

INTERNATIONAL TROPICAL TIMBER ORGANIZATION

ITTO

PRE-PROJECT PROPOSAL

TITLE	ASSESSMENT OF MANGROVE FOREST AFFECTED BY CYCLONE NARGIS TO FACILITATE THE DEVELOPMENT OF AN INTEGRATED MANGROVE ECOSYSTEM MANAGEMENT IN AYEYARWADY DELTA, MYANMAR
SERIAL NUMBER	PPD 143/09 (F)
COMMITTEE	MINISTRY OF FORESTRY
SUBMITTED BY	GOVERNMENT OF MYANMAR
ORIGINAL LANGUAGE	ENGLISH

SUMMARY

The tropical cyclone 'Nargis' severely hit the lower parts of Myanmar, mainly Yangon and Ayeyarwady Divisions on the 2nd and 3rd of May 2008 claiming many lives and causing enormous destruction to infrastructure, villages, plantations and forests including food supplies. Out of a total of 0.5 million ha of Permanent Forest Estate (PFE) i.e. Reserved Forests and Protected Area Systems (PAS) in Ayeyarwady delta, about 14,000 ha of mangrove forests and 21,000 ha of forest plantations were damaged by the cyclone. The cyclone Nargis seriously affected the forestry sector, causing direct impact on mangrove forests and indirect impact on mangrove ecosystems. Thereby resulted in loss of habitats of aquatic species, decrease in fishery and agricultural products and seriously damage the infrastructure. As it was about a year ago, however there is no comprehensive information package which is entirely documented to review all activities done by different institutions. Based on the situation, Forest Department has been requested to conduct the environmental impact assessment of Nargis cyclone, and to implement restoration and rehabilitation activities as well as to establish a master plan of mangrove forest management. In order to do that, it is crucial to conduct an overall assessment through transparent discussion among stakeholders and institutions.

This pre-project will conduct a baseline survey for all actions of rehabilitation by multi-sector, international organizations, NGOs, companies and private entrepreneurs. The planned activities are to collect all available data and information on policy, programme activities that had been undertaken by concerned institutions. Focus of pre-project activities will include the formulation of a full project proposal through a series of intensive key stakeholder consultation meetings.

EXECUTING/
IMPLEMENTING AGENCY FOREST RESEARCH INSTITUTE, FOREST DEPARTMENT

COOPERATING
GOVERNMENTS

DURATION 12 MONTHS

APPROXIMATE
STARTING DATE

BUDGET AND PROPOSED SOURCES OF FINANCE	Source	Contribution in US\$	Local Currency (Kyats) in kind
	ITTO	61,938	
	Gov't of Indonesia (in-kind)		6,212,000
	TOTAL	61,938	6,212,000

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PART I: CONTEXT

1. *Origin*

The powerful tropical cyclone Nargis hit the Ayeyarwady delta and Yangon Division in Myanmar on the 2nd and 3rd of May, 2008, causing hundred of thousands of casualties and enormous damages. Damage to the infrastructure in the forestry sector is estimated to be about 654 million Kyats (Local currency). The cyclone Nargis has seriously affected the forestry sector, causing direct impact on Mangrove forests, and indirect impact on Mangrove ecosystem, thereby resulting in habitat loss of aquatic species and decrease in fishery and agricultural products.

Out of a total area of 0.5 million hectares of permanent forest estate (PFE) i.e., reserved forests and protected area systems (PAS), about 14,000 ha of mangrove forests and 21,000 ha of forest plantations were seriously damaged by the cyclone according to the results from the analysis of satellite images of the affected areas. Cyclone damage is estimated at 5.1 Billion Kyats in the forestry alone. The ground truth inventory is being carried out by the Forest Department. In this context, the technical and institutional cooperation are needed for rehabilitation and restoration of mangrove ecosystem in cyclone affected areas. Coverless situation, in addition to insufficient-institutional cooperation in delta area resulted enormous damage caused by Nargis.

Many inhabitants lost their means of livelihood. Among the most heavily hit areas are the villages that depend on traditional farming and fishing. People in the affected areas need to repair or rebuilt their houses, agricultural tools, boats, and more importantly, they urgently need support to get equipment and raw material to fully resume their works.

Therefore, the present situation urgently calls for rehabilitation of Mangrove forests of Ayeyarwady Delta with the following expectations:

- to reconstruct the infrastructures of the forestry sector damaged by the cyclone;
- to develop the proper landuse plan adaptable for current situation;
- to create job opportunities for local community; and
- to rehabilitate the mangrove forest ecosystem through institutional cooperation as well as community participation

Due to its limited organizational capacity, the Forest Department of Myanmar, timely needs the cooperation of both local and international agencies in order to implement the rehabilitation of the storm-affected forests in Myanmar.

As emergency relief operations are almost over in the affected areas, time has come to plan the implementation of medium- and long-term livelihood and forest rehabilitation activities. The major focus of the pre-project is to conduct the baseline survey for all actions of rehabilitation by multi-sector, international organizations, NGOs, companies and private entrepreneurs to contribute to longer-term recovery and rehabilitation of mangrove forest affected by Nargis cyclone.

The 37th Expert Panel reviewed the proposal on rehabilitation of mangrove forests in Ayeyawdy Delta Affected by tropical cyclone Nargis [PD 514/08 Rev.1 (F)] and recommended that a pre-project be formulated to collect baseline information and data in order to support the formulatin of a full proeject proposal through a sound and comprehensive institutional and stakeholder analysis and problem analysis, taking into account the need of avoiding duplication of efforts in rehabilitating mangrove forests in Ayeyawady Delta affected by Cyclone Nargis;

Therefore, the achievements of the pre-project will be where, how to implement and who are the key stakeholders in the process of rehabilitation, lesson learnt for planning in future to develop a comprehensive project proposal on integrated rehabilitation of mangrove forest damaged by Nargis cyclone through a national-level workshop.

2. *Sectoral Policies*

In view of the importance of the Myanmar forestry sector in enhancing national socio-economic development and ensuring ecological balance and environmental stability, the 1995 Myanmar Forest Policy was formulated in a holistic and balanced manner within the overall context of the environment

and sustainable development taking full cognizance of the forestry principles adopted at UNCED. It formalized the commitment and intent of the Government to ensure sustainable development of forest resources while conserving wildlife, plants, and ecosystem.

The forest policy focuses on the **Protection** of soils, water, vegetation and wildlife, **Sustainability** of forest resources, satisfying the **Basis needs** of the people, **Efficiency** in harnessing the full economic potential of the forests, **People's participation** in forest management and biodiversity conservation and raising the **Awareness** of the people and the decision makers in forestry.

