

**Bamboo Plantation and Bamboo Products Training Course  
No. 1**



**Central Forestry Development Training Center  
Hmawbi, Yangon  
12-25 July, 2004**

**Forest Department, Ministry of Forestry  
Yangon, Myanmar  
and  
International Tropical Timber Organization**

**Proceeding No.1**

**Bamboo Propagation and Bamboo Products  
Training Course No.1**

**U Htun Paw Oo  
National Project Manager**

**U Khin Maung Oo  
U Tint Khaing  
U San Oo  
Project Staff**

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## PREFACE

Bamboo Plantation and Bamboo Products Training Course No. (1) was organized by Project PD 146/02 Rev.1 (I) ; Promoting Sustainable Utilization of Bamboo through Community Participation in Sustainable Forest Management with the support of International Tropical Timber Organization (ITTO). Forest Research Institute (FRI) Yezin and Central Forestry Development Training Center (CFDTC) of the Forest Department, Ministry of Forestry jointly supported the training.

The objectives of the training course were to encourage the trainees to utilize the natural bamboo resources effectively, to acquaint them with the techniques on making of bamboo value-added products thereby promoting their income and transferring their experiences to their peers. This training course will help to promote the value, tradition and awareness of sustainable management of bamboos.

The training course was conducted at the Central Forestry Development Training Center (CFDTC) Hmawbi, Yangon Division during 12-25 July 2004. There were 14 participants who had some experience in the production of bamboo handicraft and weaving. Most of them are local communities from the 3 project sites in Pynmana, Paukkaung and Kawhmu Townships. Villagers from Bago Yoma Greening Project Areas and one observer from Seed and Seedling Center (SSC), Forest Department were also included.

The training course committee was established on the 8th. of July, 2004 and chairman and co-chairman 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 U Myint Aung, Principle of CFDTC, 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 Director 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 presided by U Soe Win Hlaing, Director General of the Forest Department, Ministry of Forestry.

All the 14 trainees passed the evaluation standard after 14 days of intensive training. The criteria for the evaluation included standard test table, interest and outcomes of their practical works.

## 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 Myint Aung, Principle of CFDTC and to the staffs of all ranks in CFDTC, for their kind support. The resource persons from Leluai, Nyaunglaypin and Mingaladon were very devoted in making this training successful and we are very grateful for their valuable contributions to this training. 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 and practical works. The practical works were divided into 3 sections; Session I Bamboo hat making session, Session II Bamboo handicraft making session and Session III Bamboo sieve and tray making session. The trainees were divided into 3 groups namely, group (I), (II) and (III). The training started by arranging group (I) to attend section (I), group (II) to attend section (II), and group (III) to attend section (III) respectively. After completing the course at the sections, the groups were interchanged so that each and every group attended all the sections. The training period for each section was 4 days so that after 12 days, all the trainees received their training from all the various sections included in the training course.

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

#### **Bamboo propagation and plantation establishment**

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

#### **Bamboo Charcoal Making**

The curriculum covers species selection, 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 hours.

#### **Bamboo Hat and Cap Making**

The curriculum for training covers species selection & suitable age for hat and cap making, pretreatment for slicing and weaving. The training was conducted by U Hla Nyunt and U Win Htwe Htait from Nyaunglaypin Township. The training period was 4 days for each training group thus making a total of 12 days.

#### **Bamboo Sieve and Tray Making**

The curriculum covers species selection & suitable age for sieve and tray making, preparation for slicing, methods of slicing & matting, circular containment and edging (lining with sliced rattan). The training was conducted by U Shwe Kyi and U Hla Myint from Leluai village in Pyinmana Township. The training period was 4 days for each training group thus, making a total of 12 days.

## **Bamboo Handicraft Making**

The training curriculum covers species selection & suitable age for handicraft making, slicing, weaving and designing for finished products such as festoon, lantern, lamp and several kinds of containers. U Tin Win and U Min Soe from Mingalardon Township conducted the training. The training period was 4 days for each group thus, making a total of 12 days.

