

International Conference

Quality Timber Products of Teak from Sustainable Forest Management

2- 5 December 2003, Peechi, Kerala, India

ABSTRACTS

Organised by



Kerala Forest Research Institute, Peechi, India

An Institution for Kerala State Council for Science, Technology and Environment



International Tropical Timber Organization, Yakohama, Japan



Ministry of Environment and Forests, Govt. of India, New Delhi



International Union of Forest Research Organisations, Vienna, Austria

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International Tropical Timber Organization (ITTO), Japan

International Union of Forest Research Organisations:
Teak Wood Working Party (IUFRO 5.06.02), Austria

Ministry of Environment and Forests, Government of India, New Delhi, India

Indian Council of Forestry Research and Education (ICFRE), Dehra Dun, India

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International Conference

Quality Timber Products of Teak from Sustainable Forest Management

2 – 5 December 2003

Programme

Tuesday 2 December 2003

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10.00 - 10.02 National Anthem

10.02 - 10.04 Lighting the Lamp

10.04 - 10.09 **Welcome**

Dr J K Sharma

Director, Kerala Forest Research Institute

10.09 - 10.17 **Rationale of the Conference**

Shri R P S Katwal, IFS

Director General, Indian Council of Forestry Research and Education, and Chairperson, National Organizing Committee

10.17 - 10.27 **Keynote Address**

Dr D N Tewari

Member, Planning Commission, Government of India

10.27 - 10.38 **Presidential Address**

Shri K Sudhakaran

Hon'ble Minister for Forests and Sports, Government of Kerala

10.38 - 10.53 **Inaugural Address**

His Excellency Shri Sikander Bakht

Governor of Kerala

10.53 - 10.58 **Vote of Thanks**

Dr K M Bhat

Conference Convener

10.58 - 11.00 National Anthem

11.00 - 11.25 Tea Break

11.25 - 11.57 hrs. SPECIAL ADDRESSES

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Chair

Dr D N Tewari,

Member, Planning Commission, Government of India, New Delhi

11.25 - 11.35

Shri N K Joshi, IFS

Director General of Forests and Special Secretary, MoE&F, Govt. of India, New Delhi

11.35 - 11.43

Shri P K Surendranathan Asari, IFS

Principal Chief Conservator of Forests, Kerala

11.43 - 11.50

Dr Ma Hwan Ok

Projects Manager, Forest Industries, ITTO, Japan

11.50 - 11.57

Prof Takashi Okuyama

IUFRO Teak Wood Working Party Coordinator, Japan

11.57 - 12.00

Break for Technical Session

12.00 - 13.30 hrs. SESSION - I

Auditorium

Country Reports

Chair

Mr N K Joshi, IFS

Director General and Special Secretary,
Ministry of Environment and Forests
(Govt. of India), New Delhi

Co-Chair

Dr Ma Hwan Ok

Projects Manager, Forest Industries
International Tropical Timber Organization
(ITTO), Japan

Rapporteurs

Dr H D Kulkarni

ITC Bhadrachalam Paperboards,
Sarpaka, Andhra Pradesh, India

Dr R V Varma

Kerala Forest Research Institute
Peechi, Kerala, India

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Sadhardjo Siswamartana
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Somyos Kijker
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Processing, Utilization and Marketing**
A A Oteng-Amoako and Dora Sarfo
- 15.15 - 15.45 **Teak in Brazil: Overview of Plantations, Know-how, Expertise and Market**
Sylvio de Andrade Coutinho
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Luis Ugalde Arias
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- 17.00 - 17.30 **Role of Teak (*Tectona grandis* L. f.) in Conserving the Biodiversity of Nepal**
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- 17.30 - 18.00 **Teak in Sri Lanka: Resource Base, Issues and Challenges**
K P Ariyadasa
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Wednesday 3 December 2003

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Status Reports

Chair

Mr J C Kala, IFS

Principal Chief Conservator of Forests
Tamil Nadu Forest Department
Tamil Nadu, India

Co-Chair

Dr Markku Kanninen

Director, Environmental Services and
Sustainable Use of Forests Programme
(CIFOR), Indonesia

