



Construc-
tion, Criteria
and

PAGE 3



Research
Advisory
Committee
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PAGE 9



117th
meeting of
the BoG held
on

PAGE 11



Highlights of
IPIRTI's
Golden

PAGE 16



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FROM THE DIRECTOR'S DESK

IPIRTI Bangalore celebrated its Golden Jubilee Year - 2012

Dear Readers

From its humble beginning as a **Indian Plywood Industries Research Association (IPIRA)** in 1962, the Indian Plywood Industries Research & Training Institute (IPIRTI) Bangalore, is entering the 50th glorious year of its yeoman service to the nation in the field of Research & Development and Training on Wood & Wood based Panel Sector. The Golden Jubilee of an Institute is a very significant milestone in the history of any Institute. Similarly to our Institute also and made us to look back the good achievements made by the Institute. It also diverted us to rethink and start new initiatives to take IPIRTI to its next level in the next decade and help us to join the confederation of the truly great Institutions of the world.

To commemorate this Golden Jubilee Year of IPIRTI an International Conference was organized from 26th - 28th September, 2012. The Inaugural session of this Golden Jubilee Celebration was on 26th September, 2012 at IPIRTI campus, Bangalore followed by the Technical sessions on 27th & 28th September, 2012.

This International Conference was a grand success and it was a great pleasure that all joined hands with IPIRTI and contributed for its glorious success.

On behalf of IPIRTI, I extend sincere thanks to all the Sponsors, Advertisers, Participants, etc for their co-operation and support rendered to us.

Highlights of the said International Conference have been given in this issue

During this 50 years of successful journey of IPIRTI, I am proud to announce that IPIRTI has made a tremendous progress and established a unique identification in the National and International level by providing high standards of quality Research, Training & Testing activities. Behind this achievement, there are a number of stalwarts who have sacrificed to achieve the goals. We pay homage to all those great souls.

Dr. C. N. Pandey
Director, IPIRTI, Bangalore



Door Testing Facility



Open Furnace



Control Room

FIRE DOOR TESTING AT IPIRTI

With the increasing building activities and stringent building regulations, the behaviour of building components from various panel products or in combination with other materials against fire and to ensure occupants safety is the need of the hour. With the recent regulations relating to buildings in India, there is also a market for fire retardant wooden doors in housing applications. There are huge opportunities for developers and architects to add value to their properties through these fire retardant doors. Occupants of buildings will be the major beneficiaries as it gives them additional peace of mind and protection from fire without compromising the use of green building materials via wood and panel products. Keeping future requirements of building bye-laws in our country and to facilitate testing of fire check doors, the facility is being established at IPIRTI for testing fire performance of full size door/shutters as per national/ international standards such as BS 476 (part 20 and 22), IS 3094 (part 2), ISO 1008:2007 and BS EN 1434-1:2009 using latest technologies and instrumentation comparable with best in the world.

Fire doors are "rated" by time (in minutes or hours) that a door can withstand exposure to fire test conditions and the failure criteria is assessed by integrity & insulation. Hourly ratings include 120 minutes, 90 minutes, 60 minutes and 30 minutes with the maximum rating required of any rating type fire door being three hours.

salient features of the fire door testing setup are:-

- Vertical front open furnace structure with imported burners having refractory bricks & ceramic wool blanket for best heat insulation
- Computer programmable Automated LPG burners with computer controlled LPG and air flow
- Hot gas exhaust with automated damper system
- Single girder COT crane with electric hoist
- Test frame to hold door under test with trolley and roller skid
- E- Type thermocouple assembly with data logger facility
- PC based multi-channel data logger and software controlled test.
- The system is equipped with fire-fighting and safety equipments.

For further details please contact:

Indian Plywood Industries Research & Training Institute
(Autonomous body of Ministry of Environment & Forests, Govt. of India)
Post Bag No-2273, HMT Link Road, Off Tumkur Road, Yeshwanthpur, Bangalore-560022
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use and associated restrictions and requirements, or by inappropriate use. For example, fire doors are sometimes blocked open, or carpets are run through them, which would allow the fire to travel past the fire barrier in which the door is placed. The door's certification markings are displayed both on the door leaves and the fire door frames, and should not be removed or painted over during the life of the building. Sometimes fire doors have apparently very large gaps at the foot of them, an inch or two even, allowing air movement, such as in dormitory facilities. This can lead the occupants of a building to question their status as 'real' fire doors.

c.Normal operation

Most fire doors are designed to be kept closed at all times. Some doors are designed to stay open under normal circumstances and close automatically in the event of a fire. Whichever method is used the door's movement should never be impaired by a doorstep or other obstacle. The intumescent and smoke-seal bounding of fire doors should be routinely checked as the action of the door closer and latch.



Testing of fire check door

Some fire doors are held open with an electromagnet, which may be wired to a fire alarm system. If the power fails or the fire alarm is activated, the coil is de-energized and the door closes on its own. Wireless battery operated fire door retainers can also be used to safely and legally hold fire doors open. Rated fire doors are tested to withstand a fire for a specified period. There are 20, 30, 45, 60 and 90-minute-rated fire doors that are certified by an approved laboratory (e.g. Underwriters Laboratories). The certification only applies if all parts of the installation are correctly specified and installed. For example, fitting the wrong kind of glazing may severely reduce the door's fire resistance period.

