

Teaknet Bulletin

Volume 1, Issue 1
September 2008

INSIDE THIS ISSUE

Out break of Pink Disease in Young Teak Plantations	1
Pests and Diseases	2
Timber Supply	3
How to contact Global Teak Growers	4

Editorial

One of the commitments of the Kerala Forest Research Institute (KFRI) in India, over the past three decades, is the development of teakwood sector. With a good basic infrastructure and a core group of well qualified/experienced personnel of proven track record in international arena of teak, KFRI is planning to set up Teaknet Centre for addressing the key issues of sustainable management of teak. The long-term objective is to promote sustainable management and utilization of global teak wood resources by facilitating the capacity building among international stakeholders particularly farmers/teak growers, teak resource managers, processors, traders, researchers and policy makers in responding effectively to the changing social, economic and environmental needs.

Although such a Teaknet was established in 1998 in Myanmar, there is growing concern among the international stakeholders to strengthen the activities of global networking mechanism. Therefore KFRI has taken initiatives in this direction for complementing the efforts and launching this Bulletin one such activity. For greater benefits, It is urged all those who are concerned to make use of this Bulletin as a common vehicle for sharing and dissemination of useful information, new inventions, new research findings, etc.



Outbreak of Pink Disease in Young Teak Plantations

C. Mohanan

Forest Protection Division,
Kerala Forest Research Institute, Peechi 680 653 Thrissur, Kerala, India

Recently, severe incidence of pink disease (stem canker and girdling) in young (1 to 2-year-old) teak plantations raised in high humid tracts of the Kerala State, India was noticed. Outbreak of disease occurred immediately after the South West monsoon (July- August) and plantations raised with both root trainer- grown seedlings as well as conventional stumps were found equally affected with the disease. The disease occurs in small patches affecting 3 to 5 plants and spreads at a very fast rate causing multiple infection (main stem and branch cankers) in a large number of nearby plants; the disease incidence ranged from three to sixty per cent in different teak plantations in the State. Disease incidence as well as severity was noticed more in plantation sites where weed growth is more and with high precipitation and relative humidity.

Read more on page 2

Management of the Teak Defoliator Using the Viral Biopesticide- HpNPV

V.V.Sudheendrakumar, T.V.Sajeev and
R.V.Varma

Forest Protection Division,
Kerala Forest Research Institute,
Peechi-680 653, Thrissur, Kerala, India
Email: sudhi@kfri.org

One of the major research areas addressed by the Kerala Forest Research Institute (KFRI) is pest management in teak plantations. Among the pests of teak, the most destructive in India is the teak defoliator, *Hyblaea puera* (Cramer). Outbreaks of this insect occur every year in teak plantation in Kerala and other teak growing areas in the country. KFRI studies have revealed that considerable economic loss is caused by this pest due to reduction of about 44% potential volume increment of trees. It is estimated that over 50% additional gain can be realized from teak plantations if protected against the teak defoliator. Considering the cost of teak, the gain in revenue would be substantial.

In view of the economic importance of the teak defoliator pest, KFRI initiated focused research since early eighties to develop of an eco-friendly technology to manage this pest. Detailed studies had been carried out to elucidate the pest movement and population dynamics and the natural mortality factors affecting the pest.

Read more on page 2

Background: It is extremely vital that Teaknet is revitalized and is able to fulfill the original objectives it was set up for. With that as a background, some initial tasks have been identified which will build towards strengthening Teaknet.

Under the overall supervision and technical guidance of the Senior Forestry Officer, FAO Regional Office, Bangkok, and in close collaboration with RAP Forestry Staff, the Consultant will carry out the following activities:

1. Develop a database of international stakeholders of teakwood sector, including growers, processors, traders, users, policy makers and researchers, and identification of focal points in various countries/regions for networking;
2. Collect and compile available literature pertinent to the teak development programmes, particularly on international teak resource management, timber price and trade trends;
3. Launch and disseminate a quarterly information bulletin under the Teaknet banner (in both electronic version and hardcopies) for year 2007;
4. Produce abbreviated versions of the above studies (1 & 2) for reporting in the Teaknet bulletin.

MANAGEMENT OF THE TEAK DEFOLIATOR USING THE VIRAL BIOPESTICIDE- HpNPV

Continued from Page 1

Now KFRI has developed a bio-control technique to manage the pest, which is based on HpNPV, a baculovirus naturally infesting the teak defoliator pest. Baculoviruses form a group of insect pathogen and many of them are extensively used as biopesticides for managing forestry and agriculture pests worldwide. The technology to mass multiply the teak defoliator baculovirus and to produce a storable biopesticide formulation using the virus has been standardised. The HpNPV formulation which is in the wettable powder form has been field tested and proved very effective in controlling the teak defoliator. The HpNPV formulation developed by KFRI is highly target specific, eco-friendly and safe to all other organisms.

As part of the technology transfer, KFRI conducted two training workshops for the field staff of Nilambur North and South Forest Divisions during 2004 and 2005. Further in 2004, a field trial using HpNPV was carried out jointly with KFD in about 36 ha of young teak plantations in Nilambur to control teak defoliator which was highly successful. KFRI plans

As part of the extension program, KFRI had supplied HpNPV in 2005 and 2006 to a teak farmer in Chattisgarh, who owns about 50 ha

50 ha teak plantations, to test its field performance. The result was very promising as evident by the report from the said farmer (Email communication attached). The bio-cide contains 1×10^{11} viral particles per gram of the product which is sufficient to cover one hectare of young teak plantation. The cost of the biocide required for applying in one hectare teak plantation works out to about Rs.250/-.