Rapporteurs

Dr K K N Nair

Kerala Forest Research Institute
Peechi, Kerala, India

Dr N C Induchoodan

Kerala Forest Department
Thiruvananthapuram, Kerala, India

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S K Das
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P J Dilip Kumar
- 10.20 - 10.40 **Status of Teak in Tamil Nadu State, India**
J C Kala
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Nagesh Prabhu
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09.00 - 11.00 hrs. SUB-PLenary SESSION - I

Conference Hall

Sustainable Teak Management

Chair

Mr R P S Katwal, IFS

Director General, Indian Council of
Forestry Research and Education Dehra Dun, India

Co-Chair

Mr Raymond Keogh

International Coordinator TEAK 21
Ireland

Rapporteurs

Dr K Jayaraman

Kerala Forest Research Institute Peechi
Kerala, India

Mr K C Chacko

Kerala Forest Research Institute, Peechi
Kerala, India

- 09.00 - 09.25 **Criteria and Indicators for Sustainable Teak Plantation Management in India**
S Sankar

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09.50 - 10.15	Sustainable Management of Teak Forests in Myanmar Saw Eh Dah
10.15 - 10.40	Malaysian Experiences in Timber Certification Chew Lye Teng
10.40 - 11.00	Certification and Labelling of Teak Wood Products with Special Reference to Opportunities and Challenges in India K Satyanarayana Rao
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Agroforestry Hall

Genetic Aspects of Teak Wood Production

Chair

Dr Hugo Volkaert

Centre for Agricultural Biotechnology
Kasetsart University, Kampaengsaen, Thailand

Co-Chair

Dr K Gurumurthi

Director, Institute of Forest Genetics and
Tree Breeding, Coimbatore, India

Rapporteurs

Dr A K Mandal

Forest Research Institute
Dehra Dun, India

Dr M Balasundaran

Kerala Forest Research Institute
Peechi, Kerala, India

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09.30 - 09.50	RAPD Variation in Indian Teak Populations and Its Implications for Breeding and Conservation A Nicodemus, B Nagarajan, C Narayanan, M Varghese and K Subramanian
09.50 - 10.10	Diversity Studies in Teak Genetic Resources: Biometric and Molecular Approaches K T Parthiban, C Surendran, M Paramathma and K Sasikumar
10.10 - 10.30	Fertility Variation and Dynamics of Two Clonal Seed Orchards of Teak in South India Mohan Varghese, A Nicodemus and B Nagarajan
10.30 - 10.45	Why Teak Seed Orchards are Low Productive? E P Indira
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09.00 -11.00 hrs. SESSION - IV

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Sustainability of Teak Plantations

Chair

Mr P K Surendranathan Asari IFS
Principal Chief Conservator of Forests
Kerala Forest Department
Thiruvananthapuram, India

Co-Chair

Prof Julio Centeno
University of the Andes
Merida
Venezuela

Rapporteurs

Dr A A Oteng Amoaka
FORIG, Ghana

Dr U M Chandrashekara
Kerala Forest Research Institute Peechi, Kerala, India

09.00 - 09.30	Plenary paper: Are Intensive Teak Plantations in Agroforestry Practices Environmentally and Ethically Sound ? Sunil Puri
09.30 - 09.50	An Appraisal of Teak Farmer's Woodlots in Sri Lanka and the Relevant Management Strategies A N S Baminiwatte
09.50 - 10.10	Soil Conditions and Growth of Teak in Successive Rotations in Kerala State, India M Balagopalan, P Rugmini and K C Chacko
10.10 - 10.30	Sustainable Teak Plantations in the Tropics: The Question of Nutrient Management B Mohan Kumar
10.30 - 10.50	Teak and Its Canopy Parasite Dendrophthoe: Water Relations and Ecophysiology Jose Kallarackal, C K Somen, N Rajesh
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11.00-13.15 hrs. SUB-PLenary SESSION II

Auditorium

Quality Timber Products of Teak from Sustainable Forest Management

Chair

Mr S K Das IFS
Principal Chief Conservator of Forests
Andhra Pradesh State Forest Department
Hyderabad, India

Co-Chair

Dr P J Dilip Kumar IFS
Addl. Principal Chief Conservator of Forests
Karnataka State Forest Department
Bangalore, India

Rapporteurs

Mr Aroon Chomcharn
Santi Forestry (Holding) Co. Ltd.
Bangkok

Dr R V Rao
Institute of Wood Science and Technology
Bangalore, India

11.00 - 11.25	Plenary paper: Qualities of Teak and Some Policy Issues C Chandrasekharan
11.25 - 11.50	Quality Concerns of Sustainable Teak Wood Chain K M Bhat

