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18787

AN EVALUATION REPORT  
OF THE

**REGIONAL WORKSHOP**

**ON DOWNSTREAM TIMBER PROCESSING**

**3 - 15 DECEMBER 1998**

**AT**

**PETALING JAYA, SELANGOR  
MALAYSIA**

**Faculty of Forestry  
Universiti Pertanian Malaysia  
Serdang, Selangor  
Malaysia**

## A. INTRODUCTION

The UNIVERSITI PERTANIAN MALAYSIA (UPM) at Serdang, Selangor, Malaysia was given the honor of organising the REGIONAL WORKSHOP ON DOWNSTREAM TIMBER PROCESSING in Kuala Lumpur from 3-15 December 1990. Joint organisers were UNIDO/FAO Project RAS/86/048 and APFIDG with the financial support from UNIDO. The workshop was officially opened by Mr. B. Kryklund, FAO representative. UPM submits this EVALUATION REPORT in accordance with the contract with UNIDO.

### 1. Workshop objective

The primary objective of the workshop is to train personnel with a view to improve the qualitative and quantitative output of the local secondary manufacturing industries through downstream processing that is best suited to the existing primary forest industries.

### 2. Organising Committee

The Organising Committee comprises the following:

Chairman	:	Assoc. Prof. Dr. Razali Abdul Kader
Secretary	:	Mrs. Paridah Md. Tahir
Members	:	Assoc. Prof. Mohd. Zin Jusoh : Mr. Doraisingam Manikam : Mr. Ismail Hashim : Mr. Zaidon Ashaari : Mrs. Zainap Ab. Ghani : Mr. Harmaen Ahmad Saffian
Committee Advisors	:	Assoc. Prof. Dr. Kamis Awang Dean Faculty of Forestry Universiti Pertanian Malaysia Serdang

: Mr. Sein Maung Wint  
Team Leader  
Asia Pacific Forest Industries  
Development Group  
c/o UNDP  
Kuala Lumpur

**B. WORKSHOP**

**1. Participants**

**a. Foreign**

The original plan included a total of 25 foreign participants. However, only 17 were approved. Out of this number only 14 were finally confirmed. Block bookings were made at Petaling Jaya Hilton Hotel from the 2-15 December 1990. Only 10 participants arrived on the 2 December 1990. The rest arrived between 3-6 December 1990. One participant (from Vanuatu) arrived as late as on the 7 December 1990. This staggered arrival did cause some repeated reshuffling of room and meal arrangements. The final list of foreign participants is enclosed (Appendix 1).

**b. Local**

A total of 30 companies including government agencies were invited to send participants for this workshop. Twenty participants were finally confirmed. They came from various backgrounds, ranging from wood processing mills to marketing agencies and academic institutions involved in wood-based industries. A list of local participants is enclosed (Appendix 2).

## 2. **Speakers**

The names of the speakers are as in Appendix 3. All speakers delivered their respective lectures as scheduled. The speakers gave their best and their contributions were remarkably outstanding judging from the participants' response. They were punctual, cooperative and friendly. They participated in the field trips and continued to contribute their expertise in the mill tours.

## 3. **Programme**

The workshop progressed smoothly as planned. A copy of the programme is enclosed. The programme had the merit of (a) a comprehensive coverage of downstream timber processing, (b) sufficient time allocation for each session and (c) emphasis on practical aspects.

## 4. **Field Trips**

Four field trips were successfully conducted. The mill visits included a kiln drying plant, a moulding plant, a furniture component mill and a large furniture factory. The mills were very cooperative and informative and greatly contributed to the learning experience of the participants.

### c. Facilities

#### 1. Accommodation

Rooms at Petaling Jaya Hilton were very good. All foreign participants stayed in the Hotel throughout the workshop.

## 2. Meals

Coffee and tea were provided for all participants at the venue. Lunch was provided for paying participants.

## 3. Workshop

The workshop room has been ideal and conducive to the teaching sessions. Audio-visual facilities were adequate.

