination Plan at Township Level” was drafted by JET. However no significant initiative by FD/ JET had started
  - FD personnel and JET participated in the coordination meetings and seminars organized by other agencies (e.g. Information sharing with “Post-Nargis Delta Coordination & Developmental Activities (DCU)” by Myanmar Information Management Unit)
  - Attended meetings and shared information with other donors through Recovery Hub Office and Coordination Unit / Office (LPT, MYM, BGL) in the field. Distribution of PI materials and invitation to our activities such as Mangrove Seminars and Post-Training Workshop took place in 2009

##### **[March 2011 to End of the Project]**

- Activities implemented as part of Activity 4-4 under Output 4.

#### (2) Issues and Considerations

##### **[2007 to February 2011 (up to Mid-term Review)]**

- Though the task was limited to mangrove management issues, an activity to coordinate among donors was excessive task for a single project.
- In some target villages, similar activities were planned and implemented without proper and timely coordination among different donors. For example, certain number of donors and NGOs provide various supports to the same village at the same time. To increase the effect of each support, demarcation of works and coordination among donors are required.

##### **[March 2011 to End of the Project]**

- Refer Activity 4-4 under Output 4.

### 3.6 Output 0

Activity related to project management and public relations

Output 0 is based on activities listed in the Plan of Operation (PO) version 2.

#### 3.6.1 Organize JCC

Activity 0-1 Organize JCC at least once a year

#### (1) Achievement

- According to the R/D for the Project signed in September 2006, the Joint Coordinating Committee (JCC) Meeting is the highest decision making occasions for the Project. MCFTF / FD hosted eight JCC meetings listed below by participation of agreed members in R/D.

**Table 3.6.1.1 Summary of JCC Meeting Organized**

JCC	Month/ Year	Major Subject
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First JCC Meeting	25 June, 2007	Explanation of Inception Report (ICR)
Second JCC Meeting	9 January, 2008	Review of 2007 Progress and approval of APO 2008
Third JCC Meeting	28 January, 2009	Approval of PDM version 1 and APO2009
2009 JCC Meeting Ad hoc	30 July, 2009	Assignment of C/P and Implementation Organization
Fourth JCC Meeting	5 August, 2010	Approval of APO2010
2011 JCC Meeting Ad hoc	3 March, 2011	Review of FY2010 and results of mid-term review
Fifth JCC Meeting	14 July, 2011	Approval of PDM2,PO2, DPO and APO2011
Sixth JCC Meeting	3 May, 2012	Approval of PDM3 and APO2012

Source: JET, October, 2012

- Upon termination of the Project, a project closing ceremony participated by key JCC members was organized, instead of a JCC meeting.

## (2) Issues and Considerations

- It took certain time for approvals of organizing JCC meetings, thus not always able to timely organize meetings which sometimes delayed approval of annual plan of operation (APO).
- From FY 2011 and onward, there were requests for organizing two JCC meetings per year, but the Project was not able to do so.
- There was a general tendency that most of JCC members were not always familiar with the content of the Project. Therefore, JCC meetings tended to serve more as occasions for explanation and questions & answers of project activities and less for Project's decision making.
- It took so much time for finalization and signing of JCC meeting minutes. In some cases, it took more than six months after the meeting for completion of JCC meeting minutes

### 3.6.2 Develop a DPO

Activity 0-2 Develop a DPO based on PO for approval by JCC

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Detail Plan of Operation (DPO) was never prepared during this period. Annual Plans of Operation (APO) were prepared directly from PO..

##### **【March 2011 to End of the Project】**

- Based on PDM version 2 and PO version 2 finalized in June 2011, DPO was prepared. DPO as well as PDM and PO were all approved in the fifth JCC meeting held in 14 July, 2011.

#### (2) Issues and Considerations

- Since the content of DPO was more in details and specific in comparison to PO, field level FD officers were not always fully aware and understood about its content. Except for headquarters level, DPO was not much utilized by the Project related personnel.

### 3.6.3 Develop an Annual PO

Activity 0-3 Develop an Annual PO (APO) Based on the DPO for Approval by JCC

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Basically, in each fiscal year, respective APO was prepared based on PO and approved in followed JCC meeting.

##### **【March 2011 to End of the Project】**

- APO2011 was approved in the fifth JCC meeting held on 14 July, 2011 and APO2012 was

approved in the sixth JCC meeting held on 3 May, 2012.