Now KFRI is looking for an entrepreneur to whom the technology for mass multiplication of HpNPV for which a patent has been filed can be transferred so that this major breakthrough in biological control of teak pest is utilized by all the State Forest Departments who grow teak.

The advantages of HpNPV biocide are many compared to chemical pesticides:

- Highly specific to the teak defoliator
- Eco-friendly and safe to all organisms
- Based on naturally occurring insect pathogen
- Non-hazardous and non pollutant
- Economical
- Being a natural pathogen remain in nature to cause epizootics

OUTBREAK OF PINK DISEASE IN YOUNG TEAK PLANTATIONS

Continued from page 1

Pink disease: The disease is caused by a fungus, *Corticium salmonicolor*. The fungal pathogen causes canker on the main stem as well as branches. The cankered areas become depressed with pronounced discoloration of tissues beneath the bark. Usually, the visible disease symptom appears as small 'screw cap' type vertical split on the bark, which later enlarges into large vertical splits along the diseased areas. Formation of callus tissues around the infected areas takes place as a result of host defense mechanism. Partial to complete girdling of the bark around the cankered area occurs depending on the disease severity. Yellowing and browning of the foliage and gradual die-back of shoot above the cankered area occur. A large number of epicormic shoots usually develop from the area just below the canker. Quick spreading of multiple cankers on the main shoot under conducive environment often leads to outright killing of the affected plant. Association of an insect (caterpillar) belonging to Pyralidae was also noticed in some diseased plants. The insect, though a scavenger type makes galleries inside the fleshy callus tissues and produce 'frass' (excreta of the insect + wood

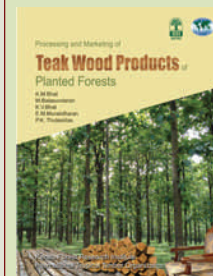
particles webbed together), and also cause discoloration of the bark and stem tissues.

The causal fungus, *C.salmonicolor* produces its four stages: cobweb, pustule, pink encrustation (basidial stage) and necator (conidial stage) on the cankered area. The pathogen has wide host range (> 400 host spp.) and affects forest plantation species including eucalypts, acacias, casuarinas, etc. Even though, teak has earlier been reported as the host plant of pink disease pathogen, the recent outbreak of disease in young plantations has caused great concern.

Management of disease: Application of Bordeaux paste (10%) is found effective in controlling the canker disease. However, in severely cankered stem, as the Bordeaux paste (contact fungicide) is found not sufficiently reaching inside the cankered area (crevices of longitudinally split bark), application of systemic fungicide like Calixin (Tridemorph 0.1% a.i. with Delaware wet (wetting and spreading agent) is recommended. Since, the insect association was noticed in many affected plants, application of insecticide (Ekalux @ 0.1%) along with fungicide is recommended. At present, the disease is under control.

NEW RELEASES

Proceedings of The Regional Workshop 2007



The Kerala Forest Research Institute (KFRI), organized a 4-day Regional Workshop on "Processing and Marketing of Teak Wood Products of Planted Forests" in Peechi, Kerala, India, during 25-28 September 2007 with the support of the

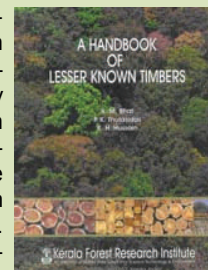
International Tropical Timber Organization. The proceedings of the Workshop presents some of the very recent scientific information on teak wood production in planted forests, productivity and quality of teak from short rotation plantations, its processing, marketing and the price trends in the global market scenario. The proceedings consists of a total of 39 papers presented during the Workshop.

Proceedings of the Regional Workshop on "Processing and Marketing of Teak Wood Products of Planted Forests", Peechi, India, 25-28 September 2007, Kerala Forest Research Institute, India and International Tropical Timber Organization, Japan, 335p.

By Bhat KM; Balasundaran M; Bhat KV; Muralidharan EM and Thulasidas PK (eds.) 2008.

For copies, kindly contact Librarian, KFRI at sarojam@kfri.org

A Handbook of Lesser Known-Timbers



This is a newly released handbook which may serve as an essential source of ready reference not only in timber trade/user sectors but also among the wood technologists in India and overseas. The handbook describes 77 relatively less known timbers with colour illustrations including the well known teak timber displaying different types of teak with varied colour, grain and texture among different country es. Besides the hard copy, computer CD-ROM is also provided for the benefit of those who seek real images of wood figure (colour, grain, texture) and the contents can be browsed using Adobe Acrobat Reader in addition to navigation through suitability indices.

By K.M Bhat, P.K. Thulasidas and K.H Husaigh (2008)

Kerala Forest Research Institute, Peechi, Kerala, 180p.

Price: Rs. 500 (in India); US \$ 50 (overseas) inclusive of postage charges.

For copies, kindly contact Librarian, KFRI at sarojam@kfri.org

TYPES OF AVAILABLE TEAK WOOD AND PRICE RANGE IN INDIAN TIMBER MARKET

K. M. Bhat and P. K. Thulaidas

Forest Utilisation Division, Kerala Forest Research Institute,
Peechi-680 653, Thrissur, Kerala, India, Email: kmbhat@kfri.org

A variety of teak timbers is noted in Indian market depending on the source of supply as originated from various geographic locations or countries. The recent timber survey recorded the following types timbers mainly due to variations in log size wood colour/grain and growth rate/rotation age. The price trends of teak timber showed continued increase in India over the decades of later half of 20th century and the forecasts for the year 2015 indicate a range of Indian Rupees of 71,000-90,000 (US \$ 1480-1850) per Cu.m depending on the girth class (Krishnankutty 2001).