### C. EXPENDITURE

The total expenditure for the workshop amounted to M\$26452.76 (Malaysian Ringgit: Twenty-six thousand four hundred and fifty-two and seventy-six cents only).

The summary and detailed expenditure are presented in Appendix 4.

### D. PARTICIPANTS' EVALUATION OF THE WORKSHOP

Evaluation forms have been sent to the participants seeking their views on the workshop. Such a post-workshop evaluation is a better alternative to an immediate in-session evaluation. It allows the participants to offer their views in the light of their current working experiences especially in the areas of relevance and applicability of the training gained. A copy of the evaluation form is shown in Appendix 5.

## CONCLUSION

The workshop has successfully trained the participants in the qualitative and quantitative aspects of downstream timber processing. There has been a fresh exchange of ideas, concepts, and mill experiences that benefited the participants greatly. The fruits of this workshop will only be seen in years to come. However, similar workshops conducted at regular intervals will greatly continue to contribute to the technological growth of the timber processing sector in the developing countries.

LIST OF FOREIGN PARTICIPANTS

Name	Country	Organization	Position
Andrew Ahliki	W. Samoa	Blue Bird Lumber	Manager (Owner)
Carmel Pilotta	PNG	OIC, Wood Process- ing Properties, Forest Research Inst.	Ass. Executive Officer, Wood Chemistry
Elizabeth Clayton	Fiji	Fiji Furniture Manufacturing	Secretary
Hartono Modjo	Indonesia		Specialist Staff
Kinlay Gyaltshen	Bhutan		Director (Ex)
Li Yun Kun	P.R. China		Engineer
Mahlon Ali	Solomon Islands		Forestry Officer
Michael Avosa	PNG		Asst. Executive Officer, Marketing & Promotion
Mohammad Yusuf	Afghanistan		G.D. Industries
Sangay Khandu	Bhutan		Director
Song Li Feng	P.R. China		Engineer
Stephen Koschade	Fiji		Timber Process- ing Manager
Suyono Suwarno	Indonesia		
U Myo Myint	Myanmar		Manager (Engineer)
Eoke Exiro	Vanuatu	Dept. of Forestry P.M.B. 064 Port Vila Vanuatu	Forest Utilization



REGIONAL WORKSHOP ON  
DOWNSTREAM TIMBER PROCESSING  
3-15 DECEMBER 1990

LIST OF LOCAL PARTICIPANTS

Name	Address	Position
Abi. Aziz Neamat	MENITGA FOREST PRODUCTS SDN. BHD. P.O. Box 1, 26607 Pekan Pahang Tel : 09-421 611/4 Fax : 09-421 470	Production Manager
Rosly bin Rentah Rintah	Ibu Pejabat Perhutanan Jalan Sultan Salahuddin 50660 Kuala Lumpur Tel : 03-2988244 Fax :	Industrial Egn.
Wazali bin Salleh	PESAMA TIMBER CORPORATION SDN. BHD. Kawasan Perindustrian Jakar 24000 Kemaman Terengganu Tel : 09-591122 Fax : 09-594544	Operation Officer
Ahmad Lotfi Hj. Mohamad Saleh	DELIMA INDUSTRIES SDN. BHD. Pandamaran Industrial Estate P.O. Box 201 42009 Port Klang Selangor Tel : 603-3687206 Fax : 603-3681824	Production Executive
Mohd. Suhaimi b. Husin	KOMPLEKS PERKAYUAN KELANTAN SDN. BHD. Tingkat 7, Bangunan PKINK Jalan Ty. Maharani 1500 Kota Bharu Kelantan Tel : 09-741633/745700 Fax : 09-740087	General Manager
En. Hashim Pojet	Pengurus Besar Perhadanan Perusahaan Kemajuan Kayu Sarawak (STIDC) Peti Surat 194 Bangunan Yayasan Sarawak Jalan Tun Haji Openg 93702 Sarawak Tel : 51186-8 Fax : 442691	Executive Officer