## **(2) Issues and Considerations**

### **【2007 to February 2011 (up to Mid-term Review)】**

- Though APO was intended as an annual plan for the project level, APOs prepared included detail activities per each target CFUGs and were too much in details.
- For APOs prepared during this period, most of project activities except for Output 3 were scheduled to be supported by Participatory Community Development Expert and not always appropriate in consideration of expert's input and workloads of tasks.
- APOs were not fully understood and used by field level FD staff.
- APO was supposed to be approved in JCC meetings, however, holding of JCC meeting and approval of APO were often not possible to complete before the start of upcoming fiscal year. Thus APOs were approved in timing when preparation and implementation of activities had already initiated.

### **【March 2011 to End of the Project】**

- Though APO was re-oriented to provide project level plan, there were opinions from FD side that APO was still too much in details. However, FD side also understood that APO was covering necessary activities at project level.
- Still field level FD staff were not always fully aware and understood about its content.
- Still, holding of JCC meeting and approval of APO were not possible to complete before the start of upcoming fiscal year. Thus APOs were approved in timing when preparation and implementation of activities had already initiated.

## **3.6.4 Develop an Annual Report**

Activity 0-4 Develop an annual report for review by JCC
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### **(1) Achievement**

#### **【2007 to February 2011 (up to Mid-term Review)】**

- This activity was not included in previous PO, thus annual reports were not prepared.

#### **【March 2011 to End of the Project】**

- Annual report for FY2011 was prepared in April 2012 and pre-distributed to JCC members for the sixth JCC meeting. At the JCC meeting, there were no specific comments from JCC members.
- For the FY2012, since JCC meeting was not organized at end of the Project, this report is expected to serve also as annual report for FY2012.

### **(2) Issues and Considerations**

#### **【2007 to February 2011 (up to Mid-term Review)】**

- Since, there was no comprehensive reports prepared for JCC members, JCC members outside of FD tended to have limited understanding toward project activities and PDM.

#### **【March 2011 to End of the Project】**

- Though annual report for FY2011 was pre-distributed to JCC members before the sixth JCC meeting. Discussions and reviews of the annual report were seldom conducted during the JCC meeting.

## **3.6.5 Organize Internal Project Meeting Regularly Organize JCC**

Activity 0-5 Organize internal project meeting regularly
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## (1) Achievement

### **【2007 to February 2011 (up to Mid-term Review)】**

- The Project Operation Manual determines organizing regular meetings at divisional level (Ayeyawady Division (Region) Quarterly Coordination Meeting) and township level (Township Monthly Coordination Meeting) by participation of representatives from MCFTF/FD, MAS, DoF, and SLRD, for confirmation of progresses, schedule, and discussion on problems/ countermeasures. However, such meetings have not been organized.
- Technical Coordination Meetings or Coordination Meetings initiated by JET having similar objectives were sporadically held with FD during the Project period based on necessity and requests from JET side.
- Township level monthly meetings between FD and JET experts were also planned from the first year of the Project. However, due to difficulties in access of three townships and frequent unavailability of concerned personnel, organizing township level meetings regularly was not possible.
- From December 2010 to February 2011, following internal meetings were held.

**Table 3.6.4.1 Major Project Related Meetings conducted from December 2010 to February 2011**

No	Activity	Date/ Location	Objectives/ Contents	Remarks/ Participant
1	Kick- off meeting with FD field Level CP	14 December, 14:00 - 17:00, Yangon Expert Office	Confirmation of schedule, implementation setup, and interim report	FD: FPM, SO(BGL,PYP)RO 1 (LPT) JET: Shibayama, Tanaka
2	Project Coordination Meeting	15 December, 10:30-12:30 Yangon Expert Office	Confirmation of schedule and implementation setup	FD & JET: ditto DoF: Coordinator + 3 MAS/SLRD: absent
3	Project Coordination Meeting with MAS	24 December, 10:30-11:00 Yangon Expert Office	Confirmation of schedule and implementation setup	MAS: Deputy General Manager JET: Arai, Tanaka
4	Project Coordination Meeting with SLRD	3 January, 13:30-14:45 Yangon Expert Office	Confirmation of schedule and implementation setup	SLRD: Project Coordinator JET: Shibayama, Tanaka
5	Meeting with DoF	6 January, 13:45-14:30 Yangon DoF Office	Discussion about Interim Report, mid-term review, and oyster culture seminar.	DoF: Project manager JET: Shibayama, Iwao
6	Meeting with FPM	7 January, 14:00 – 17:00 Yangon Expert Office	Confirmation of progress of project activities, and content of mangrove seminar	FD: FD Project manager JET: Shibayama, Yasu
7	Meeting with MCFTF Project Coordinator	10 January, 17:00 – 18:30 Yangon	Confirmation of progress of project activities, content of mangrove seminar, travel permit/ visa issues	FD: Project Coordinator JET: Shibayama, Yasu
8	Project Coordination Meeting (FD)	2 – 4 February Nay Pyi Taw, FD	Discussion about Interim Report and mid-term review	FD: Project Manager, Project Coordinator, etc. JET: Shibayama, Sakurai, Tanaka