The present market price range for round wood (Cu.m) in Indian Rupees and US \$ is shown below:

Home garden teak: 26842-38841 (US\$ 597-863)

Myanmar (Burma teak): 44138-51200 (US\$ 980-1138)

Columbian teak: 21186-24717 (US\$ 470-549)

Ghana teak: 21186-28248 (US\$ 470-628)

Brazilian teak:

Benin teak-Log:

Togo teak- Log:

Costa Rican teak (class II/III pole size logs)

Equador teak (class II/III pole sized logs)

Teak, Ivory Coast:

Types Teakwood

Adilabad teak

- Grows in Rajulmaddugu locality of Andhra Pradesh

- Rose coloured heartwood, attractive surface, fetches high price

Central province teak (CPT)

- Slow grown wood with close grain from drier areas of central India
- Deeper colour, twisted or wavy grain give better appearance and fetches higher price

Dandeli (North Kanara) teak

- Slow grown, close grained
- Darker in colour

Godhavari teak

- Grows in Godhavari region of Andhra Pradesh
- Wood is ornamental because of unique appearance

Home garden/farm grown teak

- Home garden teak has more defects like bends and knots lowering timber value.
- Wood from dry sites has darker golden brown colour with black streaks, making it more attractive in appearance.
- Wood from wet sites has paler colour affecting adversely the price of the timber.
- Wood from homesteads of wet sites is more susceptible to brown rot fungi although no significant differences exists with respect to white rot fungi among the home garden and plantation grown timbers.
- Higher natural durability of teak wood from drier locality is reflected in higher extractive contents with darker colour

Konni teak

- Slow grown wood with close grain and darker colour
- Stronger than Nilambur teak

Myanmar (Burma) teak

- Slow grown wood from mostly from natural growth
- Close grain with darker colour
- Fetches high price in international trade

Nilambur (Malabar) teak

- Grows fast, yields larger log dimensions
- Straight grain with golden yellowish brown colour, often with darker steaks
- Reputed in the trade for ship building and furniture/cabinets

West African teak

- Wood with black streaks and wavy or twisted grain
- Wood figure is mostly inferior to that of Asian teak

South and Central American teak

- Wood lighter in colour
- Fetches lower price due to small dimensional log and less heartwood

Did you know ?

- In South America, FOB price range is USD130-USD230 as against USD200-USD300 in West Africa and US 140-240 in Asia (India) depending on quality (colour, grain, etc), diameter and length.
- With an investment of US \$10,000 per hectare, teak plantation can give an average return of about US Dollars 320,000 in 25 years from the sale of roundwood at stump/plantation site – This means 32 times returns in 25 years, equivalent to doubling investment in every 5 years (Centeno 1996).
- The central part of India (with Site Quality II), the best Internal Rate of Returns (IRRs) can be expected from 25-year rotations although for higher Net Present Value (NPV) the rotations need to be longer (Rawat and Negi 1980).

Even with very low input management, teak plantations are profitable if planted in suitable sites (Chundamannil 1998).



Division of Forest Utilisation
Kerala Forest Research Institute



How to Contact the Global Teak Growers

Australia

Dr. Andrew Rado, Mr Craig Anderson, Executive Director, Rewards Group, Ground Floor, 50 Colin Street, West Perth, WA 6005, PO Box 803, West Perth WA 6872, Phone : (08) 9324 1155, Fax : (08) 9324 2155, Email: mail@rewardsgroup.com.au,

Rewards Group Sydney Office, Ken Brewer, Level 57, MLC Centre, 19-29 Martin Place, Sydney NSW 2000, Ph: (02) 9238-2194, Fax: (02) 9238-2196 **2020 Direct invest Pty Ltd**, Head Office:, LV 6, 118-120

Pacific Highway, St Leonards NSW 2065, Australia, Phone : (02) 9493 6555, Fax: (02) 9493 6599

ITC Forestry, Level One, 66 Kings Park Road, West Perth, WA, 6005, Postal address: PO Box 204, West Perth, WA, 6872, Telephone: (08) 9483-0200, Fax: (08) 9483-0250, Email: enquiries@itclimited.com.au

NAFI, PO Box 239, Deakin West, ACT 2600, AUSTRALIA Phone: (02) 6285 3833, Fax: (02) 6285 3855, www.nafi.com.au

John Macgregor Skinner, Executive Officer, Northern Rivers Private Forestry Development Committee, P.O.Box 823, Murwillumbah N.S.W. 2484, Australia, Phone: (07) 6672 2770, Fax : (07) 6672 3571, Email : john.macgregorskinner@dpi.nsw.gov.au

Bangladesh

Bangladesh Forest Research Institute (BFRI), PO Box 273, Chittagong 4000, Bangladesh, Phone : +880-31- 681577, Fax: +880-31-681566

Brazil

Director, Tectona Agroflorestal Ltd., a. C.P.. 362, Tangara da Serra Mato Grosso, 78300-000.

Email : luitsmit@nutecnet.com.br

Florestaca Holding N.V. Av. Gov. Joao Ponce de Arrudea, 1054, Jardim Aeroporto CEP-781100971, Varzea Grande-MT.