Paul Lau Ngie Hung	Perbadanan Perusahaan Kemajuan Kayu Sarawak (STIDC) Wisma Sumber Alam P.O. Box 194 93702 Kuching Sarawak Tel : 082-443477 ext. 166	Executive Forester
Cik Norchahaya Hashim	Lembaga Perindustrian Kayu M'sia Tingkat 5 & 6, Wisma DNP Jalan Ampang 50450 Kuala Lumpur Tel : 03-2486233 Fax : 03-2418416	Act. Asst. Director
Khairuddin Mohd. Rani	Lembaga Perindustrian Kayu M'sia Tingkat 5 & 6, Wisma DNP Jalan Ampang 50450 Kuala Lumpur Tel : 03-2486233 Fax : 03-2418416	Planning Officer
Rosmi Said	Lembaga Perindustrian Kayu M'sia Tingkat 5 & 6, Wisma DNP Jalan Ampang 50450 Kuala Lumpur Tel : 03-2486233 Fax : 03-2418416	Asst. Marketing Officer
Michael Rajoo	Lembaga Perindustrian Kayu M'sia Tingkat 5 & 6, Wisma DNP Jalan Ampang 50450 Kuala Lumpur Tel : 03-2486233 Fax : 03-2418416	Head Training
Mr. Wint T.N.	Rangoon Myanmar	Student
Dr. Sim Heok Choh	Institut Penyelidikan Perhutanan Malaysia Kepong 52109 Kuala Lumpur Tel : 6342633 Fax : 603-6367753	Research Officer
Poslan Ali	Institut Penyelidikan Perhutanan Malaysia Kepong 52109 Kepong Tel : 6342633	Research Officer (Wood Processing)

En. Ganasan a/l Annamalai	General Lumber Fabricators & Builders Sdn. Bhd. 4th Floor, Wisma Tractors No. 7 Jalan SS 16/1 Subang Jaya 47500 Petaling Jaya Selangor Tel : 03-7346862 Fax : 03-7347039	Engineer
En. Giew Fook Thim	Finefurn (M) Sdn. Bhd. Lot 265, Rt. 22 1/2 Sj. Lalang 43500 Semenyih Selangor Tel : 03-8139313 Fax : 603-8139282	Manager
En. Wee Tiang Lam	Heng Bee Sawmill & Oilmill Co. Sdn. Bhd. S/2 94, Jln. Kg. China 15350 Kota Bharu Kelantan	Director
En. Lim Wan Boon	Sandvik Malaysia Sdn. Bhd. No. 5, Jalan 13/6 P.O. Box 213 46720 Petaling Jaya Selangor	Sales Manager
Cik Kamariah Ismail	Puncak Murni No. 14, 2nd Floor Jalan Yap Ah Shak 50300 Kuala Lumpur	Director
Miss Umni Kalthur Arshad	Intraworld Sdn. Bhd. Box 28 3rd Floor, Wisma Socfin Jalan Semantan 50490 K.L.	Marketing Officer
Dr. Shahwahid Hj. Othman	Jabatan Ekonomi Sumber Asli UPM	Lecturer

**LIST OF SPEAKERS**

- |     |                           |                                    |
|-----|---------------------------|------------------------------------|
| 1.  | H.P. Brion                | UNIDO                              |
| 2.  | W.G. Davies               | APFIDG                             |
| 3.  | Zaidon Ashaari            | Universiti Pertanian Malaysia      |
| 4.  | Razali Abdul Kader        | Universiti Pertanian Malaysia      |
| 5.  | Choo Kheng Ten            | Forest Research Institute Malaysia |
| 6.  | W.H. Rance                | Hildebrand, Singapore              |
| 7.  | R. Gloeckner              | Weinig, Singapore                  |
| 8.  | Michael Ginnings          | Asian Timber Magazine              |
| 9.  | Ingemar Engstrom          | Sandvik Sweden                     |
| 10. | Frankie Chew              | Wadkin, Singapore                  |
| 11. | Tsmail Hashim             | Universiti Pertanian Malaysia      |
| 12. | Jegatheswaran Ratnasingam | Singer, Malaysia                   |
| 13. | Stephen S. Tay            | STPCA Assoc., Malaysia             |
| 14. | Teoh Eng Seng             | FINEFURN, Malaysia                 |
| 15. | Choy Wai Ceong            | Federal Furniture, Malaysia        |
| 16. | Shaari Hamid              | Universiti Pertanian Malaysia      |

