

**Bamboo Plantation Establishment, Bamboo Forest**  
**Management and Bamboo Products Production**  
**Training Course**  
**(Training No. 2)**



**Forest Research Institute, Yezin**  
**5-16 November, 2004**  
**Forest Department, Ministry of Forestry**  
**Myanmar**  
**and**  
**International Tropical Timber Organization**

Training Report (DB) ✓  
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**Proceeding No.2**

**Bamboo Plantation Establishment, Bamboo Forest  
Management and Bamboo Products Production  
Training Course  
(Training No.2)**

**U Htun Paw Oo  
National Project Manager**

**U Khin Maung Oo  
&  
U Tint Khaing**

## Contents

Preface -----	1
Acknowledgement -----	2
Training Procedure -----	3
Curriculum -----	3
Program of the Training Course -----	4
Summary of the Training Course -----	6
Data on trainees -----	6
Criteria for Evaluation -----	6
Expectation and commitment from the training course -----	7
Suggestions -----	8
List of Trainees -----	9
Picture of Activities -----	10

## PREFACE

Bamboo Plantation Establishment, Bamboo Forest Management and Bamboo Products Production Training Course, Training No. (2) was organized by the Project; Promoting Sustainable Utilization of Bamboo through Community Participation in Sustainable Forest Management [PD 146/02 Rev.1 (I)] with the support of International Tropical Timber Organization (ITTO). Forest Research Institute (FRI) Yezin supported the training.

The objectives of the training course were to acquaint the trainees with theory and practice in the form of on the job training on making of bamboo value-added products, thereby promoting their income and transferring their experiences to their peers. It is hoped that this kind of training will help to promote understanding of sustainable management of bamboo forests, which can lead to the future forest conservation of the country.

The training course was conducted at Moswe, Yamethin Forest District, Mandalay Division, during 5-16 November 2004. There were 18 participants and most of them have some experience in the production of local bamboo handicrafts and weaving. The participants composed of Forest Rangers from the Forest Department and local communities from the 3 project sites in Pynmana, Paukkaung and Kawhmu Townships.

In order to supervise the training, a training course committee was formed on the 18th of October, 2004. Chairman and co-chairman of the committee were U Saw Eh Dah, Coordinator of the project PD 146/02 Rev.1 (I) and U Htun Paw Oo, National Project Director of the ITTO Bamboo Project. Members of the committee were Dr. San Win and Daw Khin May Lwin, Deputy Project Managers of the project and the secretary of the committee was U Khin Maung Oo, Deputy Project Manager of the Project. Other project staffs included for facilitating the training were U Aung Soe , U Tint Khaing, U San Oo and Daw Khaing Khaing Tun of the Forest Research Institute (Yezin).

The opening ceremony was carried out at the FRI, Yezin and it was presided by U Htun Paw Oo, Director of the Forest Research Institute (FRI), Forest Department, Ministry of Forestry.

It was found that all the 18 trainees passed the evaluation standard after 12- days of intensive training. The criteria for the evaluation included standard test table, interest and outcomes of their practical works.

Certification of participation on the Training course on bamboo plantation establishment, bamboo forest management and bamboo products production was given to the participants after the completion of the training course.

## ACKNOWLEDGEMENT

The training course would not have been possible without the generous support of our project sponsor, the International Tropical Timber Organization (ITTO). Special thanks are due to U Soe Win Hlaing, Director General of the Forest Department for his permission to hold the training and for chairing the opening ceremony. We would also like to thank Dr. Hwan Ok Ma, Projects Manager of the Forest Industry, ITTO who supported and helped the organizers in every way he can. We are very grateful to U Thaung Nyunt , Deputy Director of Forest Research Institute and to the staffs of all ranks in FRI, for their kind support. The cooperation and interest of all the participants which make the training course achieved its objectives received very high recognitions.

## **Training Procedure**

### **Curriculum**

The training course consists of lectures, practical works and study tour. The practical works were divided into 3 sessions; Session I Charcoal kiln making session, Session II Establishment of bamboo plantation and Session III Natural bamboo forest management. After completing the course at each session, the groups were rotated so that each and every group got the chance to attend all the sessions. The training period for each session was 4 days so that after 12 days, all the trainees completed all the 3 sessions included in the training course.

The contents of the training course included Bamboo propagation and plantation establishment, Systematic exploitation of bamboo, Bamboo charcoal kiln making, Bamboo sieve and tray making, Bamboo handicrafts making and Bamboo hat making. The latter three were mainly practical trainings on easy to make bamboo products.

#### **Bamboo Charcoal Kiln Making**

The curriculum covers charcoal kiln construction, species selection for burning charcoal, preparation for charcoal burning and demonstration of charcoal burning. Daw Khin May Lwin, Deputy National Project Manager; Head of Bamboo Processing Section conducted the training. The training period was 2 days.

#### **Establishment of bamboo plantations**

The curriculum covers selection of planting materials, methods of propagation and plantation establishment. Dr. San Win, Deputy National Project Manger, Head of Bamboo Management Section, ITTO Bamboo Project conducted the training. The training period was one day.