III.EVALUATION OF PERFORMANCE OF FIRE CHECK DOORS

The performance of timber doors is judged by subjecting them to the standard test procedure specified in BS 476 Part-22 (1987), BS EN 1634-1 (2000), IS 3614 (1992), ISO 3008 (2007) etc. Tests are performed on complete door assemblies i.e., the fire door and frame with all the necessary hardware. It is then fixed in a wall representing its use in practice. The failure is analysed by Impermeability/Integrity and Insulation.

Keeping future requirements of building bye-laws in our country and to facilitate testing of fire check doors, the facility has been established by Shri. Anand Nandanwar, Scientist and his team at IPIRTI, Bangalore for testing fire performance of full size door/shutters as per national/international standards such as BS 476 (part 20 and 22), IS 3614 (part 2), ISO 3008:2007 and BS EN 1634-1:2000 using latest technologies and instrumentation comparable with best in the world.

ACOUSTIC BOARD FROM DEPITH BAGASSE

Acoustic panels are commonly used as partitions, ceiling boards, roof and wall sheathing, sub flooring, interior surfaces for walls, as bases for plaster and insulation strips for foundation walls and slab floors. The acoustic capacity of a wall between two rooms can be expressed by noise reduction coefficient. Sound absorption characteristics are affected by density, porosity, fibre fineness, bulk elasticity and thickness of material as well as surface treatment and range of sound frequency.



Low density boards are classified as rigid insulation materials. Commercial insulation materials are made of glass fibers, glass foam, mineral fibers, rock wool, etc. These materials possess good thermal and sound insulating properties, but they are noxious to human beings and cause environmental pollution. Depith Bagasse particle composites for insulation board can solve these problems. As agricultural waste is in an absorbing material group, studying about bagasse for acoustical properties were taken up. The problem of sound absorption is quite different that of sound insulation. Sound insulation demands heavy, air

tight materials, whereas sound absorption requires soft, porous materials such as de-pith Bagasse, the molecules of air move in and out freely.

Mrs. Mamatha, Scientist and her team optimized the process parameters for the manufacturing of depith bagasse of different densities using Amino resin. Depith bagasse particle boards of three different densities viz. 190, 370, 460 kg/m³ were manufactured in plant scale of 2ft x 4ft x 16mm. Moisture content, density, bending strength, modulus of rupture (MOR), Thickness swelling of board were determined as per IS 3129: 1985 Specification for low density Particle Boards. Sound absorption co-efficients of the boards were determined using method given in IS: 10420-1982 (Specification for determination of sound absorption co-efficient of timber by standing wave method).

Particle board with density 190 kg/m³ & 370 kg/m³ showed better sound absorption. Whereas particle board with density 460 kg/m³ showed better MOR. The study results showed that particle board of 370 kg/m³ have good properties with reference to physical, mechanical and also the sound absorption co-efficient as per IS:3129:1985. The values of the boards are comparable with the Noise Reduction Co-efficient values of fiber insulation board, wood wool building slab. Depith Bagasse Particle Board can be used as an alternative to synthetic based commercial products for acoustic applications.

AN ENVIRONMENTALLY-BENIGN WOOD PRESERVATIVE: COPPER ETHANOLAMINE BORON (CEB)

In the present scenario, CCB (Copper-Chromium-Boron) is widely used as wood preservative. But, now the situation is changing

with the introduction of the European Commission's Biocides Regulation (EU). This regulation will ban or radically limit the use of

Chromium in wood preservatives, hence new solutions to enable copper fixation need to be developed. Dr. Aparna Kalawate, Scientist and her team of IPIRTI, Bangalore has found out the suitable replacement for Chromium. The chromium has been replaced with ethanolamine.

The wood preservative composition consisting of Copper-Ethanolamine-Boron (CEB) has been formulated and tested against the various wood destroying organisms. The CEB based wood

preservative developed at IPIRTI provided excellent results against wood destroying bio agents. The developed chemical can be used for dipping and glue line poisoning method. The product treated with the developed chemical can be claimed as eco-friendly. The results obtained from the factory trial were satisfactory. The technology is ready for commercialisation. Interested persons may approach institute to take up this green chemical technology.

DEVELOPMENT OF BAMBOO STRAND LUMBER (BSL)

Over the past decade, the demand for wood composites as building material has continuously increased. At the same time, the quantity and quality of wood resources from the forest as a raw material for this application have been going down. Consequently, the search for alternative or substitute materials in place of wood has come into focus. Bamboo is a non-wood lignocellulosic material that has received increasing attention as alternative raw material for use in the manufacture of wood composites. The main advantage of bamboo is its fast growing nature and better mechanical properties when compared to other wood species. In recent years, bamboo has gained greater importance as substitute material for wood because of the global shortage of forest resources.