Appendix 4

REGIONAL WORKSHOP ON  
DOWNSTREAM TIMBER PROCESSING  
3-15 DECEMBER

Summary of Expenditure

Particular	Amount	
	M\$	M\$
	US\$10,000.00	
A. Money to be received from UNIDO	26,500.00*	
B. Expenses incurred to run the workshop (3-15 Dec. 1990)		
1) Conference room		5000.00
2) Transportation		3987.50
3) Secretariat services		2400.00
4) Meals		5961.35
5) Honorarium		3600.00
6) Course material		4788.00
7) Miscellaneous		715.91
TOTAL		<u>26452.76</u>
C. Balance	47.24	

\* Exchange rate as in October 1990

..... contd.

**REGIONAL WORKSHOP ON  
DOWNSTREAM TIMBER PROCESSING  
3-15 DECEMBER 1990**

Expenditure

**1. TRANSPORTATION**

	M\$
i. Field trips	1800.00
ii. Malacca trip	800.00
iii. Ferrying of participants	1387.50

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3987.50

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**2. COURSE MATERIALS**

i. Workshop bags	1620.00
ii. Pens, name tags and writing pads	492.00
iii. Printing of technical papers	1732.00
iv. Programme booklets	244.00
v. Printing materials: papers, toners, stencils, typesets, etc.	700.00
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	4788.00

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**3. MEAL**

i. Light refreshments	5014.15
ii. Farewell Dinner	947.20

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5961.35

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**4. CONFERENCE ROOM**

Room rental, teaching aids, sound amplification systems etc.	5000.00
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5. HONORARIUM FOR LOCAL LECTURERS

i.	Wood Drying	(3)	1200.00
ii.	Wood Products Marketing	(1)	400.00
iii.	Product Development	(1)	400.00
iv.	Manpower Development	(1)	400.00
v.	Quality Control	(2)	800.00
vi.	Costing & Pricing	(1)	400.00
			<u>3600.00</u>

6. SECRETARIAT SERVICES

	From 2-15 December 1990	2400.00
		<u>2400.00</u>

7. MISCELLANEOUS

i.	Service to develop photograph, video films and etc.	283.20
ii.	Others (telephone, fax, ad hoc photocopying, mailing, etc.)	432.71
		<u>715.91</u>

Grand Total : M\$26452.76

**EVALUATION FORM**

The purpose of the evaluation form is to seek participants' opinions about the general structure of the workshop organisation, coordination and suggestions to improve the design of similar ones in the future.

1. General structure of the workshop. Were the following items adequate?

	Not adequate			Very adequate	
	1	2	3	4	5
a. The length of the workshop					
b. Lectures (time)					
i. Overview of the potential for downstream processing	1	2	3	4	5
ii. Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5
iii. Principles of wood drying	1	2	3	4	5
iv. Methods of seasoning	1	2	3	4	5
v. Comparisons of different method of seasoning	1	2	3	4	5
vi. Economics of kiln drying operations	1	2	3	4	5
vii. Summary and practical aspects of kiln drying operations	1	2	3	4	5
viii. Technical and economic considerations in establishing moulding	1	2	3	4	5
ix. Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5
x. Video	1	2	3	4	5
xi. Tool maintenance	1	2	3	4	5
xii. Market information, surveys, channels, fairs and promotions	1	2	3	4	5
xiii. Fundamentals of forest products marketing	1	2	3	4	5



xiv.	Equipment selection	1	2	3	4	5
xv.	Plant layout	1	2	3	4	5
xvi.	Economics of solid door manufacture	1	2	3	4	5
xvii.	Quality control	1	2	3	4	5
xviii.	Production planning and control	1	2	3	4	5
xix.	Production development for industrial production	1	2	3	4	5
xx.	Costing and pricing	1	2	3	4	5

c. Field trips (time)