Source: JET, March, 2011

- Even during December 2010 to February 2011, township level monthly meetings were not able to organize as like before.

### **【March 2011 to End of the Project】**

- From July 2011 and onward following internal meetings were held.

**Table 3.6.4.2 Major Project Related Meetings conducted from July 2011 to February 2013**

No	Activity	Date/ Location	Objectives/ Contents	Remarks/ Participant
1	Kick- off meeting with FD field Level	20 June 2011, 10:00-17:30 21 June 2011, 10:00-12:30	Confirmation of FY2011 schedule, implementation setup,	FD: Field Project Manager (FPM), SO (BGL,PYP, LP)



No	Activity	Date/ Location	Objectives/ Contents	Remarks/ Participant
	CP	Yangon Expert Office	and PDM version 2	JET: Shibayama,
2	Internal Project Coordination Meeting	22 June 2011, 10:00-17:00 Nay Pyi Taw, FD	Confirmation of FY2011 schedule, implementation setup, and PDM version 2	FD: Project Manager (PM), Project Coordinator (PC), FPM, Assistant PC x2 JET: Shibayama
3	Pathein Kick-off Meeting	27 June 2011, : 13:00-15:00 Regional Office, FD	Confirmation of FY2011 schedule, implementation setup, and activities related to regional level	FD: Regional Director, FPM JET: Shibayama,
4	Meeting with Project Coordinator	22 July 2011, 13:00-15:00 Yangon Expert Office	Confirmation of schedule and content of major project activities	FD: PC JET: Shibayama,
5	Project progress and issues confirmation meeting	22 August 2011, 15:00-17:00 23 August 2011, 09:00-12:00 Nay Pyi Taw, FD	Discussion about progress of project activities (output 3 and GIS related), and further schedule	FD: PM, PC, Assistant PC x2 JET: Sakurai
6	District level Quarterly Meeting	26 August 2011 13:00 - 15:00 Yangon Expert Office	Confirmation of quarterly progress of project activities, and further schedule for next quarter	FD: FPM, Assistant FPM, SO (BGL,PYP, LPT) JET: Shibayama
7	Nay Pyi Taw Quarterly Meeting	30 August 2011 15:00-15:30 31 August 2011 10:00- 16:00 Nay Pyi Taw, FD	Confirmation of quarterly progress of project activities, and further schedule for next quarter, travel permit/ visa issues	FD: Project Director (PD), Deputy PD, PM, PC, Assistant FPM, Assistant PC x 2 JET: Shibayama
8	Pathein Project Meeting	5 September 2011, 13:00-15:00 Regional Office, FD	Confirmation of Output 4 Activities(Regional Coordination Meeting, Mangrove Seminar, District Level Donor/NGO Coordination Meetings)	FD: Regional Director, FPM, Assistant FPM JET: Shibayama,
9	Nay Pyi Taw Follow-up Meeting	7 September 2011, 13:00 - 15:00 Nay Pyi Taw, FD	Follow-up on Output 4 Activities and travel permit/ visa issues	FD: PM, FPM, Assistant PC x 2 JET: Shibayama
10	Myaung Mya Confirmation Meeting	26 September 2011, 16:00 -18:00r MYM District FD Office	Confirmation of issues related to field level activities	FD: FPM, Assistant FPM JET: Shibayama
11	Myaung Mya Confirmation Meeting	26 October 2011, 16:00 -18:00 MYM District FD Office	Confirmation of Output 4 Activities(Regional Coordination Meeting, Mangrove Seminar, District Level Donor/NGO Coordination Meetings)	FD: FPM, Assistant FPM JET: Shibayama
12	Nay Pyi Taw Quarterly Meeting	13 December 2011, 10:00 -16:00 Nay Pyi Taw, FD	Confirmation of quarterly progress of project activities, and further planning for next quarter, travel permit/ visa issues	FD: PM, PC, Assistant PC x 2 JET: Shibayama
13	Nay Pyi Taw Meeting	24 January 2011, 10:00 -16:00 Nay Pyi Taw, FD	Confirmation of administrative/ logistics issues. Progress/Achievements/Issues of Activities up to 18 January 2012 and Issues to be Confirmed/ Discussed for remaining FY2011-12	FD: PM, PC, Assistant FPM, Assistant PC x 2 JET: Shibayama
14	Nay Pyi Taw Quarterly Meeting	5 March 2012 10:00 -16:00 Nay Pyi Taw, FD	Confirmation of quarterly progress of project activities, and further planning for next fiscal year, travel permit/ visa issues	FD: PM, PC, Assistant PC x 2 JET: Shibayama
15	District Level Quarterly Meeting	14-15 May 2012, Yangon Expert Office	Confirmation of FY2012 schedule, implementation setup, and PDM version 3, APO2012	FD: Field Project Manager (FPM), SO (BGL,PYP, LP) JET: Shibayama,
16	Nay Pyi Taw Quarterly Meeting	5 July, 2012 Nay Pyi Taw, FD	Confirmation of administrative/ logistics issues. Discussion about progress of project activities (especially CF certification and CF-SOP), and further schedule (District Level Donor/ NGO Coordination Meetings)	FD: Project Manager (PM), Assistant Project Coordinator (PC) x2 JET: Shibayama, Yasu, Ebato, Baba(Otsuka)
17	Nay Pyi Taw Meeting	8 August, 2012 Nay Pyi Taw, FD	Confirmation of administrative/ logistics issues. Discussion about progress of project activities (especially CF-SOP), and further schedule	FD: Project Manager (PM), Assistant PC x2 JET: Shibayama, Ebato, Baba(Otsuka)
18	Myaung Mya Confirmation Meeting	4 September, 2012 MYM District FD Office	Confirmation of schedule and content of major project activities (CF certification ceremonies and regional mangrove coordination meeting/ mangrove seminar)	FD: Field Project Manager JET: Shibayama,