11.50 - 12.15	Growth and Timber Quality of <i>Tectona grandis</i> L. f. in High Input Plantations of Costa Rica Luis Diego Perez Cordero, Markku Kanninen
12.15 - 12.40	Some Wood Quality Issues in Planted Teak Takashi Okuyama, Hiroyuki Yamamoto, Imam Wahyudi, Yusuf Sudo Hadi and K M Bhat
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11.00 - 13.15 hrs. SESSION V

Agroforestry Hall

Clonal Propagation and Genetic Improvement

Chair

Dr Erik D Kjaer

Professor

The Royal Veterinary and Agricultural University
Denmark

Co-Chair

Dr P B Gangopadhyay IFS

Addl. Principal Chief Conservator of Forests
Madhya Pradesh Forest Department
Bhopal, India

Rapporteurs

Dr E M Muralidharan

Kerala Forest Research Institute
Peechi, Kerala, India

Dr Mohan Varghese

Institute of Forest Genetics and Tree Breeding
Coimbatore, India

11.00 - 11.30	Plenary paper :Tissue Culture for Improved Productivity of Teak Rajani S Nadagauda, S V Kendurkar and V M Kulkarni
11.30 - 11.50	Selection and Propagation of Quality Teak Clones for Plantation Establishment D K S Goh, D Alloysius, J Gidiman, H H Chan, B Mallet and O Monteuis
11.50 - 12.10	Tissue Culture Strategies for Production of Quality Planting Stock in Teak R Yasodha, R Sumathi and K Gurumurthi
12.10 - 12.30	Clonal Propagation of Plus Trees of Teak and Field Performance of Ramets T Surendran and J K Sharma
12.30 - 12.50	Clonal Propagation Technology in Teak for Production of Improved Planting Stock K Palanisamy, K Gireesan and Maheshwar Hegde
12.50 - 13.10	Implications of Clonal Variation in Reproductive Traits for Improvement of Teak (<i>Tectona grandis</i> L. f.) R Vasudeva, Rajesh P Gunaga, M Hanumantha
13.15 - 14.00	Lunch Break

11.15 -13.20 hrs. SESSION VI

Statistics Hall

Health of Cultivated Teak

Chair

Brajendra Kumar Singh IFS

Principal Chief Conservator of Forests
Maharashtra State, Nagpur, India

Co-Chair

Dr K S S Nair

Emeritus Scientist, University of Kerala
Thiruvananthapuram, Kerala, India

Rapporteurs

Dr George Mathew

Kerala Forest Research Institute
Peechi, Kerala, India

Dr K V Sankaran

Kerala Forest Research Institute
Peechi, Kerala, India

11.15 - 11.45	Plenary paper: Pest Factor in the Intensification of Teak Cultivation: A Global Assessment K S S Nair
11.45 - 12.05	Tree Health of Teak in Central Part of India Jamaluddin
12.05 - 12.25	Disease Problems and Their Management in Teak Root Trainer Nurseries in Kerala State, India C Mohanan, N Ratheesh, Laya P Nair and Rajesh Kumar
12.25 - 12.45	Clonal Variation in the Incidence of Phytophagous Insects: Some Thoughts on Divergence of Teak O K Remadevi, Raja Muthukrishnan and Y B Srinivasa
12.45 - 13.05	Productivity of Teak Stands in Kerala State, India: Role of Arbuscular Mycorrhizal Association and Diversity of AM Fungi C Mohanan and K K Sheeba
13.05 - 13.20	Status of Colonization and Spore Population of Arbuscular Mycorrhizal Fungi in <i>Tectona grandis</i> L. f. from Bangladesh P P Dhar and M A U Mridha
13.20 - 14.00	Lunch Break

11.15-13.15 hrs. SESSION VII

Conference Hall

Economics of Teak Plantations

Chair:

A S Dogra IFS

Principal Chief Conservator of Forests,
Punjab State, Chandigarh, India

Co-Chair

Dr Daniel B Krishnapillay

Director, Forest Plantation and Medicinal Plant Division,
Forest Research Institute Malaysia, Malaysia