Email : sylvio.coutinho@floresteca.com.br

Canada

Green Teak Growers, C/o Robert G.Ledoux, p.o. box 1703, 28

Chile

Maria Ineés Miranda, SSC Americas SA, Av Parque Rabat Sur no 6165, Vitacura, Santiago, Chile, Phone: +56 2 2400349, Fax: +56 2 240 0349

Costa Rica

TATF SA, Tropical American Tree Farms, Apartado 608 - 1007, San José, Costa Rica, Phone: 011-506-291-0713, Fax: 011-506-291-0398, Email: trees@tatf.com

Ecoworld Nature & Technology in Harmony, Costa Rica, contact@ecoworld.com www.ecoworld.com

Hacienda Doña Victoria, Del Hangar del Centro Nacional de Helicópteros, 300 metros al Este, segunda entrada a mano izquierda, Palmar Sur, Puntarenas, Costa Rica, Tel: 506-786-6269, Email: barca@brinkman.ca

Finca Leola S.A., 400 metros norte Ebais, San Rafael de Guatuso, Alajuela, Costa Rica, Telephone : 1-866-737-5268, Email: fmorgan@fincaleola.com www.fincaleola.com

T.B. Maintenance S.A., C/o APDO 40-4005, San Antonio de Belén, Heredia, Costa Rica, Email : TBMaintenance@teakcostarican.com

Pacific Management Group, Inc., Calle 1 Av 4 Y 6, Heredia, Heredia, Costa Rica, Central America, Phone: +(506)237-1176, Fax: +(506)260-2662

The Teak Forest Group, San Jose, Costa Rica, Phone: +506290 3731, Fax: +506 290 2951, www.teakforest.com

Brinkman & Associates Reforestation Ltd. Hacienda Dona Victoria, Del Hangar del Centro Nacional de Helicópteros, 300 metros al Este, segunda entrada a mano izquierda, Palmar Sur, Puntarenas, Costa Rica, Phone: 506-786-6269, Email: barca@brinkman.ca

Tectonacr, Mr. mathieu van Rijn, Director,

Denmark

Horneman A/S, Skagensgade 66, DK-2630 Taastrup, Denmark, CVR No. 34 41 19 13, Phone : +45 43 50 01 00, Fax: +45 43 50 01 99, Management, President, C.E.O., Jørgen Møller-Rasmussen +45 43 50 01 00, Email : jmr@dlhgroup.com

Dalhoff Larsen & Horneman A/S, Skagensgade 66, DK-2630 Taastrup, Denmark, CVR No. 34 41 19 13, Tel.: +45 43 5001 00, Fax: +45 43 50 01 99

Ecuador

La Envidia, Mr. ALESSIO TABACCHI, Owner, San Aurelio, Balzar, Guayas, Ecuador, Phone: 593 4-2-294161, Fax: 5934-2-832335

El Salvador

De La Finca And Shanti S. A. Mr. Roberto Castaneda, Owner, 51 Ave Norte # 168, San Salvador, EL Salvador, Centro America, El Salvador, Phone: 503—22604200, Fax: 503—22605701

Shanti S. A. Mr. Hector Castaneda, Owner, Lomas De San Franciscocalle #3 #27, San Salvador, San Salvador, El Salvador, Phone: 503—7822 1581, Fax: 503—248 1476

Germany

Mr. John Harris, Resident General Manager, Belizeteak International, University Forestry Departments - the University of Göttingen in Germany and the University of Toronto in Canada. Toledo District +1-501-662-2898

Ghana

The Chief Executive, Ghana Investment Promotion Centre, P. O. Box M-193, Accra, Ghana, Tel: (+233)-(21)-66 5125 - 9, Fax: (+233)-(21)-66 3801, E-mail: info@gipc.org.gh

Hawaii

J.B. Friday, Our Extension Forester, CTAHR/ University of Hawai'i, Cooperative Extension Service, 875 Komohana Street, Hilo, HI 96720, Telephone: (808) 981-5199,

Kauai Tropical Timbers, LLC, P. O. Box 1026, Koloa, HI 96756
Phone: (888)747-2988,
www.kauaitimbers.com

India

Asian Timber Estates, Mr. Lakshman Chadalavada, Jr. Executive, 6-20, Moosapet 'X' Roads, Kukatpally., Hyderabad., Andhra Pradesh 500 072, Phone: 91-40-23814966, Fax: 91-40-23812462, www.asiantimberestates.in

Kitply Industries Ltd., 357, Samta Colony, Raipur - 492 001 (M.P.), Phone : 0771 - 2253518 / 19, Fax : 2253519

Varanashi Research Foundation(Regd.), Adyanadka-574260, D.K, Karnataka, Phone :91-8255-270254 / 270686, Fax: 91-8255-270686, E-mail: info@varanashi.com, varanashi@sancharnet.in

G.S. Gidde Gowda, Suvarna Farm, Brahmadevara Halli, Nittur Post, Hassan – 573 219, Karnataka State, Phone : 08172 - 42565

Principal Chief Conservator of Forests, Forest Headquarters, Thiruvananthapuram-695014, Phone: 0471 2321610 ,2529241, Fax 0471 2338806, Email:pccf@keralaforest.org

Managing Director, Forest Development Corporation of Maharashtra Ltd. (A Govt. of Maharashtra Enterprise), 12- Rawel Plaza, Kadbi Chowk, Kamptee Road, Nagpur-440 004., Phone-0712-(O) 2533442, 2533475, (R) 2539995 , E-mail :mdfncmp_ngo@sancharnet.in

G.S. Farms, G.S. Constructions, Plot No :52, Beside BSNL Office, Madhurawada, Visakhapatnam, Phone : 0891 3254646 ,9440132460, Email : gsfarms@gsfarms.com, www.gsfarms.com

Divisional Forest Officer, Shravasti Forest Division, P.O.Bhinga, Shravasti (Dist) Uttar Pradesh, Phone- 91-5250 - 222597 www.shravasti.nic.in

Managing Director, Chhattisgarh Rajya Van Vikas Nigam Limited, Lokash Plaza, Shankar Nagar, Raipur, Chhattisgarh - 492 001. Phone: +91- 0771- 2444428, +91-0771- 2444427 (Fax), Email: cgrvvn@yahoo.com www.cgrvvn.nic.in