## Program of the Training Course

### Sunday 11<sup>th</sup> February 2004

*Registration:* All trainees reported at the Central Forestry Development Training Centre (CFDTC), Hmawbi, Yangon, Myanmar.

Registrar: U Min Htut

### Monday 12<sup>th</sup> February 2004

*Opening Ceremony:* Venue Auditorium, (CFDTC), Hmawbi.

8:00 Daw May Thandar Myo, Master of the ceremony declared the ceremony opened.

8:15 U Soe Win Hlaing, Director General, Forest Department, Chairman of the ceremony, gave an opening address.

8:30 Light refreshments were served

#### *Morning Session*

U Min Htut, Head of training affair, CFDTC, explained about the training center and the training and hostel disciplines.

U Khin Maung Oo, secretary of the training course conducted a lecture on marketing, development of bamboo industries and Hi-technologies used in the production of value added products in China.

#### *Afternoon Session*

Daw Khin May Lwin, Deputy national project manager (2) of the bamboo project explained the procedure for the production of bamboo charcoal.

U Aung Soe , project staff, explained and showed video records on the production of bamboo value-added products in India and China.

### Tuesday 13<sup>th</sup> July 2004

7:00 *Grouping :* Although the number of the trainees was predetermined as 15, one trainee from Thayawady district was not able to attend the training. Thus, the total number of trainees was only 14 which was divided into 3 groups such as Group I, Group II and Group III. The lecture and practical training were organized into three sessions according to the subjects such as Session I Bamboo hat making session, Session II Bamboo sieve and tray making session, and Session III Bamboo handicraft making session. After completing one session, the groups of trainees were interchanged so that every group covers all the 3 sessions in the allotted time.

#### *Session I : Bamboo Hat and Cap Making*

This session is conducted by U Hla Nyunt and U Win Htwe Htaik, Bamboo Hat and Cap experts from Nyaunglaypin Township.

#### *Session II : Bamboo Sieve and Tray Making*

This Session was conducted by U Shwe Kyi and U Hla Myint, Bamboo sieve and tray experts from Leluai village in Pyinmana Township.



***Session III : Bamboo Handicraft Making***

This session was conducted by U Tin Win and U Min Soe, Bamboo Handicraft experts from Mingaladon Township, Yangon Division.

- 8:00 For Group I at Session I, the following topics were taught.  
to - Raw material selection- species and age suitable for bamboo  
11:50 hat & cap  
- Pretreatment of bamboo for slicing and weaving  
- Utilization and maintenance of equipments i.e. mold, knife,  
bow saw and slicer.

- For Group II at Session II, the following topics were taught.  
- Raw material selection- species and age suitable for sieve and tray making  
- Utilization and maintenance of slicing and weaving instruments  
- Bamboo splitting and scanning

- For Group III at Session III, the following topics were taught.  
- Raw material selection- species and age of bamboo for handicrafts  
- Utilization and maintenance of equipments i.e. knife, bow saw, fixed knife slicers  
- Size scanning and cleaning of bamboo

- 13:00 For Group I, vertical slicing technique was taught  
to

- 16:00 For Group II, the following topics were taught  
- Bamboo splitting and scanning  
- Slicing techniques

- For Group III, the following topics were taught  
- Bamboo splitting and scanning for slicing  
- Slicing techniques

**Wednesday 14th July 2004**

- 7:00 For Group I, the following contents were taught  
to - Vertical slicing technique  
11:50 - Weaving techniques for different designs of bamboo hat & cap

- For Group II, the following contents were taught  
- Slicing techniques  
- Weaving and matting

- For Group III, the following contents were taught  
- Slicing techniques  
- Fine slicing with fixed knife slicers  
- Weaving techniques for multi purposes i.e. frame and attachment of bamboo handicrafts

- 13:00 For Group I, the following topics were taught  
to - Weaving techniques for different designs of bamboo hat & cap  
16:50 - Molding

- For Group II
- Weaving and matting

- For Group III
- Weaving techniques for multi purposes i.e frame and attachment of bamboo handicrafts

#### **Thursday 15th July 2004**

- 7:00 For Group I, the following topics were taught to
- Molding
- 11:50
- Rattan weaving and finishing works
  - Reviewing previous training contents