Dr. Vipin Kumar Chawla, Scientist IPIRTI & his team has developed Bamboo Strand Lumber (BSL) at IPIRTI, Bangalore. Bamboo strand lumber is developed for the use as structural purpose including beams and columns. It is the newest product of the Structural Composite Lumber family. Strength properties make it a highly competitive alternative to traditional lumber and will become an important forest

based product in the future. Its physical and mechanical properties were analyzed. The product properties were compared with Laminated veneer lumber(LVL)

Dr. Vipin Chawla says that BSL can be mainly used for structural purpose because of its high Modulus of rupture (MoR) and Modulus of Elasticity (MoE) and good compressive strength properties. It can be used for flooring, furniture making, interior decoration, moulding also.



Bamboo Strand Lumber (BSL) developed at IPIRTI, Bangalore

EXTENSION

Visit to Industries/Organizations:

10.04.2012: Mrs. Mamatha B.S., Scientist visited Central Power Research Institute (CPRI), Bangalore for FTIR analysis for the resins developed at the Institute.

08.05.2012: Dr. S.K. Nath, Joint Director, visited M/s. Hunsur Plywood Industries (P) Ltd., Hunsur to attend floor level problem of the factory.

09.05.2012 - 11.05.2012: Shri. S.C. Sahoo, Scientist, IPIRTI, Field Station, Kolkata visited M/s. S.A Plywood Industries, Coochbehar, North Bengal to rectify the floor problem and minimize the formaldehyde emission problem during the plywood manufacturing.

13.05.2012 – 17.05.2012: Mrs. Mamatha B.S. and Dr. Aparna Kalawate, Scientists visited M/s. Mangalam Timbers Products Ltd. Kusumi (Nabarangapur) to take up a laboratory scale trial for the manufacture of MDF (borer, termite, fungus and fire resistant).



Mrs. Mamatha B.S. and Dr. Aparna Kalawate, Scientists of IPIRTI at M/s. Mangalam Timbers Products Ltd.

29.05.2012: Dr. S.K. Nath, Joint Director, visited office of Central Excise and Customs office in Meerut to explain Technical enquiries regarding

“Shelf Life of Resin” used for plywood manufacture.

03.07.2012: Dr. C. N. Pandey, Director, visited MoEF, New Delhi in connection with IPIRTI’s International Conference.

09.07.2012: Dr. S.K. Nath, Joint Director, visited M/s. Sri RamWood Industries, M/s. Apex Ply Board, M/s. Kurjan Wood Industries and M/s. Haryana Industries, for data collection under LCA Project.

18.08.2012-19.08.2012: Dr. C. N. Pandey, Director, visited Periyapatnam and Mysore and attended Farmers Association Meeting with Mr. Gaonkar D. S., DCF and also visited Farmers Field (*Melia Dubia*) at Mysore.

18.10.2012-19.10.2012: Dr. C. N. Pandey, Director, visited IPIRTI-Centre, Mohali in view of BIS Audit.

Dignitaries visits:

18.04.2012: Shri. Manoj Kanoi, Proprietor, M/s. Mass India, visited IPIRTI, Field Station, Kolkata and discussed with Shri. S.C. Sahoo, Scientist on “Testing of Wood life and preservative treatment for plywood” and submitted samples for testing.

22.05.2012: Shri. Ramesh Tiwari, Director, M/s. Salinty Chemicals, Jaipur visited IPIRTI, Field Station, Kolkata and discussed with Shri. S.C. Sahoo, Scientist on “Testing of Bio resin & its suitability for manufacturing of plywood” for sponsoring a project.

22.05.2012: Shri. R.K. Bihani, Director, M/s. Mridul Chemicals, visited IPIRTI, Field Station, Kolkata and discussed with Shri. S.C. Sahoo, Scientist for sponsoring project on efficacy study of newly developed Extender - XTRABOND-555.

25.05.2012: Dr. J.N. Khinvasara, Business Development Manager visited IPIRTI, Field Station, Kolkata and discussed with Shri. S.C. Sahoo, Scientist on “Testing of reso-5 as a substitute of Phenol for PF resin”.

07.06.2012: A team comprising of Shri. S.S. Bist, IFS, Managing Director, Shri. B.K. Halder, Divisional Manager (Marketing), General Manager (North), General Manager (Kurseong Division) from West Bengal Forest Development Corporation Ltd., visited IPIRTI, Field Station, Kolkata and held meeting with Officer-In-Charge wherein the following points were highlighted :

- (a) Need of IPIRTI expertise for renovation/ up gradation of wood preservation and seasoning units of Salugara (North Bengal)
- (b) Use of dhupi species which are abundantly available in hilly areas of Kurseong as filler material for manufacture of block board or as pulp for paper industries.
- (c) To strengthen bottom portion of sal leaves plate which can be outmost substitute of plate made from thermocol.
- (d) Standard methods for retaining the colour of logs after storage for long time same that of freshly felled log.
- (e) Standard sealant for dead end of logs to avoid crack.

12.06.2012: Shri. Kargeswar Naiya, Inspector, Commercial Sales Tax Department visited IPIRTI, Field Station, Kolkata for inspection of equipment.

27.06.2012: Shri. Biman Chattopadhyay, Head (Lab), BIS Kolkata visited IPIRTI, Field Station, Kolkata for audit verification on NC’s raised during initial audit under BIS Lab Recognition Scheme.