No	Activity	Date/ Location	Objectives/ Contents	Remarks/ Participant
19	Nay Pyi Taw Meeting	14 September, 2012 Nay Pyi Taw, FD	Discussion about progress of project activities (especially CF-SOP), and further schedule (regional mangrove coordination meeting/ mangrove seminar)	FD: PM, Assistant PC x2 JET: Shibayama
20	Nay Pyi Taw Meeting	8 November, 2012 Nay Pyi Taw, FD	Discussion about progresses and schedule of project activities (especially CF-SOP, CF Certification Ceremony, Technical Reports/ Guidelines), and on terminal evaluation.	FD: Assistant PC x2, RO x1 JET: Shibayama
21	Nay Pyi Taw Meeting	27 December, 2012 Nay Pyi Taw, FD	Discussion about progresses and schedule of project activities (especially CF-SOP, Technical Reports/ Guidelines, Final Mangrove Seminar).	FD: PM, Assistant PC x2 Director x1, RO x1 JET: Shibayama, Baba (Otsuka)
22	Myaung Mya Confirmation Meeting	9 January, 2013 MYM District FD Office	Discussion about Final Mangrove Seminar.	FD: Field Project Manager JET: Shibayama
23	Nay Pyi Taw Meeting	31 January, 2013 Nay Pyi Taw, FD	Discussion about progresses and schedule of project activities (especially CF-SOP, Technical Reports/ Guidelines, Final Mangrove Seminar, Technical Workshop)	FD: PM, Assistant PC x2 Director x1, RO x1 JET: Shibayama
24	Nay Pyi Taw Meeting	19 February, 2013 Nay Pyi Taw, FD	Discussion about progresses and schedule of project activities (especially CF-SOP, Technical Reports/ Guidelines, Technical Workshop).	FD: PM, Assistant PC x2 Director x1, RO x1 JET: Shibayama

Source: JET, February, 2013

- Township level monthly meetings for the Project were planned to be held together with township offices' monthly regular meetings. Expected participants were township FD personnel and representative from JET. The meeting was conducted in August, and September 2011 for three townships. Then after meetings were held at sporadically.
- Instead of the township level monthly meeting, monthly monitoring form was prepared by the Project and after August 2012, each township office was requested to submit the filled form to district FD office and JET for confirmation of progresses of project activities.