Director, Centre for Social Forestry and Eco-Rehabilitation (CSFEF), (Indian Council of Forestry Research & Education), Allahabad - 211 001 (UP) Email : icfre@envfor.delhi.nic.in

Dr. P.K. Shukla, IFS, Director and Addl. PCCF, State Forest Research Institute, Polipathar, Jabalpur (M.P.) 482008, Phones: : 91-761-2665540, 2666529, 2669035, Fax : 91-761-2661304, E-mail:sdfri@rediffmail.com, dsfri995@sancharnet.in

Managing Director, 12-Rawel Plaza, Kadbi Chowk, Kamptee Road, Nagpur-440004. Phone-0712-(O) 2533442, 2533475, 2526563, 2532509 (R) 2539995, E-mail :mdfncmp_ngo@sancharnet.in

Regional Manager, WFP & Affo. Region, F.D.C.M.Ltd., 12, Rawel Plaza, Kadbi Chowk, Kamptee Road, Nagpur-4., Phone-0712-(O) 2533442, 2533475, 2526563 (R) 2555401, E-mail :rmwfp_ngo@sancharnet.in

Regional Manager, Thane Region, F.D.C.M.Ltd., Copri Colony, Thane (E) 400606. Phone/Fax-022-(O) 25426074, (R) 25404326, E-mail : rmthnfdcm@rolta.net

Regional Manager, Nashik Region, F.D.C.M.Ltd., Van Vikas Bhavan, Kalika Mandir Rd., Nashik 422 002. Phone/Fax-0253-(O) 2594941, (R) 2594940, E-mail :fdcmnsk_nsk@sancharnet.in

Regional Manager, North Chanda Region, F.D.C.M.Ltd., Mul Road, Chandrapur-442401. Phone-07172-(O) 255596 (R) 255472, Fax-07172-250375, E-mail : rmncr_ngo@sancharnet.in

Regional Manager, Nagpur Region, F.D.C.M.Ltd., Hill Top Road, Ramnagar, Nagpur-10. Phone/Fax-0712-(O) 2525009, (R) 2546856,

E-mail : rmngp_ngo@sancharnet.in
Regional Manager, F.D.C.M.Ltd., South Chanda Region, Shastri Nagar, Mul Road, Chandrapur-442 401., Phone-07172-(O) 256239, 250118, (R) 255749, Fax-07172-256239, Email :rmscr_ngo@sancharnet.in

Divisional Forest Officer, Shravasti Forest Division, P.O.Bhinga, Shravasti (Dist), Phone- 91-5250 – 222597

Divisional Forest Officer, Sohelwa Forest Division, Balrampur (Dist), Phone- 91-5263 – 233842

Nandighosh Estates Pvt. Ltd., Gandhinagar Main Road, Berhampur-760001, Ganjam, Southern Orissa, Phone-0680-2225336, E-mail : info@nandighoshestates.com www.nandighoshestates.com

M.P. Rajay Van Vikas Nigam Limited, 5th Floor, Panchanan, Malviya Nagar, Bhopal (M.P.) - 462 003, Phone - 91-755-2674204 / 2674210 / 2551821, Fax - 91-755-2551757, Email :prvvn@sancharnet.in

Chairman, Tamil Nadu Forest Plantation Corporation Limited, 30, Gandhimandapam Road, Kotturpuram, Chennai 600 085 Phone: (Off) 91-44-24473303. Fax : 91-44- 24473303. E-Mail: cmntafcorn@dataone.in

Associate Professor and Head, Krishi Vigyan Kendra, Pechiparai 629 16, Kanyakumari Dt. Tamil Nadu, Phone : 04651 – 281759 (Office), E-mail: kvkPPI@tnau.ac.in

Associate Professor and Head, Krishi Vigyan Kendra, Vriddhachalam - 606 001, Cuddalore Dt. Tamil Nadu, Phone: Office: 04143 – 260353, Res:04143 – 262701, Fax : 04143 - 260353, E-mail: kvkvri@tnau.ac.in

Rajaram, Tulasi farm, Aranarai, Perambalur, Thiruvalluvar District, Tamil Nadu

Project Support Unit(PSU), Watershed Mission Complex, Siripur, Bhubaneswar 751003, Orissa. Phone +91 (0)674 2394179, 2394181, Fax: +91 (0)674 2390988, EPBAX—2394181, 2394179, 2391538, Email : general@worlp.com

Sivaprakasam, Aranarai, Perambalur, Thiruvalluvar District, Tamil Nadu

C.R. Ramanathan, Biorama Trust, Ganapathi Palayam Post, Udumalpet Taluk — 641 122, Tamil Nadu.

G. Balakrishnan, Engineer, Putharam Farm, Nemam, Thirukkathipalli (via), Thanjavur District, Tamil Nadu

Association for Rural Community Development (ARCOD), Royakottai, Dharmapuri District—635 116, Tamil Nadu

Umesh Chandrasekar and Meenakshi, Nagarkoodal Post, Dharmapuri District — 636 803, Tamil Nadu

Itina Plantations Pvt. Ltd., #1054, 7th Main, 3rd Block, Koramangala, Bangalore-560034, Phone: 91-080-41217084/85, Fax: 91-080-41102433

Russ Foundation, 32 Kennett Road, Ellis Nagar, Madurai, 625010, E-mail: berlin@russfoundation.com