27.07.2012: Shri. Saradindu Sinha, Director, M/s. Galaxy Fire Protection, New Delhi visited IPIRTI Field Station, Kolkata and had a discussion with Officer-In-Charge regarding testing of fire resistant door as well as different graded plywood, seasoning of wood.

RESEARCH REPORTS PUBLISHED

- Study on fire performance of door and shutter assemblies and formulation of standards in line with International Standards. R .R. No. 161
- Development of self-adhesive core veneer to replace the glue core of the plywood. R.R. No. 162
- Development of technique for production of face veneers from reconstituted plantation timbers. R .R. No. 163
- Acoustic studies of panel products and development of acoustic panel
- Phase – II: Development of acoustic panel from depith bagasse. R .R.. No. 164
- Development of technology of manufacturing bagasse particle board using e1 resin. R.R. No. 165
- Evaluation of Earthquake resistant feature of Bamboo Housing System using Shock Table. R .R. No. 166
- Efficacy of Copper- Ethanolamine- Boron based wood preservative against wood destroying organisms. R.R. No. 167

MEETINGS / SEMINARS / WORKSHOPS / CONFERENCE
RESEARCH ADVISORY COMMITTEE (RAC) MEETING

56th Research Advisory Committee Meeting of IPIRTI held on 24th May, 2012 at IPIRTI, Bangalore



A view of 56th RAC meeting held at IPIRTI, Bangalore

Highlights of RAC Meeting:

Dr. C.N. Pandey, Director, IPIRTI, Bangalore extended a hearty welcome to Shri. Sajjan Bhajanka, Chairman of RAC and other members Shri. S.R. Mundra, Managing Director, M/s. Allied Resins & Chemicals Kolkata, Dr. VimalKothiyal, Head of Forest Product Development, FRI, Dehra Dun, Prof. Sunil Nautiyal, ISEC, Bangalore, Dr. R.V. Rao, Ex-Scientist, IWST Bangalore and a representative from Bureau of Indian Standards, Bangalore.

Dr. Pandey informed that Shri. S. Bhajanka is a well known person in the plywood and panel industry and complemented the Chairman for his dynamic leadership to FIPPI and for his efforts in guiding wood industries to overcome their problems in the field of R & D.

Initiating the technical discussions, Dr. Nath, Joint Director, IPIRTI informed that all research

projects are industry driven and being taken up based on suggestions/ recommendations that come out from any one of the following events and discussions held with relevant persons:

- 1) During IPIRTI – Industry interactive meet.
- 2) Recommendation of Workshop, Seminar on forest related subjects.
- 3) Guidance given by members of RAC and BOG.
- 4) Problem referred by the industry during visit of the scientists.
- 5) Problem brought by industry/entrepreneur during their visit to the institute.
- 6) Based on international scenario in the field of wood based panel industry.

Progress on the Research Projects completed were reviewed.

Following New Projects were approved by RAC :

1. **WC/102/Testing/2012:** Statistical data analysis on the properties of wood panels to augment the quality.
2. **WC/103/Review/2012:** Review of method of testing fire resistance of plywood and optimization of test procedure
3. **WC/105/PB/2012:** Study on suitability of plantation grown species viz. *MeliaDubia* for particle board manufacture.
4. **ESL / 106 / P r e s e r v a t i v e / 2012 :** Development of nanobiocide for wood preservation.
5. **WC/107/Testing/2012:** Assessment of relative toxicity of various panel products and study the toxicity index behaviour of treated and untreated wood based panel products.
6. **WC/108/Panel/2012:** Development of light weight composite panel products.
7. **NWC/109/MDF/2012:** Development of Medium density fiber board – Phase 1 – Wheat Straw.
8. **WC/110/Resin/2012:** 1 year 6 months Keratin Modified Urea formaldehyde resin for particle board and plywood and study on the durability of panel product.
9. **ESL/111/Resin/2012:** Enhancing service life of plywood by Keratin Modified Urea formaldehyde resin.

10. WC/112/Extender/2012: Effect of cassava flour in UF and PF resin for the Bonding strength of plywood.

11. WC/116/MDF/2012: Development of MDF from cassava stem and sunflower stalks.

12. NWC/117/Resin/2012: Development of bamboo composites with epoxy resin.

4 New Sponsored Projects were ratified by the members of RAC:

1. SP/93/KFS/Extender/2011: Study on Substitution of conventional extender/ Filler with XTRA BOND of different grades

2. SP/94/KFS/Extender/2012: Efficacy Study of Alchemix (Extender/Filler) as an additive for Phenolic & Amino resins for plywood industries

3. SP/95/Bamboo house/2012: Seismic performance studies on bamboo structures in North East region

4. SP/96/Resin/2011: Exploratory studies on the utilization of industrial waste for the development of wood – plastic composites

Progress of 25 ongoing Institute Projects and 6 Sponsored Projects were reviewed by RAC

Chairman of RAC Shri. Sajjan Bhajanka expressed his satisfaction by stating that the selections of projects are very good and he appreciated scientists for their good presentation of projects. He appreciated Dr. C.N. Pandey, Director for his continuous effort in making the Institute to grow bigger and for his great contributions &

achievements. He also appreciated Dr. S.K. Nath, Joint Director for his pleasant presentation and for contribution in R&D work of the Institute and support to the young team of Scientists in their research projects.