## (2) Issues and Considerations

### **[2007 to February 2011 (up to Mid-term Review)]**

- Records for most of project related meetings held during this period were already scattered and it took a lot of time for current project stakeholders to confirm the contents of the meetings.
- Township Monthly Coordination Meeting was not possible to organize due to difficulties in coordination with other departments. Furthermore, meetings only by participation of FD personnel were also not possible.
- Even if regular meetings were organized at township level, due to travel permit issue and limited number of available experts, it was virtually difficult to dispatch JET experts to three townships each month.

### **[March 2011 to End of the Project]**

- Township monthly project meetings were re-organized to hold as one session of FD township offices' regular monthly meetings. However due to priorities of other tasks within FD, the regular monthly meetings tended to be not held in the scheduled date and often postponed or cancelled. Therefore, meetings were not held regularly.
- For township monthly project meetings, not only experts, but also national staff of JET were also planned to participate. However, as stated above, FD's regular monthly meetings were often postponed or cancelled. It was also difficult for JET's national staff to participate in the meetings. In order to improve such situations, confirmation of progresses by monthly monitoring form was

adopted.

### 3.6.6 Monitor the Achievement of the Indicators Periodically

Activity 0-6 Monitor the achievement of the Indicators periodically

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Before the mid-term review which was conducted from February to March 2011, achievements were monitored based on indicators in PDM version 1.

##### **【March 2011 to End of the Project】**

- Since, all of PDM indicators were fixed only in PDM version 3 (approved in May 2012), regular monitoring of achievements of indicators were not fully conducted. In key occasions such during the terminal evaluation and at the end of the Project, achievements of indicators were confirmed (refer 3.0 of this report for the achievements).

#### (2) Issues and Considerations

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Some of indicators set for the project purpose and outputs were not appropriate to evaluate the performance of the Project. Therefore, such indicators were modified based on the recommendations of the mid-term review and reflected in PDM version 2 and PDM version 3.

##### **【March 2011 to End of the Project】**

- After the mid-term review, many project activities were re-organized and many restart as well as reconfirmation had taken into place. Therefore, regular monitoring of PDM indicators was not conducted enough during this period.

### 3.6.7 Prepare for Joint Evaluation

Activity 0-7 Prepare for joint evaluation

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Before the mid-term review which was conducted from February to March 2011, JET prepared self evaluation report and compiled necessary information/data to provide to joint evaluation.
- In the Interim Report (February 2011), progresses as well as issues and lessons learned up to that time were compiled and also provided to the joint evaluation team.
- FD personnel and JET members actively involved in field visits and various discussions/ meetings organized by the joint evaluation.

##### **【March 2011 to End of the Project】**

- Before the terminal evaluation which was conducted from November to December 2012, JET prepared self evaluation report and compiled necessary information/data to provide to joint evaluation.
- FD personnel and JET members actively involved in the joint evaluation.

#### (2) Issues and Considerations

- Throughout the project period there were many transfer and changes of project personnel (FD and JET). Therefore, information and data required and usable for the joint evaluation were often

scattered, and required much time to reconfirm and re-organize the information.

### 3.6.8 Follow up the Recommendations of the Review/Evaluation

Activity 0-8 Follow up the recommendations of the review/evaluation

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- This activity was not included in previous PO, thus annual reports were not prepared.

##### **【March 2011 to End of the Project】**

- Recommendations made by the mid-term review were reflected in PDM version 2, PO version 2, DPO, and APO2011.
- For each project activity, the Project reflected the recommendations as much as possible and implemented. Though remaining project period was short, recommendations made in the terminal evaluation and which were physically possible to proceed were implemented.

### 3.6.9 Conduct Public Relations for the Project Organize JCC

Activity 0-9 Conduct public relations for the Project

#### (1) Achievement

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Though it was not implemented under Output 0, following general public relations activities were conducted.