Subhadra Estates, Subhadra Properties Pvt. Ltd., Royale Heritage, G.P.O. Road, Near Shalimar, Nashik - 422001, Maharashtra Tel.: +91 - 253 - 653 9622, Fax: +91 - 253 - 259 8475, E-mail : info@subhadraestates.com

Traditional Agricultural Producers Association and Traditional Seed Bank, (Contact persons: Arivudi Nambi and K Venkatachalam) 1/109 Raja Street, Valayampattu Village, Chengam, T.S. District—606 701, Tamil Nadu.,

A & N Islands Forests & Plantation Development Corporation Ltd., Van Vikas Bhavan, Port Blair, Andaman & Nicobar Islands, Phone : 91-3192-20261, 20752, Fax : 91-3192-21254

Dr. Partheeban Plantation, Mr. Partheeban J, Owner, 67, MC Road, Ambur, Tamil Nadu, India, Zip/Postal Code: 635802, Phone: 91-04174-243121, Fax: 91-04174-245121

Malu Teak Plantation, Bangalore, Karnataka

Mr.D.Sudhakar Reddy & Mr.Dayal Naidu, Kuvakolli Village, Santha Velore Post, Varadhayapalam Mandal, Chittoor Dist, Andhra Pradesh, Contact No.: 044-4328771, 044-4329318, E-mail : reach@placenspace.com

Dr. Suresh Kumar Kudoor, Secretary, Bharatiya Kissan Sangha, Shreepoorna, P.O. Ballya, Puttur – 574 221, Karnataka.

Mr. Monappa Karkera, President, Bharathiya Kissan Sangha, Puttur Mangala Farms, Mundoor, Puttur – 574 221, Karnataka.

The Prin. Chief Conservator of Forests, Government of Bihar, P.O. Hinoo, Ranchi, Bihar 834 002

The Prin. Chief Conservator of Forests, Haryana Forest Department, 30 Bays Building, Sector 17, Chandigarh 160017, Haryana

The Prin. Chief Conservator of Forests, Government of Karnataka, Forest Department, Aranya Bhavan, 18th Cross, Malleswaram, BANGALORE, 560 003, Karnataka

The Prin. Chief Conservator of Forests, Andaman and Nicobar Islands Forest Department, P.O. Chatlam, Portblair 744102

The Prin. Chief Conservator of Forests, P.O. Kunjaban, Agartala, Tripura 799 006

The Prin. Chief Conservator of Forests, Tamil Nadu Forest Department, 79 E/81, Anna Salai, Teynampet, Chennai- 600 006, Tamil Nadu

Principal Chief Conservator of Forests (EWPRT), Aranya Bhavan, 18th Cross, Malleswaram, Bangalore 560 003, Karnataka

The Prin. Chief Conservator of Forests, Andhra Pradesh Forest Department, Hyderabad - 500 004, Andhra Pradesh

The Prin. Chief Conservator of Forests, Meghalaya Forest Department, Additional Secretariat Building, Shillong – 793001, Meghalaya

The Prin. Chief Conservator of Forests, Environment And Forest Department, Aizawl, Mizoram 796 001.

The Prin. Chief Conservator of Forests, Uttar Pradesh Forest Department, 17 Rana Pratap Marg, Lucknow, Uttar Pradesh-226 001

Prin. Chief Conservator of Forests, Vazhuthacaud P.O, Trivandrum - 695 014, Kerala

NABARD, Regional Office, 105/106, M.G.Road, Nungambakkam, Chennai 600 034, Tamil Nadu

Indonesia

Multistakeholder Forestry Programme - Management Office, Gedung BRI 19th Floor, Suite 1907, Jl. Jend. Sudirman Kav. 44-46 Jakarta 10210, Phone : (62-21) 5713316-5713318

Fax (62-21) 5713420, Email: forfield@dfid.or.id www.mfp.dephut.go.id

Sayu Putri - BTF's Founder & Technical Director, Bali Teak Farms, Bali, The Jelantik Teak Farms, Indonesia

Ashoka Indonesia, Alamat Jl. Durma II No. 5, Turangga Bandung 40264 Tel/Fax : +62-22-7300955, Email : ashokaindonesia@bdg.centrin.net.id

Dr. Soegiharto, Gold Teak Plantation, Bumisari, South Bogor, Sukabumi - West Java

Ireland

Coillte, The Irish Forestry Board, New town mount kennedy, Co. Wicklow, Ireland, Phone : ++353 1 2011111, Fax: +353 1 2011199, Email : pr@coillte.ie

Mossie Ryan, Managing Director, Green Belt Panama Ltd. Head Office, Main Street, Virginia, Co. Cavan, Phone: +353 49 8548000, Fax: +353 49 8547509, Email: mryan@greenbelt.ie

Italy

Pacific Management Group, Inc., Largo Olgiata 15, Isola 95C2, 00123 Roma, Italy, Phone +39 06 3088 9605, Fax +39 178 221 3117

Mexico

R. G. Cadereyta Project, Mr. Roberto Garza, Projects development, Vicenterivapalacio 357 Ote. , Monterrey, Mexico, Nuevo Leon, Mexico, Zip/Postal Code: 64000, Telephone: 52-81-82897517, Fax: 52-81-82897517, Mobile Phone:528110840329

Myanmar

Teak Farm & United Wood Industries, No.122(A), U Mye Street and Hlaing Tharyar Industrial Zone (2), Hlaing Tharyar Township, Yangon and Myanmar, TEL: +95 -1-212421, FAX: +95-1-212421, E-mail: ntm@baganmail.net.mm

Netherlands

Sicirec, Netherlands, J.J. v.d. Molen, Phone: (+31) (0)50 53487 95, Fax: (+31) (0)50 534 08 52, E-mail: trade@sicirec.org, www.sicirec.org