Dr. S.K. Nath, Joint Director extended vote of thanks to all the members of RAC for their appreciation and worthy suggestions to the young team of Scientists is IPIRTI.

BoG MEETING AT IPIRTI BANGALORE



A view of BoG meetings held at IPIRTI, Bangalore

117th meeting of the Board of Governors of IPIRTI, held at IPIRTI Conference Hall, Bangalore on 04th April, 2012. The meeting was chaired by Dr. Tishyarakshit Chatterjee, IAS, Secretary to Ministry of Environment and Forests, Govt. of India,

118th meeting of the Board of Governors of IPIRTI, held at IPIRTI Conference Hall, Bangalore on 27th July, 2012. The meeting was chaired by Dr. Tishyarakshit Chatterjee, IAS, Secretary to Ministry of Environment and Forests, Govt. of India.

22.01.2012: Shri. Anand Nandanwar and Shri. Kiran M.C., Scientists attended Seminar on “Vibration Testing and Applications” organized by Saraswati Dynamics at Hotel ITC Gardenia.

06.02.2012: Dr. Aparna Kalawate and Dr. K.Ch. Varadarajulu, Scientists attended one day “Authors workshop” organized by Springer and Edanz group at the Atria Hotel, Bangalore.



Dr. Aparna Kalawate and Dr. K.Ch. Varadarajulu, Scientists attending one day “Authors workshop”

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09.02.2012: Dr. C.N. Pandey, Director, Dr. S.K. Nath, Joint Director, Ms. Sujatha D., Shri. Uday D.N., Dr. Vipin K Chawla and Shri. Jagadish Vengala Scientists attended AGM meeting of the Institute at New Delhi.

11.02.2012: Dr. Aparna Kalawate and Dr. K.Ch. Varadarajulu Scientists attended one day seminar on “Know Your Wood” during India Wood exhibition at International Exhibition Centre, Bangalore.

14.02.2012: Ms. Sujatha D., Scientist attended the member level discussion meeting to finalize Annual Plan 2012-13 of the MoEF at Planning commission, New Delhi.

14.02.2012: Dr. C.N. Pandey, Director, Dr. S.K. Nath, Joint Director, Shri. Uday D.N. and Shri. Anand Nandanwar, Scientists attended meeting with German delegates “Hubertus Flototto (of Sourland Spanplatte, Germany), Sleek board and WKI, Germany” regarding collaborative project at Palm resort Bangalore.

21.02.2012: Shri. Prakash V., Scientist delivered a guest lecture at State Level Bamboo Mela which was organized at Kalamandir, Mysore.

16.03.2012-17.03.2012: Dr. Vipin K Chawla, Mrs. Mamtha B.S. and Dr. RanjanaYadav, Scientists attended the two days National Seminar on Advances in Polymeric Materials (APM-2012) and presented the paper entitled “Formulation and Characterization of lignin formaldehyde resins as a wood adhesive, Adhesives from Biomaterials for the green building and Kinetics of alkaline catalysed Cardanol formaldehyde reaction” organized by Department of Polymer Science & Technology, SK University, Anantapur.

18.03.2012: Dr. C.N. Pandey, Director and Shri. Uday D.N. Scientist visited BCDI, Agartala for making recommendations for procurement of Bamboo processing machines.

19.03.2012: Shri. Uday D.N, Scientist visited Tripura Forest Development & Plantation Corporation Ltd., Agartala, Tripura to present paper on “Bamboo mat Moulded skin Door technology” in presence of Hon’ble Minister for Forests, Govt. of Tripura.

19.03.2012 – 20.03.2012: Dr. Vipin K Chawla, Scientist has co-ordinated the Workshop on “Construction of Bamboo Houses” held at Building Technology Centre and Division of Structural Engineering, Department of Civil Engineering in Anna University Chennai in association with IPIRTI.

19.04.2012: Dr. S.K. Nath, Joint Director, attended a seminar on “Bamboo Housing” and presented a paper on “Post Harvest Management and Storage of Bamboo Culm” at Anna University, Chennai.

20.04.2012 – 21.04.2012: Shri. Kiran M.C, Scientist attended Training on “Estimation of Measurement Uncertainty in testing and calibration” as per ISO/IEC 17025-2005 held at Trans Quality System Consultancy Private Limited, Bangalore.

24.04.2012: Dr. S.K. Nath, Joint Director, attended CED-20 Meeting of Bureau of Indian Standards at BIS office in Bangalore and presented new standard on “Emission of Formaldehyde from Panel Products”.

05.05.2012: Dr. C.N. Pandey, Director, Dr. S. K. Nath, Joint Director, Ms. Sujatha D.,

Shri. Anand Nandanwar, Shri. Narasimha Murthy and Shri. Kiran M.C, Scientists attended the Bureau of Indian Standards Seventeenth Meeting on Wood and other Ligno-cellulose products Sectional committee, CED:20, CED:20:1 and CED:20:6 held at BIS office, Bangalore.