		Not Adequate			Not Adequate	
i.	Visit to kiln drying plant (CHG Timber Sdn. Bhd., Jalan Meru Kelang).	1	2	3	4	5
ii.	Visit to a moulding plant (General Lumber, Jalan Kapar Kelang).	1	2	3	4	5
iii.	Visit to a furniture component plant (General Lumber, Jalan Pandamaran, Kelang).	1	2	3	4	5
iv.	Visit to a large furniture plant (Federal furniture Sdn. Bhd., Puchong).	1	2	3	4	5

d. Workshop materials

i.	Overview of the potential for downstream processing	1	2	3	4	5
ii.	Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5
iii.	Principles of wood drying	1	2	3	4	5
iv.	Methods of seasoning	1	2	3	4	5
v.	Comparisons of different method of seasoning	1	2	3	4	5

vi.	Economics of kiln drying operations	1	2	3	4	5
vii.	Summary and practical aspects of kiln drying operations	1	2	3	4	5
viii.	Technical and economic considerations in establishing moulding	1	2	3	4	5
ix.	Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5
x.	Video	1	2	3	4	5
xi.	Tool maintenance	1	2	3	4	5
xii.	Market information, surveys, channels, fairs and promotions	1	2	3	4	5
xiii.	Fundamentals of forest products marketing	1	2	3	4	5
xiv.	Equipment selection	1	2	3	4	5
xv.	Plant layout	1	2	3	4	5
xvi.	Economics of solid door manufacture	1	2	3	4	5
xvii.	Quality control	1	2	3	4	5
xviii.	Production planning and control	1	2	3	4	5
xix.	Production development for industrial production	1	2	3	4	5
xx.	Costing and pricing	1	2	3	4	5

Suggested improvements:

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2. Subject matter of the workshop. Were the following items:

a.	Clear in scope	Not clear					Very clear
		1	2	3	4	5	
i.	Overview of the potential for downstream processing	1	2	3	4	5	
ii.	Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5	
iii.	Principles of wood drying	1	2	3	4	5	
iv.	Methods of seasoning	1	2	3	4	5	
v.	Comparisons of different method of seasoning	1	2	3	4	5	
vi.	Economics of kiln drying operations	1	2	3	4	5	
vii.	Summary and practical aspects of kiln drying operations	1	2	3	4	5	
viii.	Technical and economic considerations in establishing moulding	1	2	3	4	5	
ix.	Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5	
x.	Video	1	2	3	4	5	
xi.	Tool maintenance	1	2	3	4	5	
xii.	Market information, surveys, channels, fairs and promotions	1	2	3	4	5	
xiii.	Fundamentals of forest products marketing	1	2	3	4	5	
xiv.	Equipment selection	1	2	3	4	5	
xv.	Plant layout	1	2	3	4	5	
xvi.	Economics of solid door manufacture	1	2	3	4	5	
xvii.	Quality control	1	2	3	4	5	
xviii.	Production planning and control	1	2	3	4	5	

xix.	Production development for industrial production	1	2	3	4	5
xx.	Costing and pricing	1	2	3	4	5

d. Relevant to you

		Not Relevant			Very Relevant	
i.	Overview of the potential for downstream processing	1	2	3	4	5
ii.	Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5
iii.	Principles of wood drying	1	2	3	4	5
iv.	Methods of seasoning	1	2	3	4	5
v.	Comparisons of different method of seasoning	1	2	3	4	5
vi.	Economics of kiln drying operations	1	2	3	4	5
vii.	Summary and practical aspects of kiln drying operations	1	2	3	4	5
viii.	Technical and economic considerations in establishing moulding	1	2	3	4	5
ix.	Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5
x.	Video	1	2	3	4	5
xi.	Tool maintenance	1	2	3	4	5
xii.	Market information, surveys, channels, fairs and promotions	1	2	3	4	5
xiii.	Fundamentals of forest products marketing	1	2	3	4	5
xiv.	Equipment selection	1	2	3	4	5
xv.	Plant layout	1	2	3	4	5