**Table 3.6.9.1 Public Relation Materials Prepared by the Project up to February 2011**

Type	Name of Material	Fiscal Year	Them / Topic
News Letter	Mangrove Dayori (Japanese)	2007~ 2010	Project introduction, target village introduction, expert team introduction, etc.
Webpage	Project Webpage (Japanese)	2007~ 2010	Ditto

Source: JET, October, 2010

##### **【March 2011 to End of the Project】**

- In accordance with inclusion of Output 0 in PO version 2, for public relation in Myanmar, following activities were conducted.

**Table 3.6.9.2 Public Relation Materials Prepared by the Project after March 2011**

Type	Name of Material	Fiscal Year	Them / Topic
News Letter	Project News Letter (English /Myanmar)	2011 2012	Project Activities, Nos.1~3
Webpage	Project Webpage (English /Japanese)	2011 2012	Ditto
Brochure	Project Brochure (English /Myanmar)	2011	Project Framework and Descriptions
Calendar	Project Calendar	2013	Project introduction

Source: JET, February, 2013

#### (2) Issues and Considerations

##### **【2007 to February 2011 (up to Mid-term Review)】**

- Most of general public relation materials were prepared in Japanese. It was effective for Japanese side but public relation in English or Myanmar was not enough.

**【March 2011 to End of the Project】**

- As same as activity 2-8, it took quite a long time for confirmation of Myanmar translation by FD and other relevant organizations, time for distribution of materials was often delayed than originally scheduled

**3.6.10 Others: Project Operation Manual**

**(1) Achievement**

**【2007 to February 2011 (up to Mid-term Review)】**

- Project Operation Manual (POM) was prepared aiming personnel of FD and other relevant organizations 1) to understand about the project framework, 2) to improve communication among relevant organizations, 3) Improve better understanding about project activities and 4) to describe project's procurement process.
- POM FY2010 version 1 was approved in the fourth JCC meeting and the latest.

**【March 2011 to End of the Project】**

- No updates were made.

**(2) Issues and Considerations**

- As a reference POM was effective for personnel from FD and other organizations to understand about the project framework. However it was not used for the actual operation and management of the Project. Therefore, it was not updated after the mid-term review.

## 4. Lesson Learned and Recommendations

### 4.1 Issues and Lessons Learned

#### 1. Effective Use of National Experts and Staff

**Issues:**

- As stated in 2.1 of this report, there were certain restrictions in terms of travel by foreign experts, thus, experts could not always timely respond to needs and requests of the field.
- Field level FD officers and staff, who are the main counterparts of the experts, were also not always possible to timely involve in some project activities (especially at target villages), due to lack of available staff and also conflicts with other tasks.
- Some of knowledge and experience (participatory approaches, GPS usage, and etc.) required to implement some of the project activities were not enough by the field level FD staff. Also, experts were not able to support the field level staff in timely manners.
- Communication in English between foreign experts and field level FD staff were difficult, except for some officers.

**Countermeasures and Lessons Learned:**

- When foreign experts were not able to correspond to needs/requests of the field, the national staff of JICA Expert Team (JET) engaged in the field activities, with support and guidance of foreign experts.
- For some activities such as surveying and ARP monitoring, JET's national staff directly transferred the technology to field level FD staff.
- Effective technology transfer and implementation support by JET were not possible without the existence of national experts and staff who can freely enter and move the project site.

#### 2. Increasing Discussion Opportunities between FD Headquarters and JET

**Issues:**

- Basically, decision makings related to the Project were done in FD headquarters, Nay Pyi Taw.
- Up to the first half of FY2010, JET visited Nay Pyi Taw for JCC meetings and some other limited occasions
- Though, coordinator was stationed in Yangon up to early 2009, as a result, there were cases that project related consensus building and information sharing were not enough between key officers of FD headquarters and JET.

**Countermeasures and Lessons Learned:**

- In principle, quarterly project meetings were scheduled and implemented in FD headquarters.
- As stated in 3.6.4 of this report, apart from the quarterly meeting, meetings were held in Nay Pyi Taw based on necessities.
- As a result, consensus buildings as well as information sharing had improved. Also understanding and recognitions towards the Project had strengthened by key officers in FD headquarters.
- Stationing expert or expert team staffs in Nay Pyi Taw shall be considered based on situations and necessities.