#### **Natural bamboo forest management and community development**

The curriculum for training covers management and silvicultural practices in natural bamboo forests and community development. The training was conducted by U Mehm Ko Ko Gyi , National Consultant (Forest Management) of the project and Dr. San Win, Deputy National Project Manger, Head of Bamboo Management Section .

## **Program of the Training Course**

### **Thursday 4<sup>th</sup> November 2004**

*Registration:* All trainees reported at the Forest Research Institute (FRI), Yezin, Mandalay Division, Myanmar.

Registrar: U Khin Maung Oo

### **Friday 5<sup>th</sup> November 2004**

#### ***Opening Ceremony***

Venue: Auditorium, (FRI), Yezin.

8:00 Daw Yee Yee Han, Master of the ceremony declared the ceremony opened.

8:15 U Htun Paw Oo, Director of the Forest Research Institute, Forest Department, Chairman of the ceremony, gave an opening address.

8:30 Light refreshments were served

13:30 Move to Moswe camp where the training was conducted.

### **Saturday 6<sup>th</sup> November 2004**

08:00 Daw Khin May Lwin , Deputy Project Manager (2) explained about the  
to construction of bamboo charcoal kiln and systematic stacking of raw bamboos in  
11:50 the kiln. The trainees were also instructed the need to observe the smoke from  
the kiln every day.

13:00 Demonstration on bamboo charcoal kiln construction and burning charcoal by  
to Daw Khin May Lwin, Deputy Project Manager (2) of the project. The trainees  
16:20 were also shown the colour of the smoke that needed to be observed.

### **Sunday 7<sup>th</sup> November 2004**

08:00 U Mehm Ko Ko Gyi , National Consultant of the project , lectured on  
to Community Development and the need for community participation in bamboo  
11:50 forest .management.

13:00 Dr.San Win , Deputy National Project Manager lectured on bamboo propagation  
to methods and plantation establishment.  
16:20

**Monday 8th November 2004**

- 08:00 U Mehm Ko Ko Gyi , National Consultant of the project lectured on the  
to establishment of bamboo plantations.  
11:50
- 13:00 Dr. San Win gave lecture as well as practical exercise on bamboo propagation  
to methods to the trainees. The trainees were made to plant *hmyin-wa* wildings in  
16:20 plastic bags.

**Tuesday 9th November 2004**

- 08:00 U Mehm Ko Ko Gyi , National Consultant of the project and Dr.San Win ,  
to Deputy National Project Manager took the trainees to 2003 bamboo  
11:50 demonstration plots that consist of different bamboo species and explained the  
problems that were encountered in the establishment of this plantation.
- 13:00 Practical exercise on planting of nodal cuttings was given by Dr. San Win at  
to Moeswe nursery.  
16:20

**Wednesday 10th November 2004**

- 08:00 U Mehm Ko Ko Gyi , National Consultant of the project and Dr.San Win ,  
to Deputy National Project Manager gave practical training on the management  
11:50 and harvesting of natural bamboo forests at the bamboo natural forest  
demonstration plot. The trainees were shown the effect of cutting and mounding  
soils at the base of the clump.
- 13:00 U Mehm Ko Ko Gyi , National Consultant of the project and Dr.San Win ,  
to Deputy National Project Manager gave practical training and had discussion on  
16:20 the management of natural bamboo forests.

**Thursday 11th November 2004**

- 08:00 Dr. San Win gave lecture on different methods of propagation of different kinds  
to of bamboos.  
11:50
- 13:00 Practical training on the extraction of the charcoal from the charcoal kiln and  
to examination of the quality of the charcoal.  
16:20

**Friday 12th November 2004**

- 08:00 Left Moswe for Yezin. Studied production of bamboo parque at the New  
to Golden Bamboo parque factory at Pyinmana on the way.  
11:30



13:00 Closing ceremony of the training was held at the auditorium of the Forest Research Institute, Yezin. U Khin Maung Oo, Dy. Project Manager and the Secretary of the Training Course Committee gave the closing remarks. Certificate of achievement was given to all the trainees by U Thaung Nyunt, Deputy Director of the FRI. It is expected that the experience gained from the training course will be useful for the trainees to transfer their knowledge to their peers and generate more income for their families and their village in the future.

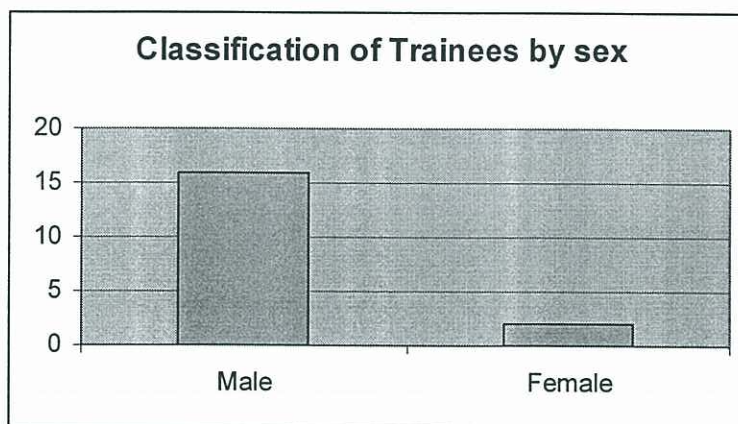
15:00 **Course Evaluation**

Reviewing of the training contents and the training evaluation revealed that trainees passed the evaluation at high level. They also showed enthusiasm and gave strong attention during lecture, practical work and study tour throughout the training periods.