Green Horizon NL, Slenkstraat 70,1441 MS Purmerend,The Netherlands,Chamber of commerce # 37105690,Phone : +31 (0)299 - 416730, Fax: +31 (0)299 - 402478, www.greenhorizon.com

Mr. Karl van Koppen, Floresteca Holding N.V. Post Box 552,NL – 2130 AN Hoofddorp. Email :karl.van.koppen@gwonline.nl

New Zealand

Oxfam New Zealand , P O Box 68357, 62 Aitken Terrace, Kingsland, Auckland 1145, New Zealand, Fax : +64 (0)9 355 6505, Email: oxfam@oxfam.org.nz

Panama

Panama Teak Forestry, La Gaviota #17C,Ave Balboa, Panama City, Panama, Phone: 702 505 4494, +507 65814520, Email : jeff@panamateakforestry.com

Philippines

Science and Technology Information Institute, DOST Complex, Bicutan, Taguig, Metro Manila, Phone : 837-2191 to 95, Fax: 837-7520, www.stii.dost.gov.ph

Singapore

Mr. Andrew liem, Director, Liem Plantation, PTE 100 Ang Mo Kio Avenue 6, Singapore, Zip/Postal Code: 569830, Phone: 65—6451 5363, Fax: 65—6451 5363

Solomon Islands

John Wesley Timbers, PO Box 1724, Honiara, Solomon Islands, Phone: (677) 26404,Fax: (677) 26468, Email: nihpro@solomon.com.sb

Solomon Islands Development Trust , PO Box 147, Honiara, Solomon Islands, Phone: (677) 23409/21130,Fax: (677)21131, E-mail: sidtcd@solomon.com.sb

Hocking Construction and Joinery Limited, PO Box 1724, Honiara, Solomon Islands, Phone: (677) 39337,Fax: (677)39357, Email: hocking@solomon.com.sb

Timol Enterprises, PO Box 577, Honiara, Solomon Islands, Phone: (677) 30022, Fax: (677) 30024

Kolombangara Forests Products, PO BOX 382, Honiara,Solomon Islands, Phone: (677) 60230, Fax: (677) 60020, Email: admin@kfpl.com.sb, www.kfpl.com.sb

Eagon Pacific Plantation Ltd,PO BOX 529, Honiara,Solomon Islands, Phone: (677) 24128, Fax : (677) 21434

South Africa

Dave Pepler, SSC Africa, 23a Conde Street, Stellenbosch 7600, South Africa, Phone/Fax: +27 21 887 5268

Association of Sarva Seva Farms (ASSEFA), Sustainability Institute, R310 Baden Powel Drive, P O Box 162, Lynedoch, Stellenbosch, 7603., South Africa, Tel: +27 (0) 21 881 3196, Fax: +27 (0) 21 881 3294, manda@sustainabilityinstitute.net

Sri Lanka

Tantirimale Rajamaha Viharaya, Anuradhapura, Sri Lanka

Sweden

Klas Bengtsson, SSC, Svensk Skogs Certifiering AB,Sysslomansgatan 8, 753 11, Sweden, Phone: +46 18 15 00 02, Fax: +46 18 15

Switzerland

Tropical Forest Trust,IUCN World Headquarters,Rue Mauverney 28,1196 Gland,Switzerland, Phone : +41 (0) 22 999 00 00, Fax: +41 (0) 22 364 97 20, Email : s.poynton@tropicalforesttrust.com

Prime Forestry Group, Mr. Richard Breuer, Director,Uetlibergstrasse 132, Zurich, Switzerland, Zip/Postal Code: 8045, Phone: 41-1-511 2020, Fax: 41-1-511 2030

Tanzania

Mkusi Farm, Mr. Baptista Mwafivawo, Owner, 1017g Tegeta P. O. Box 96205, Dar-Es-Salaam, Tanzania, Tanzania, Telephone: 255-754-289736, Fax: 255-22-2843157

Green Resources Ltd, Sao Hill, PO Box 55, Mafinga, Iringa Province, Tanzania; Tel: 255 748 375 740; email:grl@saohill.com

Tasmania

Private Forest, Tasmania, PO Box 68, Burnie, Tasmania 7320, Phone 03 6434 6319, Fax 03 6434 6200, E-Mail:admin@privateforests.tas.gov.au

Gunns Plantations Limited, Lindsay Street, Launceston TAS 7250, PO Box 572, Launceston TAS 7250, Tasmania, Tel: (03) 6335 5290, Fax: (03) 6333 0646, Email: gpl@gunns.com.au, www.gunns.com.au/plantations

Thailand

Phyapai Inter-corporation Ltd., Mr. Decha Thippayanon, Director, 26/677 Soi Family Park 8, Sukprayoon Rd.,Amphur Maung, Chon Buri, Thailand, Zip/Postal Code: 20000, Phone: 66-01-172-2306, Fax: 66-038-44-1177

Sun Wood Industries Plc, Teak Plantation Project, 32/2 Moo 5 Ratchakram Bangsai Ayutthaya 13290 Thailand., Phone : (66 35) 283 259-60 (66 35) 366 533-5, Fax: (66 35) 283 135
Email: info@sunwoodgroup.com

Asia Forestry's Teak, 54 BB Building, 7th Floor, Office # 3705, Sukhumvit 21 Road (Asoke), Kwaeng Klongtoey-Nua, Khet Wattana, Bangkok 10110, Thailand, Phone : +66(0)2- 2596455, Fax +66(0)2- 2596456, www.asiaforestry.com.