Rapporteurs

Dr M K Uddin Bhuiyan

University of Chittagong, Bangladesh

Dr Mammen Chundamannil

Kerala Forest Research Institute Peechi, Kerala, India

11.15 -11.45	Plenary paper: Economic Dimensions of Teak Plantations Julio Centeno
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11.45 - 12.10	Cultivation of Teak (<i>Tectona grandis</i> L. f.) in Farmlands of Different Agro-climatic Zones in Tamil Nadu: An Analysis of Ecological and Economic Factors S Saravanan, M George, C Buvaneshwaran and S Viswanath
12.10 - 12.35	Prospects and Potential of Growing Teak in Punjab State, India R S Dhanda and D S Sidhu
12.35 - 13.00	Economics of Teak Plantations in Kerala State, India P Indira Devi, Saju Varghese, Manoj Kumar and V S Pratheesh
13.15 - 14.00	Lunch Break

14.00 – 15.30 hrs. SESSION VIII

Auditorium

Management, Economics and Policy

Chair

Dr C Chandrasekharan
Senior Forestry Officer
FAO (Retd.)Kerala

Co-Chair

Dr M S Haque
Deputy General Manager (Forestry)
NABARD, Mumbai, India

Rapporteurs

Mr Sylvio de Andrade Coutinho
Floresteca Holding NV Brazil

Dr P K Muraleedharan
Kerala Forest Research Institute, Peechi, Kerala, India

14.00 - 14.30	Plenary paper: Teakwood Production Strategy in the Global Perspective: Integrating Traditional Forest Plantations, Commercial Plantations and Agroforestry Mammen Chundamannil
14.30 - 4.50	Current Status, Future Prospects, Economics and Policy Issues for Teak (<i>Tectona grandis</i> L. f.) Investments by NABARD M S Haque
14.50 - 15.10	Optimal Rotation of Teak Production: Tools for Economic Analysis A H M Mustain Billah
15.10 - 15.30	Should Forest Encroachers be Evicted ? A New Way of Looking at Sustainable Production of Teak Timber in Kerala State, India K P Ouseph
15.30 - 15.45	Tea Break

14.00 -15.30 hrs. SESSION IX

Statistics Hall

Growth and Wood Formation

Chair

Prof H G Richter
Institute for Wood Biology and Wood Protection
Hamburg, Germany

Co-Chair

Dr K Sathyanarayana Rao
Director, Institute of Wood Science and Technology
Bangalore, India

Rapporteurs

Dr Nobuyuki Tanaka

Forestry and Forest Products Research Institute, Japan

Dr K V Bhat

Kerala Forest Research Institute Peechi, Kerala, India

14.00 - 14.30	Plenary Paper: Some Characteristics of Wood Formation in Teak (<i>Tectona grandis</i> L. f.) with Special Reference to Water Conditions Tadashi Nobuchi, Naoki Okada, Masato Nishida, Somkid Siripatanadilok, Teera Veenin, Togar L Tobing and Mohd. Hamami Sahri
14.30 - 14.50	Dendrochronological Study of Teak (<i>Tectona grandis</i> L. f.) in Puerto Rico Margaret S Devall and Bernard R Parresol
14.50 - 15.10	Investigations on Inheritance of Growth and Wood Properties, and Their Interrelationships in Teak A K Mandal and P H Chawhan
15.10 - 15.30	Assessment of Growth Rate, Basic Density and Heartwood Content in Selected Teak Clones of CSO, Thithimathi in Karnataka State, India R Vijendra Rao and S Shashikala
15.30 - 15.45	Tea Break

14.00-15.30 hrs. SESSION X

Agroforestry Hall

Growth and Productivity

Chair

Mr K Subramanian IFS

Addl. Principal Chief Conservator of Forests
Maharashtra Forest Department, Nagpur, India

Co-Chair

Mr U Saw Eh Dah

Coordinator
TEAKNET, Myanmar

Rapporteurs

Dr M Paramathma

Tamil Nadu Agriculture University
Coimbatore, Tamil Nadu, India

Mrs P Rugmini

Kerala Forest Research Institute
Peechi, Kerala, India

14.00 - 14.30	Plenary paper: Optimal Management of Teak Plantations K Jayaraman and Boris Zeide
14.30 - 14.50	Stand Level Radial Growth Rate Pattern Reveals Growth Convergence in <i>Tectona grandis</i> L. f. A N Arun Kumar and Y B Srinivasa
14.50 - 15.10	Effect of Soil-Leaf Nutritional Factors on the Productivity of Teak (<i>Tectona grandis</i> L. f.) in Kerala State, India M Vimal, K Sudhakara K. Jayaraman and C Sunanda
15.30 - 15.45	Tea Break

