

Project: PD 56/99 Rev. 1 (I)
Promotion of the Utilization of Bamboo
From Sustainable Sources in Thailand

**The Training Course
on
Bamboo Charcoal Production Technique**



**Non Wood Experimental Station Nakorn Ratchasima province
Amphur klangdong Nakorn Ratchasima
18-20 February, 2003**



Royal Forest Department, Bangkok, Thailand

and

International Tropical Timber Organization (ITTO)





Proceeding No. 5

The Training Course on Bamboo Charcoal Production Techniques

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Preface

A training course on “Bamboo Charcoal Production Technique” was organized by Project PD 56/99 Rev. 1 (I) : Promotion of the Utilization of Bamboo from Sustainable Source in Thailand with the logical support of International Tropical Timber Organization (ITTO).

The objectives of this training course were to acquaint the trainees with theory and practices in the form of on – the- job training to generate income for their families, and transfer their experiences to their neighbors. It is hoped that this kind of training will help promote the value, culture and understanding of sustainable management of bamboo which can lead to the future of cultural conservation of the country.

This training course was conducted during 18 – 20 February 2003, at Non Wood Experimental Station Nakorn Ratchasima province. The 20 trainees are representative of the community in 2 project sites in Chiang Mai and Nakorn Ratchasima provinces , Someone had some background in bamboo Charcoal making.

It is found that all the 20 trainees passed the evaluation standard after 3 days of intensive training. The criteria for evaluation include standard test table , interest and the outcomes of their practical works. After the training course, all the necessary equipments and materials for bamboo charcoal technique were offered to the Royal Forest Department for future training courses or experiments.

The opening ceremony was presided over by Mr. Kiti Kangsadal , Director of Nakorn Ratchasima Provincial Forest Office and reported by Mr. Chirapong Kuhakanchana, resource person and staff of this training course.

The closing ceremony was presided over by Mrs. Nuchanart Nilkhamheang, the organising committee and senior project staff.

Acknowledgement

This training course would not have been possible without the generous support of our project sponsors, the Government of Japan and United States of America through ITTO. Special thanks are due to Dr. Hwan Ok Ma, who supported and helped the organizer by all means. The resource persons from Royal Forest Department and private sector were very devoted to make this training success, are very grateful. The cooperation and interest of all the participants received very high recognition which make the training course achieved its objectives.

The kind hospitality of Mr. Prachern Sroythongkam, Head of Non Wood Experimental Station Nakorn Ratchasima province was very admirable by all visitors and should receive a lot of thanks.

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Opening Report

Chirapong Kuhakanchana

The Chairman of the Opening ceremony, Honor Guests and Participants ;

The Royal Forest Department was supported by ITTO to generate Project PD 56/ 99 Rev. 1 (I) : Promotion of the Utilization of Bamboo from Sustainable Source in Thailand to promote and train people for utilization of sustainable bamboo such as efficiency , bamboo value added, therefore the Project organized a training course "Bamboo Charcoal Production Technique" The training course on Bamboo Charcoal Production Technique has 4 objectives ;

1. To train and develop skill on charcoal kiln construction, bamboo charcoal production and bamboo vinegar collecting technique to people from 2 project sites from Chiang Mai and Nakorn Ratchasima Provinces.
2. To promote local people to generate more in comes.
3. To utilize bamboo to make charcoal for renewable energy and for environmental protection.

In this occasion I would like to introduce the Director of Nakorn Ratchasima Provincial Forest Office, the Chairman of the Opening Ceremony to deliver his opening address and declare the training course open.

Opening Address

Kitti Kangsadal

The Director of the Training Course, Resource persons, and Participants ;

It is a great honor for me to be invited, on behalf of the Royal Forest Department, to open the training course on "Bamboo Charcoal Production Technique" today.

I do believe that all of you know how bamboo looks like and get acquainted with bamboo in one way or another. But I don't know how many of you know about bamboo charcoal production. The Project PD 56/99 Rev.1 (I) : Promotion of the Utilization of Bamboo from Sustainable source in Thailand is kindly organizing this training course to train local people in the vicinity of the project sites at Ban Mae Mae, Chiang Mai and Klang Dong, Nakorn Ratchasima to understand the bamboo charcoal production technique and bamboo vinegar collection in order to promote this occupation and generate more incomes for their families.