- For Group II
- Cutting bamboo to sizes for frame of bamboo sieve and tray
  - Circular containment and edging i.e lining with sliced rattan
  - Finishing works
  - Reviewing previous training contents

- For Group III
- Cutting bamboo to sizes for frame
  - Making different designs of bamboo handicrafts
  - Finishing works
  - Reviewing previous training contents

- 13:00 For Group I at Session III, the training contents were as follow:
- to
- Raw material selection- species and suitable age of bamboo for handicraft making
- 16:30
- Utilization and maintenance of equipments i.e knives, bow saw, fixed knife slicers
  - Size scanning and cleaning of bamboo

- For Group II at Session I, the training contents were as follow:
- Raw material selection- species and age suitable for bamboo hat & cap making
  - Pretreatment of bamboo for slicing and weaving
  - Utilization and maintenance of equipments i.e mold, knives, bow saw slicer.

- For Group III at Session II, the training contents were as follow:
- Raw material selection- species and age
  - Utilization and maintenance of slicing and weaving instruments
  - Bamboo splitting and scanning

#### **Friday 16th July 2004**

7:00-10:50

- Group I
- Bamboo splitting and scanning for slicing
  - Slicing techniques

Group II  
- Vertical slicing technique

Group III  
- Bamboo splitting and scanning  
- Slicing techniques

13:00-16:50

Group I  
- Slicing techniques  
- Fine slicing with fixed knife slicers  
- Weaving techniques for multi purposes i.e frame and attachment of bamboo handicrafts

Group II  
- Vertical slicing technique  
- Weaving techniques for different designs of bamboo hat

Group III  
- Slicing techniques  
- Weaving and matting

**Saturday 17th July 2004**

7:00-11:50

Group I  
- Weaving techniques for multi purposes i.e frame and attachment of bamboo handicrafts

Group II  
- Weaving techniques for different designs of bamboo hat & cap  
- Molding

Group III  
- Weaving and matting

13:00-16:50

Group I  
- Cutting bamboo to sizes for frame  
- Making different designs of bamboo handicrafts  
- Finishing works  
- Reviewing previous training contents

Group II  
- Molding  
- Rattan weaving and finishing works  
- Reviewing previous training contents

Group III  
- Cutting bamboo to sizes for frame of bamboo sieve and tray  
- Circular containment and edging i.e lining with sliced rattan  
- Finishing works  
- Reviewing previous training contents

### **Sunday 18th July 2004 Study Tour**

- 7:00-12:00      - Visiting famous pagodas around Yangon City  
                     - Visiting Yangon Zoological Garden
- 13:00-14:30    - Studying bamboo handicraft market at Bo Gyoke Aung San Market
- 14:30-16:30    - Shopping at Thein Gyi Market

### **Monday 19th July 2004**

Holiday

### **Tuesday 20th July 2004**

7:00-11:50

For Group I at Session II, the training contents were as follow:

- Raw material selection- species and age suitable for sieve and tray making
- Utilization and maintenance of equipments i.e knives, bow saw, fixed knife slicer.
- Bamboo splitting and scanning

For Group II at Session III, the training contents were as follow:

- Raw material selection- species and suitable age of bamboo for handicrafts making
- Utilization and maintenance of equipments i.e knives, bow saw, fixed knife slicers
- Size scanning and cleaning of bamboo

For Group III at Session I, the training contents were as follow:

- Raw material selection- species and age suitable for bamboo hat & cap
- Pretreatment of bamboo for slicing and weaving
- Utilization and maintenance of equipments i.e mold, knives, bow saw slicer.