Status and Value of Teak Wood

Teak in the European Union

A van Ittersum

Peculiar Trees of Teak at Nilambur, Kerala State, India

H D Kulkarni

Status of Teak (*Tectona grandis* L. f.) Plantation in Bangladesh

M K Bhuiyan, M A U Mridha, M N Haque and M F Akhter

Products of Teak in Sabah, East Malaysia

Aminuddin bin Mohamad

Timber Value of Teak from Homesteads- Observations from Kerala, India

P K Thulasidas and K M Bhat

Timber Durability

Assessing the Natural Durability and the Origin of Teak Wood by Near Infrared Spectroscopy

H Bailleres, F Davrieux, C Baudasse, A D Kokutse and A Stokes

Natural Durability of Plantation-Grown Teak (*Tectona grandis* L. f.) from Panamá in Relation to Heartwood Extractives

M Haupt, H G Richter, H Leithoff, D Meier, J Puls and O Faix

Resistance of Teak, Balau, Keruing and Chengal Wood Species Against Attack by Marine Borers

Ali Rezanejad

Impact of Biodeterioration on the Timber Quality of Teak in Karnataka State, India

O K Remadevi and R Veeranna

Variation of Heartwood Durability in Plantation Grown Teak from Togo, West Africa

Adzo Dzifa Kokutse, Alexia Stokes, Henri Bailleres and Kouami Kokou

Wood Structure and Properties

Heartwood Formation and Wood Properties of Togolese Teak Originating from Different Ecological Zones

Adzo Dzifa Kokutse, Henri Bailleres, Alexia Stokes and Kouami Kokou

Wood Anatomical Basis for the Production of Good Quality Teak Stumps

R P Girija Pushpom and E V Anoop

Variations in Volume and Dimensions of Xylem Rays of Teak Grown in Bangladesh

Md. Mustafizur Rahman, Shinji Fujiwara, Yasuhiko Hirakawa and Yasushi Kanagawa

Genetic Improvement and Propagation

TEAKDIV – Developing Know-how for the Improvement and Sustainable Management of Teak Genetic Resources

Andrew Lowe, Samantha Davies, Hugo Volkaert, Jongkon Cheua-ngam, E P Indira, M Balasundaran, Sudarsono, Endah R Palupi, Hubert Wellendorf, Elsie Skov, Dominique Van Der Straeten and Madan Shrestha

Clonal Propagation of *Tectona grandis* L. f. by Leafy Stem Cuttings: Effects of Branch Position and Auxin Treatment on the Rooting Ability

Azamal Husen and Mohinder Pal

Early Detection of Mislabeled Teak Clones Using *Glutamate Oxaloacetate Transaminase* (GOT) Marker

Iskandar Z Siregar, U J Siregar and S Siswamartana

Variations in Non-Flowering Nature among Teak (*Tectona grandis* L. f.) Clones in Seed Orchards

Rajesh P Gunaga and R Vasudeva

Improved Techniques for Raising Nursery Stock in Teak

Siddappa Kannur, K V Devar and Ramesh Rathod

Teak (*Tectona grandis* L. f.) Biotechnology: Developments and Prospects

Parag M Dhakate, Girish S Bakade, Manjunath R Chavan and S Sasikumar

Variations in Germination and Early Vigour Among Half-sib Progenies of Teak (*Tectona grandis* L. f.) Clones of Karnataka State, India

John Mathew and R Vasudeva

Seed Source Evaluation in Teak (*Tectona grandis* L. f.)

M. Paramathma, K T Parthiban, C Surendran, K Sasikumar

Influence of Site Factors

Storage and Flux of Organic Carbon in *Tectona grandis* L. f. Plantations Raised in the Moist Deciduous Region

Kaushalendra Kumar Jha

Effect of Moisture Conservation Methods and Fertilizers on Nutrient Uptake in Two-Year-Old Teak (*Tectona grandis* L. f.)