xvi.	Economics of solid door manufacture	1	2	3	4	5
xvii.	Quality control	1	2	3	4	5
xviii.	Production planning and control	1	2	3	4	5
xix.	Production development for industrial production	1	2	3	4	5
xx.	Costing and pricing	1	2	3	4	5

c. Useful to you

		Not Useful			Very Useful	
i.	Overview of the potential for downstream processing	1	2	3	4	5
ii.	Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5
iii.	Principles of wood drying	1	2	3	4	5
iv.	Methods of seasoning	1	2	3	4	5
v.	Comparisons of different method of seasoning	1	2	3	4	5
vi.	Economics of kiln drying operations	1	2	3	4	5
vii.	Summary and practical aspects of kiln drying operations	1	2	3	4	5
viii.	Technical and economic considerations in establishing moulding	1	2	3	4	5
ix.	Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5
x.	Video	1	2	3	4	5
xi.	Tool maintenance	1	2	3	4	5
xii.	Market information, surveys, channels, fairs and promotions	1	2	3	4	5

xiii.	Fundamentals of forest products marketing	1	2	3	4	5
xiv.	Equipment selection	1	2	3	4	5
xv.	Plant layout	1	2	3	4	5
xvi.	Economics of solid door manufacture	1	2	3	4	5
xvii.	Quality control	1	2	3	4	5
xviii.	Production planning and control	1	2	3	4	5
xix.	Production development for industrial production	1	2	3	4	5
xx.	Costing and pricing	1	2	3	4	5

d. Effective and/or appropriate

		Not Effective			Very Effective	
i.	Overview of the potential for downstream processing	1	2	3	4	5
ii.	Downstream timber processing in Asia Pacific region : Current situation and constraints	1	2	3	4	5
iii.	Principles of wood drying	1	2	3	4	5
iv.	Methods of seasoning	1	2	3	4	5
v.	Comparisons of different method of seasoning	1	2	3	4	5
vi.	Economics of kiln drying operations	1	2	3	4	5
vii.	Summary and practical aspects of kiln drying operations	1	2	3	4	5
viii.	Technical and economic considerations in establishing moulding	1	2	3	4	5
ix.	Markets for manufactured wood products: furniture moulding etc.	1	2	3	4	5
x.	Video	1	2	3	4	5

xii.	Tool maintenance	1	2	3	4	5
xiii.	Market information, surveys, channels, fairs and promotions	1	2	3	4	5
xiiii.	Fundamentals of forest products marketing	1	2	3	4	5
xv.	Equipment selection	1	2	3	4	5
xvi.	Plant layout	1	2	3	4	5
xvii.	Economics of solid door manufacture	1	2	3	4	5
xviii.	Quality control	1	2	3	4	5
xix.	Production planning and control	1	2	3	4	5
xx.	Production development for industrial production	1	2	3	4	5
xxi.	Costing and pricing	1	2	3	4	5

Suggested improvements:

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5. Physical resources and administrative support

		Not Adequate			Very Adequate	
i.	Lecture room	1	2	3	4	5
ii.	Secretarial assistance	1	2	3	4	5
iii.	Travel arrangements	1	2	3	4	5
iv.	Accommodation (foreign parti- cipants only)	1	2	3	4	5
v.	Food (foreign participants only)	1	2	3	4	5
vi.	Weekend tours (to Malacca)	1	2	3	4	5
vii.	Transportation (field trips)	1	2	3	4	5

viii.	Availability of visual equipments	1	2	3	4	5
ix.	Availability of staff for consultations	1	2	3	4	5
x.	Pre-course arrangements (e.g. information about the workshop, travel arrangements, workshop contents, etc),	1	2	3	4	5
xi.	Other (specify):	1	2	3	4	5

Suggested improvements:

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4. were you expectations on the following met?