20.05.2012 - 21.05.2012: Dr. C.N. Pandey, Director, visited IPIRTI-Centre, Mohali and held Review Committee Meeting to discuss with Shri A. R. Talwar, IAS, Principle Secretary at Department of Industries and Commerce, Udhog Bhawan, Punjab regarding the Progress of the Mohali, Centre.

29.05.2012: Dr. C.N. Pandey, Director, attended National Consultation on Development, Construction and Dissemination of Cost Effective Technologies at Gulmohar Hall, India Habitat Centre, New Delhi organized by BMTPC.

08.06.2012: Dr. C.N. Pandey, Director, attended the meeting of Departmental Peer Review Committee at ICFRE, Dehradun as a Subject Expert.

20.06.2012: Shri. Uday D.N., Scientist presented paper on “Processing of Rubber wood for plywood and panel industries” in the seminar organized by M/s. M & M, Cochin.

22.06.2012: Dr. C.N. Pandey, Director and Dr. Aparna Kalawate, Scientist met Dr. Lalit Varshney and Shri. Subrata Dutta from BARC, Mumbai and had discussion regarding the project entitled “Utilization of radiation technology to increase the preservation quality of wood by inhibition of wood rotting fungi and Insects”, sanctioned from BARC, Mumbai.

29.06.2012: Dr. C.N. Pandey, Director, Dr. S. K. Nath, Joint Director, Shri. Anand Nandanwar, Shri. Jagadish Venagala, Shri. Narasimha Murthy and Dr. Aparna Kalawate, Scientists had discussion with Mr. Birthold from WKI, Germany regarding the collaborative project.

06.07.2012 – 07.07.2012: Shri. S.C. Sahoo, Scientist, IPIRTI, Field Station, Kolkata has undertaken NABL training on “Estimation of Uncertainty in Chemical Measurement as per IS/ ISO 17025” at CETE Kolkata.

21.08.2012 – 22.08.2012: Dr. S.K. Nath, Joint Director, attended a Seminar on “Life Cycle Management” organized by FICCI, New Delhi.

31.08.2012: Dr. C.N. Pandey, Director, attended APAFRI Sixth General Assembly at Guangzhou, China as an official representative of IPIRTI.



Dr. C. N. Pandey , Director IPIRTI with APAFRI committee members in China

01.09.2012 – 03.09.2012: Dr. C.N. Pandey, Director, participated in the International Symposium on Sustainable Management of Tropical Forest organized by Research Institute of Tropical Forestry at Guangzhou, China.

IPIRTI – SIPMA INTERACTIVE MEET

IPIRTI – SIPMA INTERACTIVE MEET was held on 11th May 2012 at IPIRTI, Bangalore



A view of IPIRTI-SIPMA meet

Highlights:

Following issues were discussed during the meet:

1. Issues pertaining to Licensing of Saw Mill/Veneer/Plywood Industries

It transpired in the discussion that there are several Plywood and Veneer Industries coming up in the state without license in view of existing ambiguity created by decisions of Supreme Court of India and Karnataka High Court. The delegates requested the State Government to take census of all the units and take action to issue licenses to these industries, so that they can continue production within the parameters of the law in compliance with the Orders of the Supreme Court of India and Karnataka High Court.

2. Identification of fast growing species

3. Establishment of Nurseries of chosen species by Karnataka Forest Department

4. Supply of quality planting material – *Melia Dubia*

It was resolved that, Wood based industries including SIPMA in association with Institutes like

Institute of Wood Science & Technology (IWST), Institute of Forest Genetics and Tree Breeding (IFGTB), Research Wings of Karnataka Forest Department and Agricultural Universities should work jointly to identify fast growing plantation timber species under different agro climatic zones in the Southern states, so that industry is assured of raw materials security. It was further resolved that, Indian Plywood Industries Research & Training Institute (IPIRTI), Bangalore will take the lead in coordinating the production of quality seedling of *Melia Dubia* in co-ordination with IWST, IFGTB, Karnataka Research Wings, Agricultural Universities and Tree Growers Societies. The IPIRTI will also co-ordinate the production of seedlings through micro and macro propagation of *Melia Dubia* through appropriate organization including progressive farmers and Tree Growers Societies.

5. Lifting of restrictions on cutting and transporting of timber

It was resolved to take *Melia Dubia* and other non forest grown species of industrial raw material (Timber) from the purview of restrictions of felling and transporting under the Karnataka Tree Preservation Act (KTP Act) and Karnataka Forest Act as it is not a components of natural forests, it is grown outside the forest by individual farmers through their efforts and investment. Hence, restrictions will become a major impediment in growing tree crops outside the forest area. The species has been found very suitable for Wood based industries in general and Plywood & Veneer industries in particular. This will generate good income to the farmers and encourage them to extend the tree growth outside the reserved forest in pursuance of Indian Forest Policy 1988 on expanding the forest and tree cover up to 33%.