I feel that this kind of training is very useful to the local people in helping them to upgrade their skill and occupation.

May I now declare the training course open and thank to the project staff and concerned organizations to make this training success. Thank you.

Training Procedure

Curriculum

The training course consists of lecture and practice on charcoal kiln making from brick. The practical work was divided into 2 parts, i.e. charcoal kiln making and bamboo charcoal making technique. The contents of the training included bamboo charcoal technique, marketing of bamboo and bamboo vinegar, efficient cooking stove, and forest laws (charcoal and charcoal transportation).

Charcoal Kiln Making

The curriculum content covers charcoal kiln making (Brick beehive kiln) the expert from Royal Forest Department , Mr. Chirapong Kuhakanchana , Head of Charcoal Research Center, Saraburi province conducted the training. The training periods are 2 days.

Bamboo Charcoal Production Technique

The curriculum content covers charcoal making technique , to make the best bamboo charcoal for quality the experts from Royal Forest Department , Wood Energy Group. Mr. Chirapong Kuhakanchana Head of Charcoal Research Center Saraburi province and 2 technical labours from Charcoal Research Center, Saraburi conducted the training. The lectures cover 3 days.

Marketing of Bamboo Charcoal and Bamboo Vinegar

The curriculum content covers the technique of bamboo charcoal utilization , bamboo vinegar and marketing, conducted by Mr. Putthinun Peung-Wongyart private sector in charcoal and vinegar making and trading. The periods of training are 1 hour 30 minutes.

Efficient Cooking Stove

The curriculum content covers how to choose the efficient cooking stove for household , shape of good and poor stove and how to choose the best one from the market. The expert from Royal Forest Department, Mrs. Narumol Panunumpa. The lecture covers 3 hours.

Forest Laws (Charcoal kiln permission and transportation)

The curriculum contents are how to permit charcoal making , charcoal transportation and charcoal export etc... , conduct by expert from Royal Forest Department , Mr. Banlang Binloi , the lecture covers 3 hours.

Programmes of Training Course
on
“ Bamboo Charcoal Production Technique ”
18 – 20 February 2003
Non Wood Experimental Station, Nakorn Ratchasima

18 February , 2003

- 08.00 – 09.00 Registration of Trainees
09.00 – 10.00 Opening Ceremony and Introduction of the
Training Course
10.00 – 10.15 Coffee break
10.15– 12.15 Lecture on Principle of Charcoal Production
12.15 – 13.15 Lunch
13.15 – 14.00 Lecture on Principle of Charcoal Production, Practice
on Charcoal Kiln Construction and Practice on
Charcoal Making Technique (firing)
14.00 – 14.15 Coffee break
14.15 – 16.30 Practice on brick Beehive Kilns (base of the kiln)
and Charcoaling Technique : Smoke Color Technique

19 February , 2003

- 08.30 – 10.30 Lecture on “ Marketing of Bamboo Charcoal and
Bamboo Vinegar”
10.30 – 10.45 Coffee break
10.45 – 12.00 Practice on Kiln’s Chimney and Vinegar Collecting
Pipe and Smoke Color Technique (continue)
12.00 – 13.00 Lunch
13.00 – 14.15 Practice on Kiln’s Gate and Accerelation Chimney ;
and Smoke Color Technique (continue)
14.15 – 14.30 Coffee break
14.15 – 16.30 Practice on Kiln’s Roof (Top) and Smoke Color
Technique , Chimney’s Close and Kiln’s Bath