	Yes	No
i. Objectives of the workshop	-----	-----
ii. Objectives of the modules	-----	-----
iii. Resource persons	-----	-----
iv. Co-participants	-----	-----
v. Facilitator	-----	-----

5. What is your opinion about workshop participants?

	Not Satisfactory			Very Satisfactory	
	1	2	3	4	5
i. Size of the group	1	2	3	4	5
ii. Various disciplines	1	2	3	4	5
iii. Heterogeneity in industrial knowledge	1	2	3	4	5
iv. Interaction among participants	1	2	3	4	5
v. Interaction with resource persons	1	2	3	4	5



Suggested improvements:

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6. Your general comments about the workshop

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**PROGRAMME**

**MONDAY, 3 DECEMBER 1990**

AM

- 9.30 - 10.15 Opening ceremony
- . Welcoming address Sein Maung Wint (APFIDG)  
H.P. Brion (UNIDO)
  - . Keynote address B. Kryklund (FAO)
- 10.15 - 10.45 Coffee Break
- 10.45 - 12.00 . Introduction of Participants  
participants  
. Workshop briefing Secretariat

PM

- 12.00 - 2.00 Lunch
- 2.00 - 3.00 Overview of the potential for downstream processing W.G. Davies (APFIDG)
- 3.00 - 3.30 Coffee Break
- 3.30 - 5.00 Downstream timber processing in Asia Pacific Region: Current situation and constraints H.P. Brion (UNIDO)

**TUESDAY, 4 DECEMBER 1990**

AM

- 9.00 - 10.15 Principles of wood drying Zaidon Ashaari (UPM)
- 10.15 - 10.45 Coffee Break
- 10.45 - 12.30 Methods of seasoning Razali Abdul Kader (UPM)

PM

- 12.30 - 1.30 Lunch
- 1.30 - 5.00 Visit to kiln drying plant (CHG Timber Sch. Bhd., Jln Meru, Kelang) Secretariat

**WEDNESDAY, 5 DECEMBER 1990**

**AM**

- 9.00 - 10.15 Comparison of different methods of seasoning Choo Kheng Ten (FRIM)
- 10.15 - 10.45 Coffee Break
- 10.45 - 12.00 Economics of kiln drying operations W.H. Runcie (Hildebrand, Spore)

**PM**

- 12.00 - 12.30 Summary and practical aspects of kiln drying operations H.P. Brion (UNIDO)
- 12.30 - 1.30 Lunch
- 1.30 - 5.00 Visit to a moulding plant (General Lumber, Jalan Kapar plant) Secretariat

**THURSDAY, 6 DECEMBER 1990**

**AM**

- 9.00 - 10.15 Technical and economic considerations in establishing moulding plants R. Gloeckner (Weinig)
- 10.15 - 10.45 Coffee Break
- 10.45 - 12.30 Practical aspects in operating moulding machines Ismail Ibrahim (STJ)

**PM**

- 12.30 - 2.00 Lunch
- 2.00 - 3.15 Markets for manufactured wood products : furniture, mouldings, etc. Michael Ginnings (AT)
- 3.15 - 3.45 Coffee Break
- 3.45 - 5.00 Video H.P. Brion (UNIDO)

FRIDAY, 7 DECEMBER 1990

AM

9.00 - 10.15 Tool Maintenance Ingemar Engstrom  
(Sandvik Sweden)

10.15 - 10.45 Coffee Break

10.45 - 12.00 Tool Maintenance (contd.) "

PM

12.00 - 2.00 Lunch

2.00 - 3.15 Market information, surveys, channels, fairs and promotions Michael Ginnings

3.15 - 3.45 Coffee Break

3.45 - 5.00 Fundamentals of forest products marketing Shaari Hamid (UPM)