Myanmar, being a developing country, has to utilize the forest resource for its economic and social development. Keeping in line with the new forest policy, the Forest Department practices the balance approach towards conservation and development issues implicit in the concept of sustainable forestry.

3. Programmes and Operational Activities

The major concerns of the forestry sector of Myanmar are nature conservation and maintenance of environmental stability. The Ministry of Forestry is committed to achieving sustainable development of forests and biological resources through ratification and accession to a number of international conventions and agreements. With the experiences accumulated over a period of a century and half with respect to forest management, the Forest Department of Myanmar in close cooperation with relevant partners will continue to conserve the country's valuable natural forest resources. There are several programs and operational activities related to environmental conservation and natural resources management being implemented at the national level with national and international funding support.

Myanmar has already achieved some progress towards environmental conservation and sustainable development. However, there still remains a lot more to be done. Some of them are challenging. The role of forests for environmental stability and for soil and water conservation is increasingly recognized.

A number of projects and operational activities related to conservation of mangrove ecosystem and resources management had been implemented at the national level with national and international funding support.

Forestry Projects with Community Participation were implemented in Delta with the support of UNDP/FAO and other agencies. These attempts have achieved certain outcomes but emphasis of such projects placed more on food security and income generation and only targeted on the areas of Ayeyarwady Delta. Due to expansion of agricultural lands and excessive cutting for fuel wood, some 385,933 ha of total mangrove forests of Ayeyarwady Delta were rehabilitated and conserved and one UNDP/FAO project under the Human Development Initiative Programme (HDI) has been implemented since the mid 1990s to conserve mangrove ecosystems through the promotion of socio-economic benefits of the local communities in an environmentally friendly manner. Activities undertaken for the conservation of mangrove forests in Ayeyarwady Delta area include;

- Community forestry
- Nursery establishment
- Plantation establishment
- Seed and seedling distribution
- Application of natural regeneration and gap planting
- River-bank erosion control measures
- Distribution of improved cooking stoves
- Commencing income generating activities
- Provision of extension services

The project entitled "The integrated mangrove rehabilitation and management project through community participation in the Ayeyarwady Delta in Myanmar" has been implementing before cyclone Nargis with financial and technical assistance from Japan International Cooperation Agency (JICA). The project will be implemented over a period of five years from April 2007 to March 2012. It aims at promoting participatory approaches to mangrove resources management for securing both biodiversity conservation and improved livelihood of local communities. This project has been developed by multi-local

stakeholders with technical support from Ministry of Forestry, Ministry of Agriculture and Irrigation, and Ministry of Live Stock Breeding and Fishery.

During the implementation of the pre-project, comprehensive stakeholder analysis will be undertaken through review of relevant programmed and activities related to rehabilitation of Nargis affected mangrove forests, including JICA project. To this end, a national workshop to be organized under the pre-project will identify recommended actions for key stakeholders, including international organizations.

PART II: THE PRE-PROJECT

1. PRE-PROJECT OBJECTIVES

1.1 Development Objective

The development objective of the pre-project is to enhance rehabilitation process of mangrove forest and integrated management practices of mangrove ecosystem in Nargis Cyclone affected area, Ayeyarwady delta.

1.2 Specific Objective

To assess relevant sectoral policies, programmes, and activities on mangrove ecosystems in order to formulate a full project proposal to rehabilitate Nargis affected mangrove forests in Ayeyarwady delta through stakeholder consultation workshops

2. JUSTIFICATION

Existing among the three localities of mangrove forests in Myanmar namely, Rakhine mangrove, Ayeyarwady mangrove and Tanintharyi mangrove, the Ayeyarwady mangrove is the largest in area extent as well as high diverse in species. Because of the richness of mangrove forests and soil fertility, Ayeyarwady delta is of economic importance for providing thousand of tons of agricultural, fishery and forestry products to the state. Thus Ayeyarwady delta is well known as resemblance to a big rice bowl being providing more than half of rice requirement in Myanmar.

Due to its distribution and pattern, mangrove forests of the Ayeyarwady are confined to only three townships namely, Bogalay, Laputta and Moulamyeinkyun. According to the earliest assessment made in 1924 altogether 625,222 acres (253,126 ha) of mangrove forests was profuse with 100 percent closed crown cover. By 2007, over a period of eight decades, about 72.28 percent of mangrove forests were depleted changing into other land-use types. The most rapid change has happened since the previous decade by 21,000 acres annually.

In fact its high-quality status, Ayeyarwady delta is one of the densely populated regions in Myanmar. In consequences, mangrove forests have undergone various pressures from not only increased demand for forest produces but also conversion of forest land into agriculture land (rice fields) and aquaculture farms (fish/shrimp ponds). Given prioritized for food production, mangrove forests were compromised for agriculture and aquaculture activities. Eventually, mangroves have been indiscriminately cut and depleted. Another chronic problem, during 1980s-1990s, compounded to the depletion of mangrove forests was heavily extracted as fuel-wood, not only for the use in the region itself but also for making charcoal to export to other cities.

Activities, among others, contributed to mangroves depletion were, at first, seasonal illegally gardening, making salt fields and fishing pond and settling villages at last. Nobodies become aware the role and ecosystem service of mangrove forest before Nargis which severely damage the delta area with hundred thousands of casualties.

2.1 Problems to be addressed

All undesirable activities in delta area mentioned above were significant characteristic to the complex social and economic needs of the people and the region as a whole. Some underlying causes for those activities can be generalized to diminish quality and quantity of mangrove ecosystem before Nargis as follows:

Insufficient law enforcement

With regard to forest conservation and protection, necessary rules and regulation such as forest policy, forest law and rules are already in place. However, there have been some weaknesses in abiding by the law due to unawareness of the illiterate rural people and out of proportion of forest staff with a vast area of forests. This situation leaves opportunities for increasing forest offences; illegal logging, charcoal making, encroaching forest land, etc.

Weak in institutional cooperation and partnership mechanism

There are a number of public sectors which are directly concerned with land-use for their development programmes within delta region. There have been in some cases conflict of interests between those programmes due to weaknesses of coordination and cooperation among concerned sectors. While agriculture and fishery sectors need more land for food production, forestry sector needs land having high forest cover for environmental conservation. Another example was that permission for fishing by a fishery law in rivers that consisted in a mangrove reserved forest may lead people to misuse of forest resources.