Bjarne Wildau, Prachasanti Soi 1 No: 84/ 20, Udon- Sakon Rd. Nong-Bua, Amphur Muang Udon Thani 41000, Thailand, Phone: +66 (0)57390775 Email : pro-saik@prosaik.dk

Mutmee, 1111/4 Kaeworawut Road, Nong Khai 43000, Thailand, Phone : +66 (0)42 460 717, Fax: +66 (0)42 412 182, E-mail: mutmee@mutmee.com

Wilshire Trade And Asset Management Company Limited,
Ms. Napa Gavinlertvatana, 100/116 Moo 14 Ramintra 67 Khannayao, Bangkok, Thailand, Zip/Postal Code: 10230, Phone: 66-2- 5101830, Fax: 66-2- 5109452

Piyachat Forest Co.Ltd, Mr. Chalermpong Kongkunphai, 12/90 Ngamwongwan Road, Lad-Yao, Jatujak, Bangkok, Thailand, Telephone: 66-1-8051981, Fax: 66-2- 5897933, Mobile Phone: 66-1-8051981

Leo Development Ltd., Part.Mr. Viroj (Frank) Smartivutikoon (Leo), Manager, 251/282 Ramkhumhaeng 112, Bangkok, Sapunsoong, Thailand, Zip/Postal Code: 10240, Phone: 66-2-7293034, Fax: 66-2- 7296038, Mobile Phone: 068832852

Uganda

Busoga Forestry Company Ltd, Tariq Mansions, Main Street, PO Box 1900, Jinja, Uganda, Phone : 256 77471164, email: bucostry@yahoo.co.uk

UK

Tropical Forest Trust, Unit A3, Knowle Village Business Park, Knowle, Hampshire, PO17 5DY., United Kingdom, Phone: +44 (0)1329 833888, Fax: +44(0)1329 833379, s.poynton@tropicalforesttrust.com

1C The Fosseway Business Centre, Stratford Road, Moreton-in-Marsh, GL 56 9NQ United Kingdom, Phone: +44 1608 652 895, Fax: +44 1608 652 878, E-mail: info@fppwrm.gn.apc.org

Tracy Worcester, The Cottage, Badminton, South Gloucestershire, GL9 1DG, Phone: +44 (0)1454 218491, Fax: +44 (0)1454 218039, Email: tracy@tracyworchester.org.uk

Commonwealth Forestry Association, Crib, Dinchope, Craven Arms, Shropshire SY7 9JJ, UK, Phone : +44 (0) 1588 672868, +44 (0) 870 0116645, E-mail: cfa@cfainternational.org

Dr. Berty van Hensbergen, Wildhorus Ltd, The Old Rectory, Maidstone Rd., Nettleshead, Kent, ME18 5EZ, England, Phone: +44 1622 814 557, Fax: +44 1622 817 109,

Bordon Trading Estate, Bordon, Hampshire, GU 35 9HH, Phone : 01420 478888, Fax : 01420 478999, Email : service@rgc.co.uk .

Uruguay

Maldonado 1858 - 11200 Montevideo - Uruguay, Phone : 598 2 413 2989, Fax: 598 2 410 0985, Email : wrm@wrm.org.uy

International Secretariat, Ricardo Carrere, Maldonado 1858, Montevideo 11200, Uruguay, Phone: +598 2 413 2989, Fax: +598 2 410 0985, E-mail: wrm@wrm.org.uy

USA

Pacific Management Group, Inc., North American Mail Drop., 825 College Blvd. Suite 102- PMB102, Oceanside, CA 92057, Fax +1 (707) 988-8575

MegaChess, 940 Calle Amanecer, Suite N, San Clemente, CA 92673, Telephones: 800 -261-9612, CA: 949-248-3705, FAX: 949-625-8801, Email: megachess@bizware.com

Wright Money Tree Farm, 1728 E. Barstow Ave, Apt. 111, Fresno, CA 93710, 001-559 - 776 -1042, E-mail: ciudadteca@yahoo.es

Craig Waterman, WTB Technology Corp., 245 Industrial Street, Bakersfield, CA 93307, Office: (661) 327-9604, FAX: (661) 327-1740, Email: craigwnc@lightspeed.net

Ameri Teak Plantations LLC, Suite 275, 490 Wheeler Road, Hauppauge, New York 11788, Telephone : 631-342-8087, FAX : 631-342-8091
E-mail: cgiffuni@ameriteak.com

Altura Investments, Mr. Craig Whiting, Owner, 1018 W. Atherton Dr. , Salt Lake City, Utah, United States, Zip/Postal Code: 84084, Phone: 1-801-8794642, Fax: 1-650-4758499

North American Resources LLC, Mr. Joe Lukas, Director, 714 Moonraker Court, Smithville, New Jersey, Zip/Postal Code: 08205, United States, Phone: 01-609-9455365, Fax: 01-609- 6523945, Mobile Phone: 016095166117

B Tropical Farms, Mr. Rishi Chawla, 1832 Nw 97th Lane , Miami, Florida, United States, Zip/Postal Code: 33322, Telephone: 954-673-0204, Fax: 954-384-7690

Venezuela

Julio Cesar Centeno, Teak Planter, PO Box 750, Mérida—Venezuela, Jcenceno@ciens.ula.ve

Agroforestven, Mr. Oscar Jaimes, Av. Las Acacias, Caracas, Venezuela, Zip/Postal Code: 1050, Telephone: 58-416-2052825, Fax: 58-416-2052825, Mobile Phone: 0058- 4126308979

Vietnam

Vietnam Forest Corporation, 127 Lo Duc Str., Hanoi, SR Vietnam, Phone (84.4) 821 9604, Fax: (84.4) 821 9087, E-mail: vinafor_kt@fpt.vn