SATURDAY, 8 DECEMBER 1990

AM

9.00 - 10.15 Round table discussion on range of products <sup>Engstrom</sup> Brion, ~~Jemil~~, Choo Ginnings and Razali

10.15 - 10.45 Coffee Break

10.45 - 12.00 Round table discussion (Contd.) "

PM

12.00 - 2.00 Lunch

2.00 - 5.00 - Free -

SUNDAY, 9 DECEMBER 1990

- Free -

**MONDAY, 10 DECEMBER 1990**

**AM**

9.00 - 10.15 Equipment selection H.P. Brion (UNIDO)  
10.15 - 10.45 Coffee Break  
10.45 - 12.00 Equipment selection (Contd.) "

**PM**

12.00 - 1.30 Lunch  
1.30 - 5.00 Visit to a furniture component plant (General Lumber, Jln. Pandamaran plant, Kelang) Secretariat

**TUESDAY, 11 DECEMBER 1990**

**AM**

9.00 - 10.15 Plant layout H.P. Brion (UNIDO)  
10.15 - 10.45 Coffee Break  
10.45 - 12.00 Plant layout (Contd.) "

**PM**

12.00 - 1.30 Lunch  
1.30 - 5.00 Visit to a large furniture plant (Federal Furniture Sch. Bhd., Kelang) Secretariat

**WEDNESDAY, 12 DECEMBER 1990**

**AM**

9.00 - 10.15	Economics of solid door manufacture	Frankie Chew (Madkin)
10.15 - 10.45	Coffee Break	
10.45 - 12.00	Economics of solid door manufacture (Contd.)	"

**PM**

12.00 - 2.00	Lunch	
2.00 - 3.15	Quality control	Ismail Hashim (UPM) Jegatheswaran Ratnasingam (Singer Furniture)
3.15 - 3.45	Coffee Break	
3.45 - 5.00	Quality control (Contd.)	"

**THURSDAY, 13 DECEMBER 1990**

**AM**

9.00 - 10.15	Production planning and control	H.P. Brion (UNIDO)
10.15 - 10.45	Coffee Break	
10.45 - 12.00	Production planning and control (Contd.)	"

**PM**

12.00 - 2.00	Lunch	
2.00 - 3.15	Product development for industrial production	Stephen S Tay (STECA ASSOC.)
3.15 - 3.45	Coffee Break	
3.45 - 5.00	Production development for industrial production (Contd.)	"

**FRIDAY, 14 DECEMBER 1990**

**AM**

9.00 - 10.15	Manpower development (Industry)	Teo Eng Seng (FINEFURN)
10.15 - 10.45	Coffee Break	
10.45 - 12.00	Manpower development (Training)	"

**PM**

12.00 - 2.00	Lunch	
2.00 - 3.15	Costing and pricing	Choy Wai Ceong (Fed. Furniture Sdn. Bhd.) Shaari Hamid (UPM)
3.15 - 3.45	Coffee	
3.45 - 5.00	Costing and pricing (Contd.)	"

**SATURDAY, 15 DECEMBER 1990**

**AM**

9.00 - 10.15	Round table discussion on "where do we go from here" and summary of workshop	H.P. Brion
10.15 - 10.45	Coffee Break	
10.45 - 12.00	Round table discussion (Contd.)	"
12.00	Closing	

### Organizing Committee

- Chairman** : Assoc. Prof. Dr. Razali Abdul Kader
- Secretary** : Mrs. Paridah Md. Tahir
- Members** : Assoc. Prof. Mohd. Zin Jusoh  
Mr. Doraisingam Manikam  
Mr. Ismail Hashim  
Mr. Zaidon Ashaari  
Mrs. Zainap Abd. Ghani  
Mr. Harmaen Ahmad Saffian

### Committee Advisors

Assoc. Prof. Dr. Kamis Awang  
Dean  
Faculty of Forestry  
Universiti Pertanian Malaysia  
Serdang

Mr. Sein Maung Wint  
Team Leader  
Asia Pacific Forest Industries Development  
Group  
c/o UNDP  
Kuala Lumpur