Unsustainable land-use practices and limited income sources

Farmers in the delta have to work in a small piece of land with limited finance and inputs for their subsistence production. In addition, low education and limitation to access information and advanced technologies leave them with unsustainable land-use practices. This causes their land unproductive and lead towards further expansion of new land into the mangrove forests. Regarding to their traditional way of life and source of income is directly or indirectly depends on forest resources. Likewise to continue for decades with high population growth, mangrove forests in delta area diminish both quality and quantity.

Inadequate public awareness on values of mangrove forests

It was considered that the unresponsive indiscriminate cutting of mangrove forests was attributable to immediate basic needs, the Nargis disaster has revealed the fact that it was attributable more to unawareness or insufficient awareness of the potential values of mangrove forests not only in soil and water conservation but also in protection from strong wind and wave surges.

Insufficient stakeholder participation

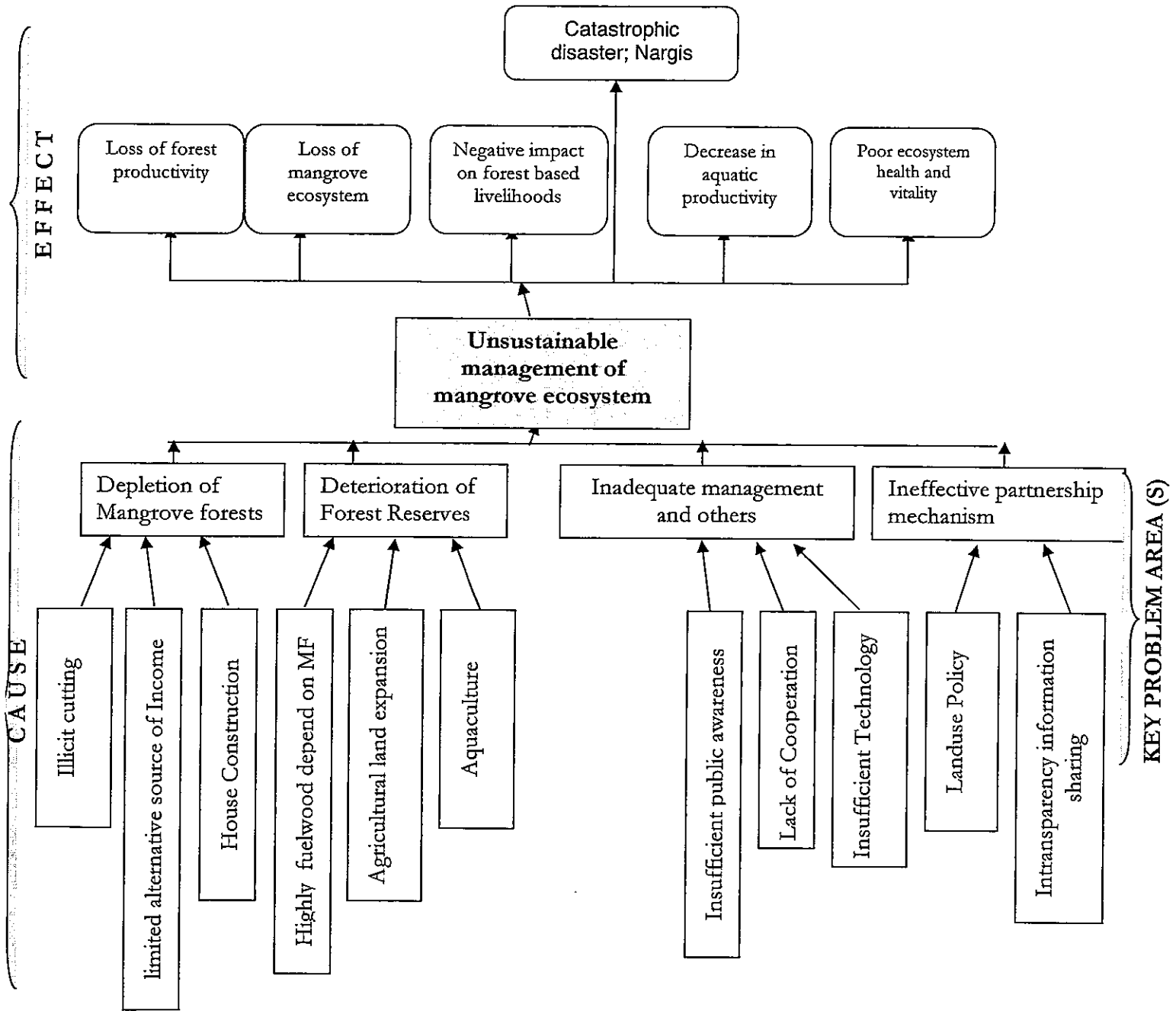
It is impracticable for the Forest Department alone to implement conservation and management of mangrove forests. Mangrove forests stakeholders consists of peoples from rural to urban, from government to non governmental organizations. Although some mangrove projects from government, non-government and international organizations have been implemented in various approaches including public participation, the continued deforestation of mangrove forests clearly indicated that stakeholder participation is insufficient.

2.2 Intended situation after the pre-project

The situation upon completion of the pre-project is look forward to be as follows:

- All information relating to mangrove rehabilitation before and after Nargis cyclone will be wrapped and the status of mangrove forest in targeted area of Ayeyarwady delta will be fully documented,
- Sharing knowledge and discussing key issues among relevant institutions will be transparent.
- More specifically, location, extent, system, mechanism, strategies etc; which are needed to refine will be laid down.
- Activities for mangrove rehabilitation programme will be identified and prioritized to contribute sustainable mangrove forest management.
- Project proposal for rehabilitation of mangrove forests in Ayeyarwady delta affected by tropical cyclone Nargis will be formulated.

Problem Tree Analysis



Reasons for a Pre-Project

After Cyclone Nargis hit to the Ayeyarwady Delta, emergency relief operations are almost over in the affected areas, time has come to plan the implementation of medium- and long-term livelihood and forest rehabilitation activities. Accordingly, the Ministry of Forestry of the Government of Myanmar has submitted a project proposal for the implementation of post-Nargis rehabilitation actions. The ITTO Expert Panel for Technical Appraisal of project proposal made comments and conclusion which is to formulate a pre-project proposal instead of revising the full project proposal.

2.3 Targeted beneficiaries

The major beneficiaries of the project are as follows:

- All stakeholders (personnel from Ministry of Forestry, Ministry of Agriculture and Irrigation, Ministry of Livestock Breeding, working on rehabilitation in cyclone affected area of the Ayeyarwady delta,
- Governmental organizations working for regional development programme,
- Representatives of local authorities concern in cyclone affected area,
- Universities and colleges,
- International organizations (UNDP, WHO, JICA, etc;)
- INGOs and NGOs
- Companies and private entrepreneurs
- Communities in cyclone affected area will have an opportunity to express their background and expectation for security and livelihood through the socio-economic assessments. Consequently they will play a vital role of participation in long-term management of mangrove rehabilitation programme.