6. Requirement of Fumigation Certificate for Imported Logs

In view of the difficulties faced by many importers in general and plywood industries in particular with regard to the Phyto Sanitary Certificate requirements of Fumigation with Methyl Bromide which is banned all over the world, as exporting countries are unable to treat the logs and as our Government is insisting on this treatment, the imports are getting affected causing hardship and non-availability of logs. IPIRTI was requested to take up the matter suitably with the Agricultural Ministry to sort out the issue on emergency basis

and prescribe such treatment as is accepted or alternately prescribe this Methyl Bromide Treatment at the Indian ports till a final decision is taken in the matter.

It was also resolved to request Financial Institutions like NABARD and Schedule Banks to provide financial assistance to take up the tree farming at a subsidized or differential rate of interest to promote greening of India as far as possible involving Agricultural Finance Corporation of India to provide subsidies.

MoU's

Shri. S.R. Mundra, Managing Director, M/s. ARCL Organics Ltd., Kolkata and Dr. C.N. Pandey, Director, IPIRTI, Bangalore signed and exchanged a MoU for a Joint Research Programme entitled "Adhesive for Wood based Panel Products" on 14th February, 2012 at IPIRTI, Bangalore.



Dr. C. N. Pandey, Director, IPIRTI and Shri. S.R. Mundra, MD, M/s. ARCL Organics Ltd., exchanging signed MoU in presence of Shri. Rajesh Mundra, M/s. ARCL Organics Ltd. and Dr. S. K. Nath, JD IPIRTI

Shri. Krishan Myer, Trustee, Centre for Housing Science and Construction Technology (CHSCT), Chennai and Dr. C.N. Pandey, Director, IPIRTI, Bangalore signed and exchanged a MoU for the "Collaborative work related to Pre-fabricated Bamboo Housing" on 29th February, 2012 at IPIRTI, Bangalore.



Dr. C. N. Pandey, Director, IPIRTI and Shri. Krishna Myer, Trustee, CHSCT exchanging signed MoU in presence of Dr. Vipin K Chawla and Shri. Jagdish Vengala, Scientists, IPIRTI

HIGHLIGHTS OF IPIRTI’s GOLDEN JUBILEE CELEBRATION AND INTERNATIONAL CONFERENCE ON “FUTURE OF PANEL INDUSTRY- CHALLENGES AND KEY ISSUES”



Dignitaries on the dias

Inaugural Function

To commemorate the Golden Jubilee Year-2012 of IPIRTI an International Conference on “Future of Panel Industry – Challenges & Key Issues” was organized from 26th-28th September, 2012. The International Conference was inaugurated by Dr. Tishyarakshit Chatterjee, *IAS*, Hon’ble

- ◆ Dr. Abd Latif Mohmod, D.G, FRIM, Malaysia
- ◆ Dr. Maharaj Muthoo, President, Roman Forum, Italy
- ◆ Shri. Sajjan Bhajanka, President, FIPPI, New Delhi
- ◆ Mr. Ladislaus Döry, President, European Panel Federation, Brussels



Lighting of the lamp by Dr. Tishyarakshit Chatterjee, IAS, Hon’ble Secretary, MoEF,

Secretary, MoEF, New Delhi on 26.09.2012. The welcome address was given by Dr. C. N. Pandey, Director, IPIRTI and he invited the Chief guest and the following Guests of Honour on the dias:

A Presentation on IPIRTI’s 50 years of Excellence was given by Ms. Sujatha D., Senior Scientist, IPIRTI. Shri. S.S. Zoolagud, Ex-Joint Director of IPIRTI shared his old memories of IPIRTI. Dr. Abd Latif Mohmod, D.G. FRIM congratulated IPIRTI on its Golden Jubilee Celebration and said that celebrating 50 years of meaningful existence after the culmination of year long hardship until the Institute grew from a tiny to a mighty organization is undeniably praise worthy. He highlighted the scenario of wood based panels of world in general and Malaysia in specific. He applauded IPIRTI for commissioning the

International Conference to embark on the research papers and discussion on new issues connected with the wood-based panel industry. He also said that through this International Conference all can make appropriate choices in setting up the direction of the technological innovations in wood-based panel industries to meet the global issues.

Dr. Maharaj Muthoo, President, Roman Forum, at the very outset recalled his association with Ex-Director, Late Dr. P.M. Ganapathy, IFS and appreciated him for his initiation in establishing a Training Centre for Mechanical Wood Industries Technology at IPIRTI, Bangalore. Further he also highlighted the scenario of wood raw materials and status of wood certification in India.



Dr. Maharaj Muthoo, President, Roman Forum delivering a talk
 Mr. Ladislaus Döry, President, EPF delivered a Key-Note address. He gave a scenario on World



Mr. Ladislaus Döry, President, EPF delivering a Key-Note address.

Forest based Sector and highlighted the substantial forest management system. He said that India has large and excellent future in this wood based panel products technology and industry. He wished and congratulated IPIRTI and also whole Indian Wood industries sectors for many many years of success and a long life.