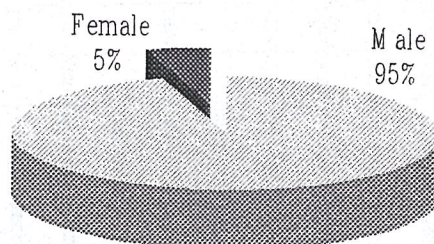
20 February , 2003

- 08.30 – 10.00 Forest Laws (Charcoal Permission and Charcoal
Transportation)
10.00 – 10.15 Coffee break
10.15 – 12.00 Forest Laws (Charcoal Permission and Charcoal
Transportation)
12.00 – 13.00 Lunch
13.00 – 14.30 Lecture and Demonstration on Efficient Cooking
Stove
14.30 – 14.45 Coffee break

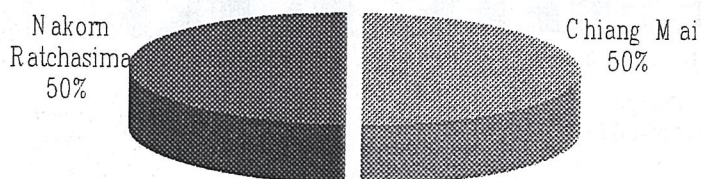
Summary of the training Course

Data on trainees

Classification of trainees by sex



Classification of trainees by provinces

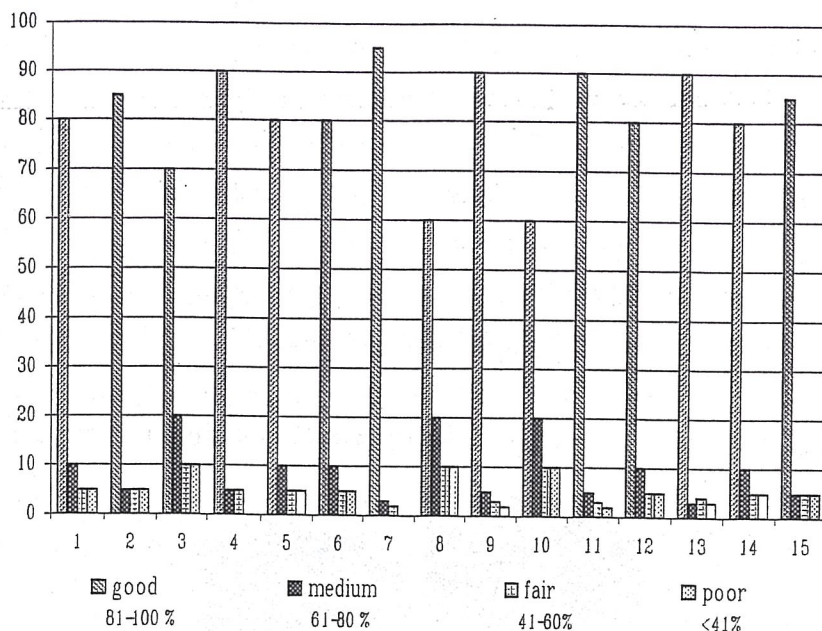


Expectation and commitment from the training course

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

Expectation	Commitment
☞ Knowledge, experience, occupation	☞ 100 % satisfaction
☞ Gain new knowledge and experience	☞ Interesting in training
☞ Bring back knowledge to the village	☞ Training with satisfaction and strong intention
☞ Transfer experience and extension	☞ Pay attention to all programmes for best outcome
☞ Application of skill for practical work	☞ Satisfy to exchange experiences
☞ Ideas generation for future bamboo charcoal and vinegar development.	☞ Believe in the resource persons and bring experiences back home
☞ The knowledge learnt will be useful for present and future generation	☞ Complete all the training programme with interest for future application

Training Course Evaluation



Criteria for Evaluation

1. Technique of presentation (of the resource person)
2. Suitability of the content
3. Training procedure
4. Activities learning achievement
5. Learning from trainees exchange experiences
6. Group building & production organization
7. Achievement on charcoal kiln making and bamboo charcoal production technique
8. Understanding on product design and marketing
9. Achievement on marketing of bamboo charcoal and bamboo vinegar
10. Achievement on Forest Law (charcoal permission and charcoal transportation)
11. Achievement on efficient cooking stove
12. Application of experience gained from training
13. Satisfaction of resource persons and coordination
14. Satisfaction of the trainees
15. Services and other information supply

Conclusion and Suggestion

Training course on "Bamboo Charcoal Production Technique" was organized by Project PD 56/99 Rev. 1 (I) : Promotion of the Utilization of Bamboo from Sustainable Source in Thailand with the logical support of International Tropical Timber Organization (ITTO).