They would mostly benefit from the multi-stakeholder process whereby possible synergies are likely to emerge to enable them to carry forward their institutional mandates but with a holistic approach.

However, in the long-term the beneficiaries of the pre-project outcomes would largely be the poor and marginalized communities who keep livestock as one of their livelihood strategy and are dependent on forests for their subsistence needs.

3 OUTPUTS

Ayeyarwady delta once, in a healthy ecosystem, played an important role in socio, economic and environmental dimensions, providing richness of mangrove forest resources, plenty of aquatic resources, fertile land resources both for the region and the State. However the process of ecological tilt has been set in, for decades, since the laying down so-called regional development policies and programs, under the centralized planned-economy, composed of environmentally imbalanced activities such as expansion of various forms of agricultural land and human settlement into the mangrove forests. Eventually the incidence of Nargis storm left very regretful lessons claiming thousands of lives and properties to the region and the State as well. Now is the time for all institutions and individuals concerned to make analytical review transparently on the development policies, programs and activities those had been undertaken having major implication for deterioration and depletion of mangrove forests, and those are being undertaken, after the Nargis, having contribution for rehabilitation of the mangrove forests. Only then will there be critical review on pros and cons of the past and the present activities, a further improved plan with a set of integrated and comprehensive activities would be formulated for the future. The intended outputs and respective proposed activities for the pre-project would be as follows.

Output 1. Analytical review of development policies, programs, and activities related to rehabilitation of mangrove forests affected by Cyclone Nargis in Ayeyarwady delta

Activity 1.1. Collection and collation of all available documents and information

- i. Identification of contact person/institutions and description of required documents
- ii. Field trips for collection of documents and baseline information and data

Activity 1.2. Stakeholder consultation meetings

- i. Developing an assessment framework
- ii. Conducting stakeholder consultation meetings to identify draft recommended actions for key stakeholders without duplicated efforts

Output 2: An integrated and comprehensive mangrove rehabilitation project at the Nargis affected area in the Ayeyarwady delta

Activity 2.1. Organize a national workshop to identify an integrated management strategy and plan for rehabilitation of Nargis affected mangrove forests in Ayeyarwady Delta.

- i. Establishing an organizing committee
- ii. Invitation to speakers in and outside the country and resource persons
- iii. Conducting a national workshop for identification of integrated management strategy and plan (one day)
- iv. Preparation of national workshop proceedings

Activity 2.2. Formulating a Project proposal on rehabilitation of Nargis affected mangrove forests in Ayeyarwady Delta in an integrative way

- i. Preparation of a draft project proposal
- ii. Finalise the project proposal

ACTIVITIES

Output 1

Activity 1.1: Collection and collation of all available documents and information on development policy, programs, activities that had and has been undertaken in the Ayeyarwady delta from all relevant territorial administrative bodies, implementation institutions and sectors.

After the devastating Nargis storm, the Ayeyarwady delta has vividly emerged as a critical region in all aspects of social, economic and environment turning into almost zero level. Immediate disaster relief operations mostly donation of food and social supplies came first from not only the government but also various organizations and individuals inside and outside. That has been now followed by development rehabilitation programmes. Those programs are, though may have common goal of development restoration, designed in different specific objectives and activities with various spatial and temporal scales in view of different sectoral perspectives from various organizations; governments and non-government organizations, private companies and individuals etc. inside and outside of the country. At the same time, people and communities in the effected area are also struggling in their own ways for restoration of their livelihoods. As such, stakeholders are diverse and so do the activities and the approaches.

- (i) In order for meaningful and cost effective collection of documents and information, identification of contact person/institutions and description of required documents and preparation of questionnaire if necessary will be the first activity.

(ii) Then, the project team will contact those persons/institutions and collect documents and information either informal or formal ways including field visit and personal interviews if necessary.

Activity 1.2: Identify key stakeholders and organize stakeholder consultation meetings for refinement of analytical review, lessons learnt and what next.

(i) An assessment framework is to be developed in order for thematic assessment and analytical review on policies, programs and activities by means of desk review and field visit. This assessment framework would help identify lessons from the past and objective issues within the broad themes and corresponding activities for the future what next to assist in formulation of an integrated mangrove rehabilitation plan.

(ii) Stakeholder consultation meetings are to organise key stakeholders and to serve a forum for making analytical review of the programmes that had and has been undertaken. The workshops will result in identification of gaps and overlapping areas of them and help formulation of new areas to be developed. Besides, the workshop is expected to lay an initiative platform for construction of a workable partnership mechanism wherein cordially cooperation and coordination among key stakeholders/institutions are to be alive in sustainable manner. Two workshops will be held at grass root level or local level in two different places in order for the clear public perception and, one national workshop will be held in order for the holistic approach with right direction in formulation of the full project.

Output 2

Activity 2.1: Organize a national workshop to identify an integrated management strategy and plan for rehabilitation of Nargis affected mangrove forests in Ayeyarwady Delta.

(i) In order for the national workshop to be a well organized and dignified with high level of people's perception, an organizing committee will be formed comprising high ranking officials from relevant ministries and organizations.

(ii) The objective of the workshop is to review the progress of rehabilitating Nargis affected mangrove forests with the aim of developing integrated rehabilitation strategy and plans. In addition, the workshop is to induce salient feedbacks and suggestion for necessary amendments in order for the proposal to meet the intended development objective of the project and to meet requirements of the ITTO project formulation guidelines. Therefore, potential participants to the national workshop will be experienced officials from the government and NGOs from relevant sectors including key stakeholders particularly those currently involving in development rehabilitation programmes. In the national workshop, invitation will be made to an international expert who has been working for the restoration of mangroves and other coastal forests damaged by Tsunami in the Asia-Pacific region. For this purpose, International Society for Mangrove Ecosystems (ISME) will be invited to introduce its experience and guidelines for rehabilitation of mangrove forests affected by natural disasters.

(iii) The national workshop will be conducted efficiently within one day.

(iv) Proceeding of the workshop will be documented including workshop resolutions. The resolutions from the workshop would be a guideline for the project team to prepare a project proposal.