### Summery of the Training Course

**Data on trainees**

The total number of trainees is 18 (as shown in diagram)



**Criteria for Evaluation**

1. Duration of training course
2. Suitability of content
3. Training procedure
4. Activity learning achievement
5. Availability of training equipment
6. Training periods for practical works
7. Training periods for lectures
8. Time allotment for study tour
9. Application of experience gained from the training
10. Satisfaction of resource persons

### Expectation and commitment from the training course

The trainee's expectation and commitment can be summarized as follows:

<b>Expectation</b>	<b>Commitment</b>
○ Opportunities to fetch new incomes from bamboo	○ 100% satisfaction
○ Knowledge, experience, occupation	○ Interesting in training
○ Obtain new knowledge and experience	○ Satisfaction in the training and attentive in the part of the trainees
○ Transfer experience and extension	○ Bring back bamboo propagation and plantation techniques and transfer to peers
○ Application of skill for practical work	○ Have strong intention to promote bamboo industries
○ The knowledge learnt will be useful for present and future generation	○ Prepared to exchange experiences
	○ Complete all the training programme with interest for future application.

## Suggestions

Bamboo Plantation Establishment, Bamboo Forest Management and Bamboo Products Production Training Course, Training No.2 is the second programme to transfer knowledge and experience concerning development of bamboo products industries domestically and abroad to general villagers. The training course aims at efficient utilization of natural bamboo resource through encouraging the production of marketable value-added bamboo charcoal by the local communities. The trainees may have enough skill to produce bamboo charcoal to meet the market demand and earn more income for their families. It is also expected that the trainees will share their experiences to their peers for the benefit of their villages. It is suggested that:

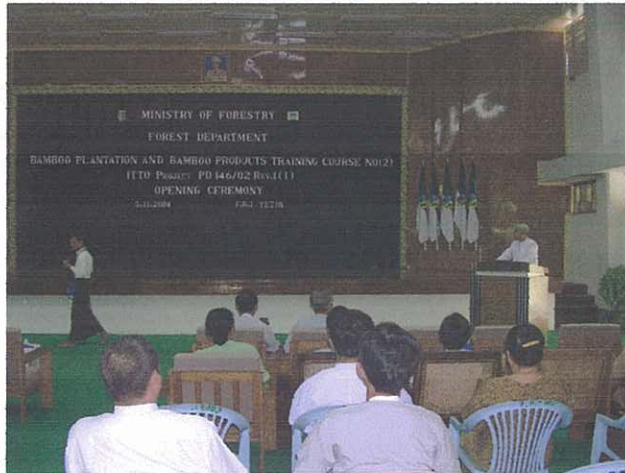
1. Training on bamboo plantation establishment and management, should be encouraged.
2. Bamboo products production group should be established.
3. More training equipments should be supported.
4. There should be more intensive monitoring and evaluation so as to assess the benefits of the training to each trainee.
5. Study tour to bamboo plantations is necessary so as to arouse the interest of the local communities.

### List of trainees

1. U Khine Zaw Oo, Yetarshe village , Kawhmu Township , Yangon Division
2. U Sein Moe Than , Taung Chaung village , Kawhmu Township , Yangon Division
3. U Htay Myint , Forest Ranger , Pauk Kaung Township
4. U Han Moe , Forest Ranger , Letpatang Township
5. U Kyaw Myint , Mayankhone village , Taung Nyo Township
6. U Thar San, Le Win village, Pyinmanar Township
7. U Aye , Le Win village, Pyinmanar Township
8. U Myo Zaw Oo, Moe Swe village, Pyinmanar Township
9. U Aung Lin (2), Forest Ranger , Pegu Township
10. U Ye Hla , Leitee village , Pauk Kaung Township
11. Ma Pwint Phyu Aung, Nyaung Wun village , Pauk Kaung Township
12. Ma Aye Thuzar, Leitee village , Pauk Kaung Township
13. U Aung Soe Thein, Forest Ranger , Taunggu Township
14. U Be Ye, Forest Ranger, Pyinmanar Township
15. U Hla Win Maung , Forest Ranger , Leitee village , Pauk Kaung Township
16. U Win Naing , Forest Ranger , Nyaung Wun village, Pauk Kaung Township
17. U Tin Ko Ko, Forest Ranger, Forest Research Institute, Yezin
18. U Lwan Khaing Oo, Forest Ranger , Forest Research Institute

## Bamboo Plantation Management and Products Training Course No. (2)

### Opening Ceremony



## Introduction of the Training



# Lecture on Bamboo Charcoal Making



## Activities During the Training Workshop