13:00-16:50

Group I

- Bamboo splitting and scanning
- Slicing techniques

Group II

- Bamboo splitting and scanning for slicing
- Slicing techniques

Group III

- Vertical slicing technique

**Wednesday 21st July 2004**

7:00-11:50

Group I

- Slicing techniques
- Weaving and matting

Group II

- Slicing techniques
- Fine slicing with fixed knife slicers
- Weaving techniques for multi purposes i.e frame and attachment of bamboo handicrafts

Group III

- Vertical slicing technique
- Weaving techniques for different designs of bamboo hat & cap

13:00-16:50

Group I

- Weaving and matting

Group II

- Weaving techniques for multi purposes i.e frame and attachment of bamboo handicrafts

Group III

- Weaving techniques for different designs of bamboo hat & cap
- Molding

**Thursday 22nd July 2004**

7:00-11:50

Group I

- Cutting bamboo to sizes for frame of bamboo sieve and tray
- Circular containment and edging i.e lining with sliced rattan
- Finishing works
- Reviewing previous training contents

Group II

- Cutting bamboo to sizes for frame
- Making different designs of bamboo handicrafts
- Finishing works
- Reviewing previous training contents

Group III

- Molding
- Rattan weaving and finishing works
- Reviewing previous training contents

13:00-16:50

Lecture on bamboo propagation and plantation establishment by Dr. San Win, Deputy National Project Director of ITTO Bamboo Project. The contents include:

1. selection of planting materials
2. methods of propagation
3. plantation establishment

Lecture on bamboo charcoal making technique by Daw Khin May Lwin, Deputy National Project Manager of ITTO Bamboo Project. The training contents include:

1. species selection
2. preparation for charcoal burning
3. and demonstration of charcoal burning.

### **Course Evaluation**

The training course was conducted as planned. Reviewing of the training contents and the training evaluation revealed that trainees passed the evaluation at high level. They also showed enthusiastic and gave strong attention during lecture, practical work and study tour through the training periods.

### **Friday 23rd July 2004**

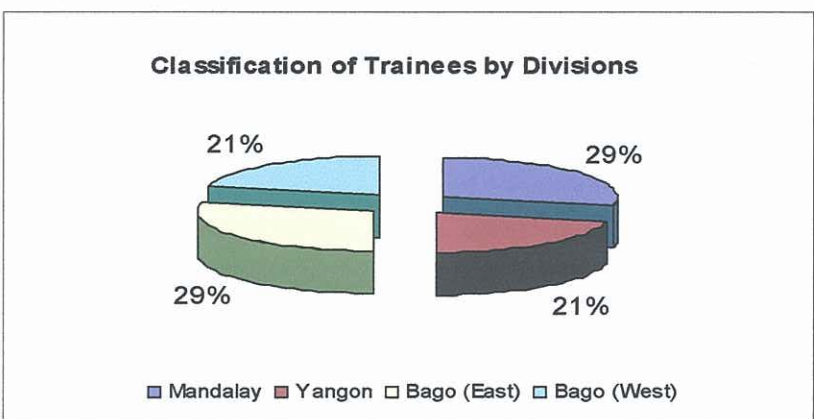
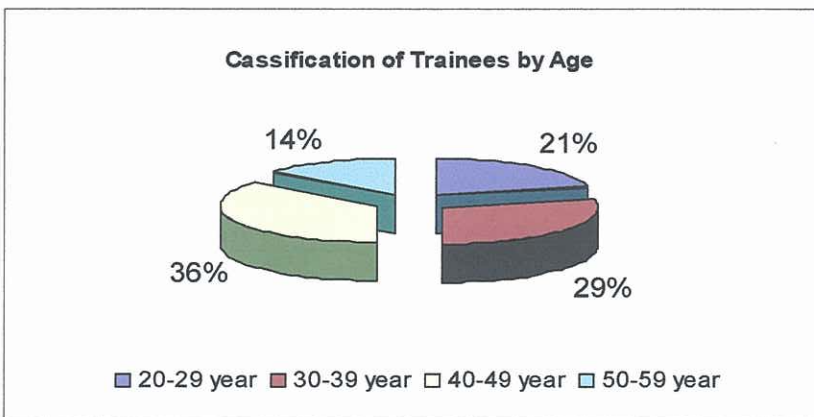
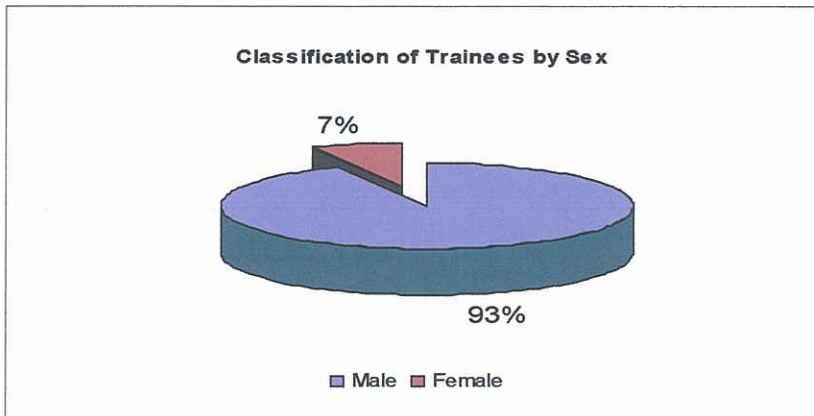
#### **Closing Ceremony**