Activity 2.2 Formulating an integrated and comprehensive mangrove rehabilitation project proposal

- (i) Based on the analytical review of output no. 1 and suggestions and comments resolved from activity no.1 of output no. 2, the project team will formulate a draft proposal of a full integrated mangrove rehabilitation project.
- (ii) During the formulation of a proposal, many consultations with key stakeholders will be undertaken. These include on-going JICA project team, concerned local governments and local communities members, and NGOs.
- (iii) After completion of the draft project proposal prepared by the project team taking into account the urgent need of rehabilitating mangrove forests affected by Nargis and ITTO guidelines specified in the ITTO Mangrove Workplan, final consultation will be undertaken through the final consultation with the participation of representatives from key stakeholders

PROJECT PLANNING MATRIX (Logframe)

PROJECT ELEMENTS	INDICATORS	MEANS OF VERIFICATION	ASSUMPTIONS
<p>DEVELOPMENT OBJECTIVE The development objective of the pre-project is to enhance rehabilitation process of mangrove forest and sustainable management practices of mangrove ecosystem in Nargis Cyclone affected area, Ayeyarwady delta.</p>			
<p>SPECIFIC OBJECTIVE To assess relevant sectoral policies, programmes, and activities on mangrove ecosystems in order to formulate a full project proposal to rehabilitate Nargis affected mangrove forests in Ayeyarwady delta through stakeholder consultation workshops</p>	<ul style="list-style-type: none"> ▪ 		<ul style="list-style-type: none"> • Optimistic perception of key stakeholders including decision makers in the process of analytical review on development policies, programmes, activities that had and has been undertaken.
<p>OUTPUTS Output 1 : Analytical review of Documents on development policies, programs, and activities related to rehabilitation of mangrove forests affected by Cyclone Nargis in Ayeyarwady delta.</p> <p><i>Activity 1.1: Collection and collation of all available documents and information.</i></p> <p>i. Identification of contact person/institutions and description of required documents</p> <p>ii. Field trips for collection of documents</p>	<ul style="list-style-type: none"> • Recognition of strengths and weakness of the activities of the past and the present • Transparent and cordial cooperation of contact persons / institutions • Improved access to the information 	<ul style="list-style-type: none"> • Compilation of documents/ information 	<ul style="list-style-type: none"> • Good recording system • Official permission to access those documents • Adequate budget and transportation
<p><i>Activity 1.2: Stakeholder consultation meetings.</i></p> <p>i. Developing an assessment framework</p> <p>ii. Conducting stakeholder consultation meetings</p>	<ul style="list-style-type: none"> • Appropriate process of analytical review • Transparent cooperation among stakeholders 	<ul style="list-style-type: none"> • Analytical framework • Analytical review 	<ul style="list-style-type: none"> • Reliability of documents/ information reflecting the real condition • Optimistic perception of key stakeholders

<p>Output 2: An integrated and comprehensive mangrove rehabilitation project in the Nargis affected area of the Ayeyarwady delta.</p>			
<p>Activities 2.1: Organize a national workshop to identify an integrated management strategy and plan for rehabilitation of Nargis affected mangrove forests in Ayeyarwady Delta.</p> <p>i. Establishing an organizing committee</p> <p>ii. Invitation to speakers in an outside the country and resource persons</p> <p>iii. Conducting a national workshop for identification of integrated management strategy and plan for rehabilitation of mangrove forests (one day)</p> <p>iv. Preparation of national workshop proceedings</p>	<ul style="list-style-type: none"> • A forum for transparent and cordial discussion among stakeholders. • Fruitful contributions to achieve project objectives • A successful national workshop 	<ul style="list-style-type: none"> • Workshop organizing committee • Workshop resolutions • Workshop proceedings 	<ul style="list-style-type: none"> • Availability of the resource persons qualified with the project requirements • Active participation of the workshop participants
<p>Activities 2.2: Formulating a Project proposal</p> <p>i. Preparation of a draft proposal</p> <p>ii. Many consultations with key stakeholders in preparation of draft proposal</p> <p>iii. Finalise the project proposal</p>	<ul style="list-style-type: none"> • Process of preparation of the project proposal • Communications with other on-going projects, sectors, local authorities, communities etc. • Successful final draft proposal 	<ul style="list-style-type: none"> • A draft project proposal • By all means of communications; mail, phone, FAX and making travel/visit, etc. • A critical discussion on the draft project proposal • A full project proposal 	<ul style="list-style-type: none"> • Adequate staff with expertise under special assignment for formulation of the project proposal. • Smooth communications • Optimistic perception and transparent discussion among key stakeholders during many consultations activities and national workshop

WORK PLAN (Months)

Specific Objective To make analytical review of all available documents on development policies, programmes, activities that had and has been undertaken having major implication either positive or negative impact on the mangrove ecosystem through stakeholder consultation workshops leading towards formulation of an integrated mangrove rehabilitation plan.												
Particulars	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>
Output 1 Analytical review of documents on development policies, programs, and activities related to rehabilitation of mangrove forests affected by Cyclone Nargis in Ayeyarwady delta.												
Activity 1.1 <i>Collection and collation of all available documents and information.</i>												
i. Identification of contact person/institutions and description of required documents												
ii. Field trips for collection of documents, baseline information and data												
Activity 1.2 <i>Stakeholder consultation meetings.</i>												
i. Developing an assessment framework												
ii. Conducting stakeholder consultation meetings to identify draft recommended actions for key stakeholders without duplicated efforts												
Output 2 An integrated and comprehensive mangrove rehabilitation project in the Nargis affected area of the Ayeyarwady delta.												
Activities 2.1 <i>Organize a national workshop to identify an integrated management strategy and plan for rehabilitation of Nargis affected mangrove forests</i>												

in Ayeyarwady Delta.													
i. Establishing an organizing committee				■									
ii. Invitation to speakers in and outside the country and resource persons						■							
iii. Conducting a national workshop (one day)							■						
iv. Preparation of national workshop proceedings								■					
Activities 2.2 <i>Formulating a Project proposal on rehabilitation of Nargis affected mangrove forests in Ayeyarwady Delta an integrative way</i>													
i. Preparation of a draft project proposal									■	■			
ii. Many consultations with key stakeholders in preparation of draft proposal										■	■		
iii. Finalise project proposal												■	■