A G Koppad and R V Rao

Estimation of Site Conditions Suitable for Teak Plantations in North-East Thailand

Nobuyuki Tanaka

Significance of Micronutrients on the Growth of Teak Seedlings

M P Sujatha

Growth and Yield of Teak Grown in Hill Forests of Bangladesh

Sukumar Das

Growth of *Tectona grandis* L. f. in a Sandy Area of Malaysia: A Fertilizer Trial

F Y Tsan, T H Ong, M Mazlan and L H Ang

Influence of Water Stress on Teak (*Tectona grandis* L. f.) Seedlings

N Rajesh and P K Ashokan

Plantation Management Techniques

Improvement of Teak Planting Stock Through Arbuscular Mycorrhizal Manipulations

C Mohanan, K K Sheeba and K D Priya

Growth and Vigour of Nursery Seedlings of Teak (*Tectona grandis* L. f.) in Response to Input of Organic Wastes

K Gopikumar and Mini Chandran

Tree Health

Impact of Teak Defoliator on Growth Increment in Teak: Results of a Ten-Year Field Study

T V Sajeev, R V Varma, V V Sudheendrakumar and K Mohanadas

A New Record of Chromoecological Behaviour of the Teak Locust, *Cyrtacanthacris tatarica* L. (Orthoptera : Acrididae) as a Bioindicator of Teak Plantation Growth Status
S K A Rizvi, S Kalia, Nazima Maqbool and F R Khan

Biodiversity

Non-Wood Forest Products Resource in Teak Plantations and Moist Deciduous Forests: A Comparative Study in Thrissur Forest Division, Kerala State, India
N Sasidharan and M Sivaram

Insect Diversity in Teak Plantations: A Case Study in Parambikulam Wildlife Sanctuary, Kerala State, India
George Mathew, V V Sudheendrakumar and P Rugmini

Recreation/Society's needs

Eco-tourism in Teak Forests
Yudi Aningtyas

Thursday 4 December 2003

FIELD EXCURSION TO NILAMBUR

Friday 5 December 2003

09.00 -11.00 hrs. Session XI

Auditorium

Wood Quality of Teak from Short Rotation Plantation Management

Chair

Prof Takashi Okuyama

Graduate School of Bio-agricultural Sciences
Nagoya University
Japan

Co-Chair

Dr Sunil Puri

Department of Forestry
Indira Gandhi Agricultural University
Raipur, India

Rapporteurs

Dr Margaret Devall

U S Forest Service, Stoneville, USA

Dr R C Pandalai

Kerala Forest Research Institute, Peechi, Kerala, India

09.00 - 09.30

Plenary paper: Assessment of Some Wood Characteristics of Teak of Brazilian Origin
R Polato, P B Laming and R Sierra-Alvarez

09.30 - 10.00

Characterisation and Extension of Juvenile Wood in Plantation-Grown Teak (*Tectona grandis* L. f.) from Ghana
H G Richter, H Leithoff and U Sonntag

10.00 - 10.30

Teak Production, Processing and Utilization in Nigeria
Abel O Olorunnisola

10.30 - 10.50

Is Deoxylapachol, the Allergic Agent in Teak, a Potential Threat ?
Maruli Humala Simatupang

11.00 - 11.15

Tea Break

09.00-11.00 hrs. SESSION XII

Statistics Hall

Timber Trade and Price Trends

Chair

Mr Bob Steber

Managing Director

Ginnacle Import-Export Pvt Ltd., Singapore

Co-Chair

Mr R T Somaiya

Managing Director

Regency Wood Products Pvt. Ltd., Mumbai

Rapporteurs

Mr Karl van Koppen

Floresteca Holding N.V. Netherlands

Dr V Anitha

Kerala Forest Research Institute Peechi, Kerala, India

09.00 - 09.30

Plenary Paper: Teak Trade in India

R T Somaiya

09.30 - 10.00

Teak Wood Price Projections for Kerala State, India up to 2020

C N Krishnankutty, Mammen Chundammanil and M V Sivaram

10.00 - 10.30

Wood-Balance Situation of Teak in Kerala State, India in 2001

C N Krishnankutty and Mammen Chundammanil

10.30 - 11.00

Future Trends in the Availability of Teak Wood from Forest Plantations in Kerala State, India