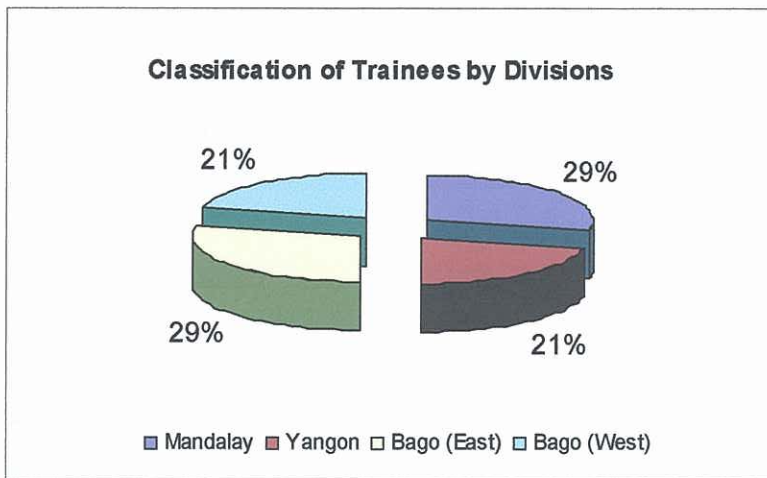
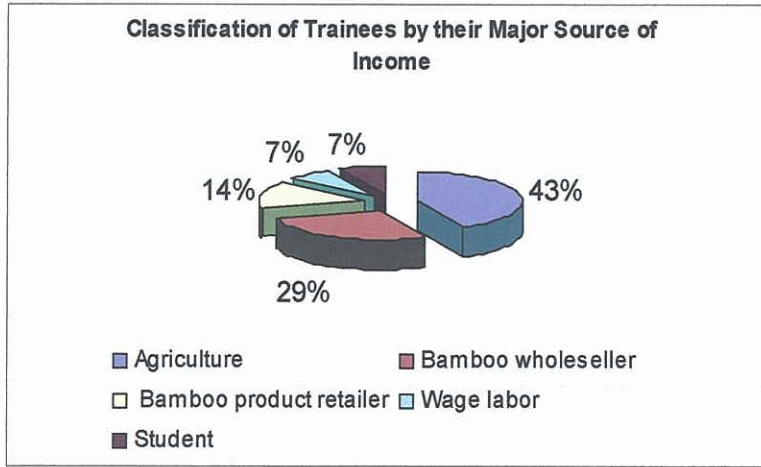
U Khin Maung Oo, Deputy National Project Manager of the ITTO Bamboo Project, Secretary of the training course committee reports on the success and achievement of the training to U Saw El Dah, Chair, Training Course Committee. U Myint Aung, Principle of Central Forestry Development Training Center (CFDTC) presents the Certificate of Achievement to all trainees. It is expected that the experience obtained 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 villagers in the future.