6 BUDGET

6.a. Detailed Budget

Output 1:		Inputs							Budget Component		ITTO Contribution (in USD)	Govn't Contribution (in Kyat)
Activities	Units & Quality	No.	No. of days	Unit Cost		Quarter	Budget Component	ITTO Contribution (in USD)	Govn't Contribution (in Kyat)			
				No.	(inUSD)							
Activity1.1: Collection and collation of all available documents and information	Salary: Technical Experts	2	90			Q1	11	-	480,000			
	Salary: Research Assistant	2	90			Q1	13	-	234,000			
	Salary: Forest Rangers	4	90			Q1	14	-	396,000			
	Salary: Field staff	4	90			Q1	15	-	324,000			
	Salary: Secretary	1	90			Q1	16	600	-			
	National Duty Travel	12	20	15		Q1	21	3,600	-			
	Daily Subsistence	12	20	10		Q1	23	2,400	-			
	Communication	1		500		Q1	51	500	-			
	Transport cost	1		2,000		Q1	24	2,000	-			
	Subtotal 1								9,100	1,434,000		
Activity1.2: Stakeholder Consultation meetings	Salary: National Consultant	1	60	1200		Q2	12	2,400	-			
	Salary: Technical Experts	2	120			Q2	11	-	640,000			
	Salary: Research Assistant	2	120			Q2	13	-	312,000			
	Salary: Forest Rangers	4	120			Q2	14	-	528,000			
	Salary: Field staff	4	120			Q2	15	-	432,000			
	Salary: Secretary	1	90			Q2	16	600	-			
	National Duty Travel	12	20	15		Q2	21	3,600	-			
	Daily Subsistence	12	20	10		Q2	23	2,400	-			
	Printing / Xerox	1		350		Q2	41	550	-			
	Subtotal 2								9,550	1,912,000		

Output 2: Activities	Inputs						Gov't Contribution (in Kyat)	
	Units & Quality	No.	No. of days	Unit Cost (inUSD)	Quarter	Budget Compo nent		ITTO Contribution (in USD)
Activity 2.1: Conduct a National Workshop	Salary: National Consultant	1	90	1200	Q4	12	3,600	
	Salary: Technical Experts	2	150		Q3&Q4	11	-	800,000
	Salary: Research Assistant	2	150		Q3&Q4	13	-	390,000
	Salary: Forest Rangers	4	150		Q3&Q4	14	-	660,000
	Salary: Field staff	4	150		Q3&Q4	15	-	540,000
	Salary: Secretary	1	90		Q3&Q4	16	600	
	National Duty Travel	12	20	15	Q3&Q4	21	3,600	-
	International Duty Travel	5		12,000	Q3&Q4	22	12,000	
	Daily Subsistence	12	20	10	Q3&Q4	23	2,400	-
	National Workshop	1		12,000	Q4	31	12,000	
						Subtotal 3		34,200
Activity 2.2: Formulation of the project proposal	Salary: Technical Experts	2	60		Q3&Q4	11	-	320,000
	Salary: Research Assistant	2	60		Q3&Q4	11	-	156,000
	Salary: Secretary	1	90		Q3&Q4	16	600	
	National Duty Travel	4	15	15	Q3&Q4	21	900	
	Report and proposal writing	1		1,500	Q4	32	2,500	
	Subtotal 4						4,000	476,000
Project Auditing					Q4	52	500	
ITTO Monitoring, Review & Evaluation cost						61	3,000	
ITTO program support cost (@ 8%)						62	4,588	
	Subtotal 5						7,588	
	GRAND TOTAL						61,938	6,212,000

6.b.; Consolidated Total Project Budget

	Budget Components	ITTO (in USD)	Myanmar (in Kyat)
10	Project Personnel		
	11. Technical Experts		2,240,000
	12. National Consultants	6,000	
	13. Research Assistant		1,092,000
	14. Forest Ranger		1,584,000
	15. Field Staff		1,296,000
	16. Secretary	2,400	
	17. Component Total	8,400	6,212,000
20	Sub-Contract		
	21. National Workshop	12,000	
	22. Report and proposal writing	2,500	
	33. Component Total	14,500	
30	Duty Travel		
	31. National Travel	11,700	
	32. International Travel Three International speakers (Japan, Indonesia and Thailand) to the national workshop and their honoraria)	12,000	
	33. Daily Subsistence	7,200	
	34. Transport cost	2,000	
	35. Component Total	32,900	
40	Consumable Items		
	41. Office Supplies (Printing / Xerox)	550	
	42. Component Total	550	
50	Miscellaneous		
	51. Sundry (Communication, accommodation)	500	
	52. Project Auditing	500	
	53. Component Total	1,000	
	SUBTOTAL		
60	ITTO Monitoring, Evaluation and Administration		
	61. Monitoring, Evaluation and Review Costs	3,000	
	62. Programme Support Costs (8%)	4,588	
	63. Component Total	7,588	
70	GRAND TOTAL	61,938	6,212,000

6 c. Overall Project Budget By Activity

Activities	Project personnel		Duty travel	Subsistence	Communication	Printing / Xerox	National Workshop	Grand total	
	ITTO Contribution (in USD)	Myanmar contribution (in Kyat)						ITTO Contribution in USD	Myanmar in Kyat
Activity 1.1: Collection and collation of all available documents and information	600	0	5,600	2,400	500	0	0	9,100	1,434,000
Activity 1.2: Stakeholder Consultation Meetings	3,000		3,600	2,400	0	550	0	9,550	1,912,000
Output 2:								0	
Activity 2.1 Conduct a National Workshop	4,200		15,600	2,400	0	0	12,000	34,200	2,390,000
Activity 2.2: Formulation of the project proposal	600		900				2,500	4,000	476,000
Project Auditing	0	0	0	0	0	0	0	500	
ITTO Monitoring, Review & Evaluation cost	0	0	0	0	0	0	0	3,000	
ITTO program support cost (@8%)	0	0	0	0	0	0	0	4,588	
GRAND TOTAL	8,400	0	25,700	7,200	500	550	14,500	61,938	6,212,000

PART III TROPICAL TIMBER FRAMEWORK

1. Compliance with ITTA 1994's objectives

To support Myanmar's effort to promote sustainable management of its mangrove forests in Ayeyarwady Delta, the project is a contribution to the rehabilitation of degraded forest and complies therefore with the ITTA 1994 by meeting the following objectives of its Article 1:

- (c) To contribute to the process of sustainable development.
- (l) To encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber trade.

As a member of ITTO, Myanmar has committed itself to achieving sustainable management of its natural forest resources, namely by achieving the Year 2000 objective. In 1993, ITTO members identified 4 key areas for action towards sustainable forest management in compliance with that Objective. This project idea is in relevant to the following three of them:

- Security of forest resources and prevention of unplanned deforestation;
- Production of optimal mix of goods and services;
- Improvement of the social and political environment concerning forest management.

2. Compliance with ITTO Yokohama Action Plan

The Pre-project complies with the Plan's Goal 1 "Support activities to secure the tropical timber resource base" under Reforestation and Forest Management, in recommended Action 4 "Promote the conservation, rehabilitation and sustainable management of threatened forest ecosystems, inter alia mangroves, in collaboration with relevant organizations".