M Sivaram and C N Krishnankutty

11.00 - 11.15

Tea Break

09.00-11.00hrs. Session XIII

Agroforestry Hall

Teak Wood Industry

Chair

Dr G Kumaravelu IFS

Chief Conservator of Forests

Tamil Nadu Forest Department

Chennai, India

Co-Chair

Dr R Gnanaharan

Research Coordinator

Kerala Forest Research Institute

Peechi, India

Rapporteurs

Mr. R. Polato

Navigation Technologies s.r.l., Treviso, Italy

Dr. T. K. Dhamodaran

Kerala Forest Research Institute Peechi, Kerala, India

09.30 - 09.30

Plenary paper: Processing Technology for Value-Added Products of Teak from Small and Medium Sized Entrepreneurs (SME's) of Developing Countries

Peter Ebdon

09.30 - 10.00

Development of Teak Plantation Industry in North Queensland, Australia

Andrew Radomiljac, Craig Anderson and Tony Sturre

10.00 - 10.30 **Role of Rational Utilization of Teak in Carbon Sequestration**
Satish Kumar

11.00 - 11.15 **Tea Break**

11.15 – 13.15 hrs. Sub-plenary SESSION III

Auditorium

Institutions, Investments and Networking

Chair

Mr Raymond Keogh
International Coordinator
TEAK 21, Ireland

Co-Chair

Mr Masakazu Kashio
Forest Resources Officer, FAO Regional Office for
Asia and Pacific(RAP), Bangkok, Thailand

Rapporteurs

Mr. Anthony Sturre
Rewards Group Ltd., Australia

Mr. Raul Polato
Navigation Technologies s.r.l., Treviso , Italy

- 11.15 - 11.30 **The Importance of Quality in Teak Plantations**
Raymond M Keogh
- 11.30 - 11.45 **Transformation of Tropical Forestry Starts with Teak**
Karl van Koppen
- 11.45 - 12.00 **Investments on Teak Plantations by Floresteca Agroflorestal LTDA, Brazil**
Sylvio de Andrade Coutinho
- 12.00 - 12.15 **Teak Development Programme by Forest Research Support Programme of FAO for Asia Pacific (FORSPA)**
Masakazu Kashio
- 12.15 - 12.30 **IUFRO 5.06.02 Working Party on Teak Networking**
Takashi Okuyama and K M Bhat
- 12.30 - 12.45 **Role of Santi Forestry, Bangkok in Teak Development Programme**
Aroon Chaomcharn
- 12.45 - 13.00 **Contributions of TEAKNET, Myanmar**
U Saw Eh Dah
- 13.15 - 14.00 **Lunch Break**

14.00 – 14.30 hrs.

Conference Hall

Meeting of the Technical/Drafts Recommendation Committee

Chair

Dr J K Sharma
Director, Kerala Forest Research Institute
Peechi, India

Co-Chair

Dr K M Bhat
Head, Wood Science Division
Kerala Forest Research Institute, Peechi, India

Presentations by Rapporteurs

14.30 - 16.10 hrs **CONCLUDING SESSION**

Conference Hall

Panel discussion and Conference Resolutions

Chair

Mr J C Kala, IFS

Principal Chief Conservator of Forests
Tamil Nadu Forest Department
Tamil Nadu, India

Co-Chair

Mr R P S Katwal

Director General
Indian Council of Forestry Research and Education
Dehra Dun, India

Members

Mr Brajendra Kumar Singh
PCCF, Maharashtra, India

Mr P K Surendranathan Asari
PCCF, Kerala, India

Mr A S Dogra
PCCF, Punjab, India

Mr S K Das
PCCF, Andhra Pradesh, India

Dr C Chandrasekharan
Senior Forestry Officer, FAO (Retd.) Kerala, India

Dr Ma Hwan Ok
Projects Manager, ITTO, Japan

Dr P J Dilip Kumar,
Addl. PCCF, Karnataka, India

Dr P B Gangopadhyay
Addl. PCCF, Madhya Pradesh, India

Mr Raymond Keogh
Coordinator, TEAK 21, Ireland

Prof Julio Centeno
University of the Andes, Venezuela

Dr J K Sharma
Director, KFRI, Peechi, India

16.00 - 16.10 **Vote of Thanks:** Dr K M Bhat, Conference Convener

16.10 - 16.30 **Tea Break**

19.30 **Dinner**