## Summery of the Training Course

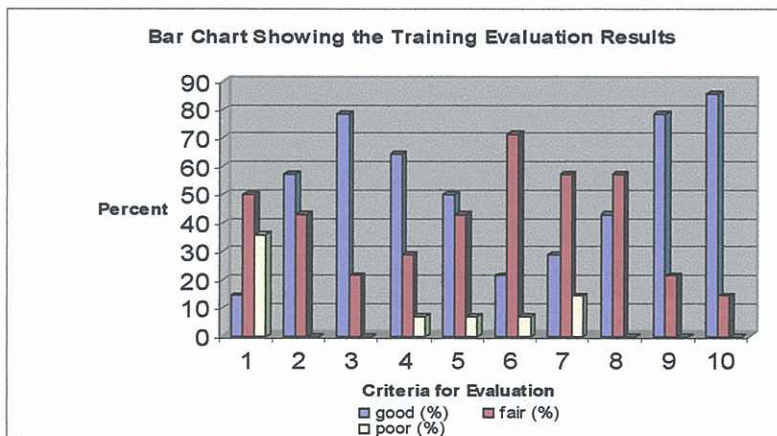
### Data on trainees

The total number of trainees is 14 (as shown in diagram)





### Training Course Evaluation





### 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:

Expectation	Commitment
○ 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 and Bamboo Products Training Course No.1 is the first programme to transfer knowledge and experience about 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 products and management and utilization of bamboo for local communities. The trainees may have enough skill to produce handicrafts commercially to meet the market demand and earn some income for their families. It is also expected that the trainees will transfer their experiences to their peers for their own benefits. It is suggested that:

1. There should be adequate time for each subject to be trained in future trainings.
2. Training on bamboo plantation establishment and management, bamboo handicrafts and furniture should be encouraged.
3. Bamboo products cooperative should be established.
4. There should be more training equipments supported.
5. There should be more intensive monitoring and evaluation so as to assess the benefits of the training to each trainee.
6. Higher training on product design to produce high quality bamboo products, which are easy to transport to meet the local and foreign market demands should be encouraged.

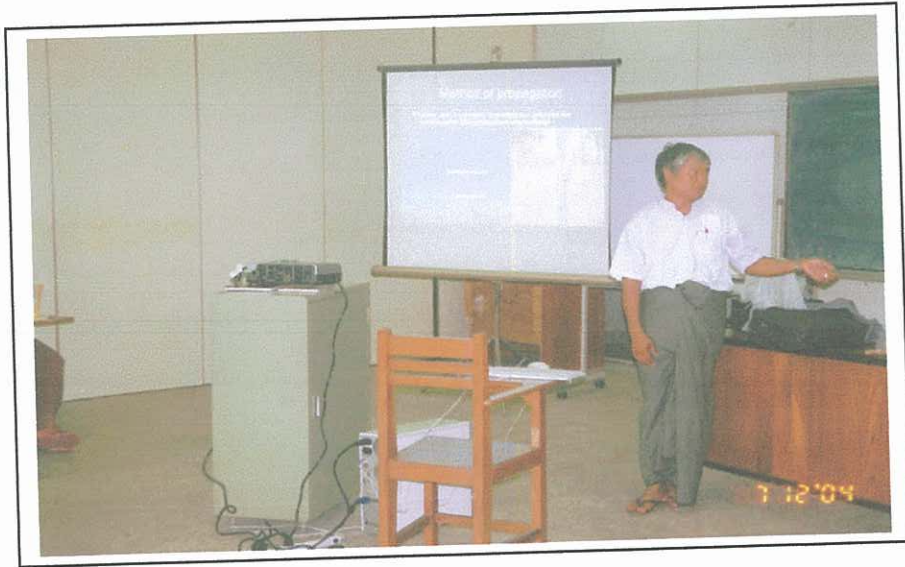
## List of trainees

1. U Hla Kyaing
2. U Min Soe
3. U Sein Tun
4. U Tin Myint
5. U Myint Aung
6. U Win Kyaw Kyaw
7. U Soe Myint
8. U Ko Ko Gyi
9. U Ye Hla
10. U Maung Htay
11. U Tun Khin
12. U Than Tun
13. Daw Thein Win
14. U Han Naing Tun

**Bamboo Plantation and Bamboo Products Training Course  
No.1  
Opening Ceremony**



## Introduction of the Training



## Lecture on Handicraft Making



## Activities during the Training Workshop







## Closing Ceremony