In addition, the pre-project also meets Goal 2 "Promote sustainable management of tropical forest resources", in one of the paragraphs of its Action 10 "Implement research and development activities in the management of secondary tropical forests, restoration of degraded tropical forests and rehabilitation of degraded forest land, taking into account consideration ITTO Guidelines, since its main focus is rehabilitations of mangrove forests destroyed by the Nargis cyclone.

3. Compliance with ITTO Mangrove Workplan 2002-2006

The pre-project refers the ITTO Mangrove Workplan 2002-2006 as it covers all the 5 selected areas of activities, as follows:

Area 1: "Conservation and sustainable management":

The stated pre-project's overall objective is to contribute towards sustainable mangrove ecosystem management through promoting cooperation in rehabilitation among various stakeholders. It will assist community base forest, developing management plans for the sustainable mangrove management in two project pilot areas, and implementing pilot restoration and management activities.

Area 2: "Mangrove information and awareness":

The pre-project will gather information, make assessment the status of mangrove ecosystem and conduct socio-economic survey. The project has planned outputs and corresponding activities for the publication and dissemination of information and for awareness building.

Area 3: "Socioeconomic aspects":

The pre-project will conduct an assessment on the socio-economic aspects of mangrove resource use and identify income generation opportunities for mangrove community.

Area 4: "Mangrove ecosystem functions and health":

The pre-project will collect information on research proposal on mangrove ecosystem which plays important role in supporting local community for their livelihood and protecting natural disaster.

Area 5: "Cooperation and capacity building":

The pre-project will organize stakeholder consultation and national workshop to orientate project activities, to mobilize targeted local community to participate in mangrove rehabilitation and to improve capacity building both for the staff and community.

ANNEX A - PROFILE OF THE EXECUTING AGENCY FOREST RESEARCH INSTITUTE (FRI)

The Ministry of Forestry is the responsible ministry having responsibility all forestry matters in Myanmar. Under the same umbrella of the Ministry, the Planning and Statistics Department coordinates and facilitates the activities of the Forest Department, Dry zone Greening Department and the Myanmar Timber Enterprise. Of them, the Forest Department is responsible for the protection and conservation of biodiversity and sustainable development of all forest resources. The pre-project proposed the Forest Department (FD) as an Executing Agency (EA) in view efficient capacity of implementing the project meeting its objective in a given period.

Being established since colonial time, the FD has been the oldest well organized department among the government organizations. The FD has accumulated huge experiences on protection and conservation of forest in sustainable manner contributing to national development as well.

Under the administrative control of the Director-General of Forest Department, the Forest Research Institute (FRI) was established in 1978. Now the FRI is conducting research activities with the strength of 77 researchers and 202 supporting staff equipped with research facilities. Up to now, about 200 research papers have been documented; some 26 research studies in diverse fields of forestry are on-going. From the FRI three key staff are nominated to the pre-project. They are possessing advanced education and expertise in various forestry operations the FD and FRI as well.

With regards to the International Collaboration, the International Tropical Timber Organization (ITTO) has granted four projects to FRI, FD of Myanmar. The first project, namely "Introducing Myanmar's Lesser-Used Timber Species to the World Market" had already been completed. The second project, namely "Teak-based Multistoried Agro-forestry System: *An Integrated Approach Towards Sustainable Development of Forests*" was successfully accomplished. The third project, namely "*Promotion of Sustainable Utilization of Bamboo through Community Participation in Sustainable Forest Management*", has recently completed in March 2007. The fourth project "*Ex-situ and In-situ Conservation of Teak (Tectona grandis Linn f.) to support Sustainable Forest Management*" has been launched in April 2006. Successful completion of those projects reflects the good enough efficiency of the FRI, FD in implementing ITTO projects.

ANNEX B - CURRICULA VITAE OF THE KEY STAFF

Curriculum Vitae

Name : U Win Myint
Father's name: U Pe Maung
Date of birth: 16 April 1958
Birth of place: Paung Township, Mon State, Myanmar
Nationality: Myanmar
Religion: Buddhism
Marital status: Married
Designation: Assistant Director
Forest Management and Silviculture Division
Forest Research Institute (FRI), Forest Department, Ministry of Forestry
Nay Pyi Taw, Myanmar

Education: B. Sc (Forestry), Yangon University, 1980
M. Sc (Agroforestry), Univeristi Putra Malaysia, 2001
Post Graduate Diploma in Computer Science, Yangon University, 2006
Master of Public Administration (MPA), Institute of Economics, Yangon, 2007

Overseas Experience:

- "Study Tour on Biosafety for Policy Makers from ASEAN Member Countries in Korea", Suwon, Korea, 16-25 August, 2008
- "Biodiversity Modeling Training Course", Hanoi, Vietnam, two weeks in August 2008
- "Conference on Biosafety", Hanoi, Vietnam, 2007
- "Biodiversity Modeling Training Course", Hanoi, Vietnam, two weeks in 2007
- "Third Conference on Biotechnology and Biosafety in Asia Pacific", Manila, Philippines, 2005
- "Regional Conference on Rattan" Manila, Philippines, 2004
- "Development of Criteria and Indicators for Model Forests", Thailand, 2002
- "Study Tour on Training Forests", one week, Thailand, 1992

Work Experience: 2007-09: Conducting Research works, Office Administration, in the Forest Research Institute

2004-07 : Project implementation: Project Officer of the "Development of National Biosafety Framework Project, Myanmar" assisted by UNEP/GEF

2001-04: Project implementation, assist to the Project Coordinator in the "Regional Model Forests Project", assisted by FAO/JPN

1990-97: Training activities in the Central Forestry Development Training Centre (CFDTC) under the Technical Cooperation Program assisted by JICA.

- In-charge of conducting training courses on "Forest Plantation Techniques Training Course"
- In-charge of Training Forest Nursery of the CFDTC
- Teaching subjects relating to the forest plantation, forest nursery, forest management, silviculture, agroforestry

1989-90: Range Officer, Township Forest Department, Thaton Township, Mon State
1985-89: Plantation Officer, Establishment of forest plantations in Rakhine State,
1984-85: Assistant Plantation Officer, Establishment of forest plantations in Kayin State,
1983-84: Assistant Plantation Officer, Seed and Seedling Centre.