#### 3. Increasing Communication / Discussion Opportunities between Project Personnel and Target Villagers:

**Issues:**

- Before FY 2010, discussion and communication opportunities between project stakeholders (FD and JET) and villagers of CF candidate/ target villages were somewhat limited. Mostly, the project stakeholders interacted with villagers or CFUG members who were present at time of visits.
- There were often cases, the information sharing and dissemination in relation to project activities were not timely and effectively done at villages.

- Also, there were tendency that understandings and recognitions of CFUG members and villagers toward project related activities were not sufficient.

**Countermeasures and Lessons Learned:**

- From FY2011 and onward, requested all CFUG member households to participate in CFUG reorganization and CF management plan formulation processes. Series of meetings/workshops were organized and informed about the events in advance to CFUGs.
- In the whole group meetings/ workshops, organized group activities in order that all participants to take part in activities and or discussions.
- As a result, communication / discussion opportunities with target villagers had increased and contributed to progresses of activities. However it required so much time for discussion and confirmation.

**4.2 Recommendations in Relation to Project Implementation**

**How FD continues to support initiated CF activities (including livelihood activities)**

**Issues:**

- In general most of CF activities were implemented by support of external assistance (donors, NGOs)
- Under current institutional/ organizational / budgetary arrangements, it is a bit difficult for FD to continue monitoring, supervision and guidance to CFUGs which initiated their activities

**Lessons Learned:**

- Need to formulate concrete procedures and their implementation by FD to ensure sustainability of CFUGs which started their CF activities.

**Recommendations:**

- For the project target villages, budgetary arrangement (application, sanction, distribution) for necessary activities such as monitoring shall be proceed in order to ensure sustainability of CFUGs.

**2. Further Clarification between IMMP and Technical Cooperation Project**

**Issues:**

- Early PDMs (version 0 and version1) envisaged the Project to cover the CF components of IMMP Phase I at some extent (i.e. IMMP Phase I targeted model CFUGs = 20, whereas PDM version 1 project targeted villages = 22).
- After the mid-term review, target CF villages were re-selected to six. However, considering the availability of experts in the field, and difficulties in access, targeting six villages was still a bit ambitious for JICA's technical cooperation project.
- For CF target villages which were suspended as the project target after the mid-term review, virtually, these villages were also excluded from FD's plan and achievement in terms of CF. Therefore, particularly for the CF component, this technical cooperation project was somewhat equivalent to "IMMP phase I".

**Lessons Learned:**

- Ambiguity in the position and roles of the technical cooperation project within the framework of IMMP. Necessity of confirming /sharing the position and roles of the Project.
- Considering the requirements for pre-approval of travel permits, and difficulties in access to the project area, from the beginning of the Project, expecting area and quantity expansion in the Project was a bit excessive plan. Instead of expanding areas and number of villages, the Project should have targeted CF villages only in one district (Laputta or Pyar Pon) with less number of target villages, and should have concentrated more to support fields necessary for implementation of IMMP phase I but rather weak for FD such as participatory development, group strengthening and livelihood

improvement.

**Recommendations:**

- Establishment of a mechanism to discuss and reconfirm between project's overall framework and relevance, appropriateness as well as progresses of actual activities prior to the mid-term review.

**3. Continual Monitoring of Action Research Plantation Activities**

**Issues:**

- For the ARP, the Project only monitored and examined the initial few years after the plantation establishment.

**Lessons Learned:**

- What complied and analyzed in the Project are still intermediate results and too early to examine, confirm and make recommendations as the mangrove forest technology.

**Recommendations:**

- Implementation of continual monitoring of ARP monitoring plots by FD organizations such Forest Research Institute.
- Improvement of survey methods and recording formats for establishment of better forest inventory system.

**4. Further Strengthening of Collaboration and Coordination among Governmental Agencies and Other Organizations:**

**Issues:**

- For usage and management of lands inside reserved forest areas, not only FD but also other various stakeholders (other departments, NGO, etc.) are involved. However, they tend to conduct their activities individually and less coordination and information sharing.

**Lessons Learned:**

- Importance and necessity of mechanisms for information exchange and discussions with other governmental agencies and other organizations relevant to mangrove management and reserved forest management (based on results of Output 4's regional level coordination meetings and district level donors/ NGOs coordination meetings).

**Recommendations:**

- FD to continually organize meetings for information exchange and discussions with relevant stakeholders.