The participants were selected from 2 project sites ; Nakorn Rachasima and Chiang Mai provinces, 20 participants were trained about charcoal kiln making, bamboo charcoal technique and how to collect bamboo vinegar. All participants passed the training course and get some ideas for utilization of bamboo charcoal and bamboo vinegar. So they think that if possible, ITTO and Royal Forest Department (RFD) should organize the training course on "Bamboo Charcoal Production Technique" 2-3 times per year around Thailand to transfer charcoal technique for all local people.

Closing Report

Chirapong Kuhakanchana

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The Chairperson, Honor Guests and Trainees ;

On behalf of the organizer of the training course on "Bamboo Charcoal Production Technique" conducted during 18-20 February, 2003, I would like to report that there were 20 trainees from the two project sites, i.e. 10 trainees from BarnMae Mae Community, Chiang Mai and 10 trainees from Klangdong, Nakorn Ratchasima. They had been trained on both theory and practice on charcoal kiln making, charcoal production and vinegar collection. Forest laws concerning permission and transportation of charcoal production and products were also included. The production of efficient cooking stove technique was demonstrated by both RFD official and private sector.

The trainees have shown their keen interests in all training programmes and hope that they will bring back home what they have learnt and transfer their experiences to their neighbors and their young generations.

The organizer strongly believed that this kind of training will be very useful as part of the local development programmes of the country. The outcome from this training may help generate more incomes to the communities and at the same time promote the utilization of bamboo from sustainable sources in the country.

May I invite the Chairperson to deliver the certificates to the successful trainees and give a closing remark of the training course.

Thank you very much.

Closing Remark

Nuchanart Nilkamheang

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Staff of the Training Course, Trainees, Ladies and Gentlemen;

I'm glad to take the role as chairperson and close a training course on "Bamboo Charcoal Production Technique" and congratulate to everybody who passed the training course and gained successful knowledge.

In the declining economy such as now, government sector have a lot of projects and grants such as: village fund, temporary delay debt on farmers, 30 baht health care etc, but that projects don't enough to cover every village to build the strong community in order to strengthen economy, it should start from secure occupation , enough revenues for life. So training course on local "Bamboo Charcoal Production Technique" will solve some problem and help people to generate more incomes about bamboo charcoal and bamboo vinegar and related activities.

I have learnt that all the trainees have shown their interests in every training activity and satisfied with our training programmes which showed that you have gained enough knowledge and experiences to bring back home to transfer to your neighbors and your younger generations.

I do hope that all of you have a save journey back home to join your happy life with your beloved families.

Good bye.

List of trainees

Chiang Mai

1. Mr. Thong Kaewjaima
2. Mr. Mongkol Kongmuang
3. Mr. Samneang Sriwichai
4. Mrs. Aimorn Seubpanwong
5. Mr. Pakdee premsri
6. Mr. Anake Laykham
7. Mr. Kiettisak Somapa
8. Mr. Surachai Aryumun
9. Mr. Somjit Maneerat
10. Mr. Sawing Mokkaham

Nakorn Ratchasima

1. Mr. Thavorn Kamkhuntod
2. Mr. Prong Chubkhuntod
3. Mr. Thom Khongmanee
4. Mr. Krisorn Karncharoen
5. Mr. Ban Panchanteuk
6. Mr. Sawai Benjamat
7. Mr. Suriyon Rodchakkhen
8. Mr. Samart Chaiwongkaew
9. Mr. Ormsin Uampan
10. Mr. Piniij Suporn

Picture of Activities

Opening Ceremony



Introduction of the Trainees and Registration



Charcoal Kiln Making



Bamboo Charcoal Production Technique



Bamboo charcoal and Bamboo vinegar



Efficient Cooking Stove



Forest Laws (Charcoal Permission and Transportation)



Guests



Closing Ceremony