Language: Myanmar (Mother tongue)
English (Good in Reading, writing, speaking, listening)

CURRICULUM VITAE
Name: Dr Nyi Nyi Kyaw

Permanent Address

Dr. Nyi Nyi Kyaw
Building 2, Room 6, Lanthit Yeiktha
11131 Lanmadaw
Yangon, MYANMAR
Tel: 095 1 222350, 530116
Email: nnkforest@gmail.com
: nyi_kyw@yahoo.com

Office Address

Dr. Nyi Nyi Kyaw
Deputy Director / Associate Professor
Forest Research Institute/ University of Forestry
Forest Department, Ministry of Forestry
Tel: 095 1 644202, 095 9 518 4104
Fax: 095 1 644201
Email: friyezin@myanmar.com.mm

Biographical Summary

Name: Nyi Nyi Kyaw
Date of Birth: 15-01-1962
Place of Birth: Yangon, Myanmar
Nationality: Myanmar
Passport No. 115260 (Official)
Occupation: Deputy Director/ Associate Professor
Forest Research Institute/ University of Forestry
Forest Department

Education

B.Sc. (Forestry), Institute of Agriculture, Yezin, 1986
M.Sc. (Forest. Trop.), University of Goettingen, Germany, 1995
Ph.D (Forestry Science), University of Goettingen, Germany, 2003

Employment/

2006-date Deputy Director, Forest Research Institute, Forest Department
2003- 2006 Assistant Director, Natural Resources Division, Forest Research
Institute, Yezin/ Part time Lecturer, University of Forestry
1999-2000 Staff Officer/ Senior Researcher, Forest Management and Silviculture
Division, Forest Research Institute, Yezin
1997-1999 Range Officer/ Junior Researcher, Forest Management and Silviculture
Division, Forest Research Institute, Yezin
1996-1997 Range Officer, Management Plan Formulation Core Unit, Planning and
Statistics Division, Forest Department, Yangon
1990-1996 Range Officer, Central Forestry Development Training Centre, Forest
Department, Hmawbi
1989-1990 Junior Officer, Township Forest Office, Forest Department, Hlegu
1987-1989 Assistant Plantation Officer, Forest Department, West Pathein,
Ayeyarwady Division,

Publications

1. Plantation Establishment with *Xylia dolabriformis* (Pyinkado) by Taungya Method, 1995.
(M. Sc. Thesis, University of Göttingen, Germany)
2. Enrichment Planting Study of Teak (*Tectona grandis* Linn. F.) in Ngalaik Reserved
Forest, Pyinmana, 2000. (Research Paper, Forest Research Institute, Myanmar)
3. Site Influence on Growth and Phenotype of Teak (*Tectona grandis*) in Natural Forests of

- Myanmar, 2003. (Ph. D. Thesis, University of Göttingen, Germany)
4. Effect of Rainfall on Radial Growth and Long Term Growth Patterns of Teak in Natural Forests of Myanmar 2003. (Research Paper, Forest Research Institute, Myanmar)
 5. Trees Outside Forests, 2003. (Forest Research Institute, Myanmar Silver Jubilee Magazine: Text in Myanmar)
 6. Tree Species Composition and Stand Structure of Natural Teak Forests in Myanmar, 2004.(Teak and Bamboo Forum, ITTO Project PD 146/02 Rev.1 (I))
 7. *En Route* towards Sustainable Development of Myanmar Teak Forests, 2004. (Journal of Agricultural, Forestry, Livestock and Fishery Science, Myanmar)
 8. The Phenotypic Characteristics of Natural-Grown Teak (*Tectona grandis*) in Myanmar, 2004. (Teaknet Newsletter, Issue 33/2004, Myanmar)
 9. Multipurpose Nitrogen Fixing Tree Species, 2004. (Forestry Journal: Text in Myanmar)
 10. How to be Successful in Plantation Development, 2005. (Forestry Journal: Text in Myanmar)
 11. Qualitative Assessment of Teak Trees as a Guide for Selection of Plus Trees 2007 (Technical Guidelines, ITTO Teak Project, Unpublished)
 12. Establishment of Teak Seed Production Area 2007 (Technical Guidelines, ITTO Teak Project, Unpublished)
 13. Tree species composition of Mangrove Forests in Bogalay Township, Ayeyarwday Delta (Forestry Research Paper, 2008)
 14. Ecophysiological study on drought resistant tree species in dry zone, Myanmar. (Forestry Research Paper, 2008)

Curriculum Vitae

- | | | |
|----|------------------------------|--|
| 1 | Name | U Ohn Lwin |
| 2 | Father's name | U Chit Tun |
| 3 | Date of Birth | 19-2-1961 (48-yrs) |
| 4 | Place of Birth | Ingapu township, Ayeyarwaddy Division |
| 5 | Marital status | Married |
| 6 | Present position | Assistant Director, Forest Research Institute, Forest Department |
| 7 | Education | B. Sc (Forestry) 1984
M.Sc (Forest Environmental Sciences) Department of Forest Sciences, Seoul National University, (2006-2008) |
| 8. | Address | Director General Office, Forest Department,
Bayint Naung Road, West Gyogone, Insein TSP, Yangon, Myanmar,
ph-095-01-681856, 681857
teaknet@mptmail.net.mm , |
| 9 | Overseas Training experience | 1. Forest management and plantation techniques for 3.5 months in Japan, 1992
2. Tissue culture in Thailand for 2-weeks, 1996
3. Genetic markers and sanitation techniques for commercial planting stock production for 2-weeks in Indonesia in 2000
4. Tissue culture for 1-month in Indonesia in 2002
5. Genetic markers on establishment of seed orchard for 2-weeks in Indonesia, 2002 |
| 10 | Local Training experience | 1. Basic Forest Officer Training Course in 1987
2. Tree climbing training course in 1987
3. Advance Forest Officer Training Course in 1992
4. Forest Protection in 1997
5. Forest Genetic in 2002 |
| 11 | Work experiences | 1985-1989 - Seed collection
(Seed and - Seed storage and procurement
seedling centre) - Establishment of SPA
- Establishment of Nursery
-counterpart to experts of DFSC
1990-2005 -Training in charge of Nursery, Plantation, Tree Improvement,
(The Central Micro-propagation techniques, Forest Resources Management
Forestry and Township Forest Officer training courses
Development - teak tissue culture project
Training Centre) - Teak Hedge garden and shoot cutting
- lecturing subjects concerning
(Seed Production Area, Seed Orchard,
Plant Propagation, Forest area survey, leveling, Tree
Improvement, Establishment of Teak Multiplication garden,
conventional Vegetative propagation for villagers and
operational level staff of Forest Department)
- head of administration section
2008- Now Forest Research Institute
- in charge of Research Planning and Extension
- Experiment on Clonal Seed Orchard
- Survey on Research Planning |
| 12 | Language | Myanmar (Mother Tongue)
English (Good in Reading, writing, speaking, listening) |

ANNEX C. Location map of the project site