**5. Flexibility in Travel Permit (Multiple Travel Permit)**

**Issues:**

- Basically foreign experts were required to obtain a travel permit for each and every travel outside of Yangon. This travel permit needed to be applied to FD at least 14 days in advance.
- The procedure is time consuming for both FD and Jet sides.
- It is causing difficulties for the foreign experts to timely respond to needs and requests from the field.

**Lessons Learned:**

- For effectively and efficiently contribute to attain the project outputs/ outcomes, necessity of flexibility in travel permit for foreign experts.

**Recommendations:**

- It is highly appreciated that multiple (re-entry) travel permit to be issued for travel to the project related area for the certain time period (project duration, one year, or visa validity period).



### 4.3 Recommendations for Myanmar's Forestry Sector

#### 1. Follow-up and Strengthening of Institutional and Organizational Aspects

##### Issues:

- Though there are movements for amendment of the Forest Law, 30 Year Forestry Sector Master Plan, and the Community Forestry Instruction (CFI), still not clear and concrete strategies/ approaches/ plans on how to proceed CF and mangrove management in Myanmar have not been fully developed yet by Myanmar side.
- Up to now, there are not enough institutional / organizational arrangements as well as budget allocation in FD to implement CF and mangrove management, practically.
- Especially, there are various interpretations and understandings toward CF and CFI within FD (basically heavily relied on each forester's own experience, and not always with clear consensus within FD. Also concrete and standardized procedures have yet to be established.)

##### Lessons Learned:

- Currently, many donors/ NGOs are expressing their interests to support projects related CF, REDD+, and mangrove conservation in Myanmar. These supports are more of expanding field level activities at various locations within Myanmar. However, based on findings and experiences from the Project, it is also important to **emphasize upstream level supports on strengthening, i) policy, institutional and organizational arrangements, ii) capacity developments, and ii) various procedures developments, for better CF and mangrove management.**

##### Recommendations:

If conditions allow, continuous supports to strengthening policy, institutional and organizational arrangements, and capacity development shall be considered even in small scales. Following recommendations require concrete directions and plans by Myanmar side:

- Currently, FD is in the process for establishing a CF section in its headquarters. If CF continues to be one of key areas for forest management in Myanmar, **CF section-SOP preparation and CF-section organizational capacity strengthening shall be proceed as continuation as well as expansion of the current project's Output 2.**
- Currently, FD in the process for establishing a mangrove division. As same as the above mentioned CF section, if mangrove management continues to be one of key areas for forest management in Myanmar, **Mangrove Division-SOP preparation and Mangrove division organizational capacity strengthening shall be proceed as continuation as well as expansion of the current project's Output 2.**

#### 2. Livelihood Improvement Activities in CF

##### Issues:

- CF activities based on current Community Forestry Instruction (CFI) are heavily dedicated to forestry aspect and less emphasis and linkages with livelihood improvement as well as community development.
- For FD and its officers there are tendency that their obligation with CF is to provide seedlings as technical guidance as per indicated in CFI.

##### Lessons Learned:

**Further strengthening in linkages between CF and livelihood improvement activities for ensuring sustainability of CFUGs and CF activities is required.**

##### Recommendations:

- Currently, FD is in the process for establishing a CF section in its headquarters. Also amendment of CFI is considered. If CF continues to be one of key areas for forest management in Myanmar,

**CF-SOP updates and CFI amendment with emphasis on linkage between livelihood and community forestry shall be proceed as continuation as well as expansion of the current project's Output 2.**

- In order to consider the strengthening linkages between CF and livelihood, planning and implementation which are practical and advantageous to CFUGS shall be obtained through baseline information collection and action research shall be considered

**3. Practical Application of Reserved Forest Area in relation to Land Use Policy/Plan**

**Issues:**

- There is no comprehensive land use policy and plans. Existing land use delineation tends to be more of independent among each authority and less coordination.
- There are various land uses even inside forest areas. Virtually, there is no zoning/ delineation based on the actual land use conditions.

**Lessons Learned:**

- Requires clarifications of positions/roles of forest areas and CF in upcoming land use policy and land use plans

**Recommendations:**

- In Myanmar, it is expected that interdisciplinary and multi-sector land use management to be introduced in the process of formulating land use policy and land use plan. However, at the same time, resettlement issues, zoning, and exclusion of forest areas may be required based on necessity. **Formulation of standards and criteria for forest management (including CF) and other land use inside forest areas as well and preparation of practical land use planning are highly required in near future.**