Shri. Sajjan Bhajanka, President, FIPPI gave a presentation on Wood based Panel Industries in India



Shri. Sajjan Bhajanka, President, FIPPI delivering a talk

The Chief Guest, Dr. Tishyarakshit Chatterjee in his inaugural address said that he was delighted to participate in Golden Jubilee Celebration of IPIRTI. He also mentioned that during these 50 years IPIRTI has rendered outstanding services to the nation. He congratulated the Directors, Scientists, Technicians and the Administrative staff of the Institute and also all those who have



Inaugural Address by Dr. Tishyarakshit Chatterjee, IAS Secretary, MoEF

contributed in promoting the activities of IPIRTI during the last 50 years to reach the heights of being recognized as a premier research Institute. He appreciated IPIRTI for which it has transformed itself from a small Institute to unique and renowned Centre for R & D, development and Training related to panel products from wood and other lignocellulosics. He said that it was very interesting to know that global concern for protection of environment and conservation of biodiversity are reflected in the research programme of IPIRTI. He appreciated the R & D activities and subsequently Testing and Training activities of IPIRTI. He informed that IPIRTI should take-up R & D which would suit the future needs. He stressed to have more Bilateral agreements with countries like Malaysia, China etc. who are also engaged in the similar R & D activities.

Dr. Tishyarakshit Chatterjee, IAS released the Souvenir of the Golden Jubilee and International Conference.



Releasing the Souvenir during the International Conference

Dr. S.K. Nath extended Vote of thanks and presented memento to the dignitaries on the dias.

Technical Sessions

The two days Technical Sessions on 27th and 28th September 2012, included 7 country status papers from China, Malaysia, Brussels, Indonesia, Italy, India, Bangladesh with 9 lead papers from India, USA, Netherlands and nearly 23 technical papers were presented on the following themes:

- ◆ STATUS OF PANEL INDUSTRY - COUNTRY SCENARIO
- ◆ RAW MATERIAL DEMAND & SUPPLY
- ◆ TECHNOLOGICAL INNOVATION & VALUE ADDITION:
PRODUCTS, PROCESS/ RESIN/ PRESERVATIVE/ EVALUATION OF PROPERTIES
- ◆ HRD & MARKETING
- ◆ CERTIFICATION, POLICY & LEGAL ISSUES

The Technical Sessions was followed by Plenary Session and the following Recommendations were made based on the themes projected in the conference:

Theme I : Status of Panel Industry-Country Scenario

The scenario of panel industries are rapidly changing around the world. Most of the panel industries are shifting towards increased production of particle board, Medium Density Fibre board and Oriented strand board while the plywood production is almost getting stabilized because of the diminishing supply of larger hardwood peeler logs. In India we are still practicing the production of traditional plywood which occupies about 80% of the total panel demand in the country. With the increasing annual demand of the panel production, our country also needs to diversify in the production of engineered



A view of delegates during the technical session

panel products like LVL, particle board, Medium Density Fibre board and Oriented strand board.

Theme II: Raw Material : Demand & Supply

- a. To ensure long term industry access to adequate wood supplies on sustainable basis, forest management policies and practices need to be improved, specific policy is required to be framed to promote and support plantation of trees on agriculture and other lands outside forests.
- b. Suitable incentives for growth and development of farm forestry and simplification of restrictive regime of tree felling permits and timber transit rules for farm grown timbers. Only certified producers should be allowed to market seedlings. Raising high quality planting materials and the establishment of centralized hi-tech nurseries and a network of satellite nurseries throughout the country.
- c. Constitution of a National Forum/Agro Forestry Board under the administrative control of MoEF, GoI. Integration of Agro forestry programme with the forestry sector and combine management and support function within Forest system.
- d. Contract farming should be formed.

- e. Buyback programme of timber for the plantation has to be worked out i.e., to bring in Guarantee of Buying (Planter and the buyer).

Theme III : Technological Innovation and Value Addition

- a. Encourage the transfer of state of art technology and innovation for production of speciality and value added products.
- b. Develop long term R&D programmes for all wood panel sectors and reinforce existing industry advisory committee to guide the implementation of the industries R & D programme.
- c. Exchange of scientific knowledge among research organization in the field of panel technology, machinery, process application etc., and networking among forestry departments, Research Institutions and Industry.
- d. Encourage industry-government co-operation on environmental issues such as environmental impact and occupational health hazards.
- e. Value addition through technological innovation can be achieved by utilization of agro/forest residues which are available plenty in our country and can be converted into panel products. This not only adds to economy but also reduces pressure on forests thereby improving environment and ecology.
- f. With the increasing globalization there is a need to standardize the product at par with the international standards. This would enhance the product life, meet the users need and benefit economically for the user.
- g. Process improvement in par with ISO standards would bring environmental consciousness among the users group.

- h. Internationalization of R & D to the industries.

Theme IV : HRD & Marketing

- a. Wood and panel products are versatile engineered and structural component. Training needs in India are not available at the graduate/post graduate level in the university on wood science & technology. There is an urgent need to develop course curriculum, induction of these courses in technical institutes/ universities besides strengthening & upgrading the existing training courses conducted in India.
- b. In the absence of authentic data on the total production/consumption in India definite marketing network could not be created in India. This is mainly due to the unorganized nature of the panel industries in our country.
- c. Constitution of a National Timber Trade Association in association with other trade, Commerce & Industry federations and Institutes and also establish an appropriate timber trade and market information. Promotion organization in the country also needs to be established.
- d. Establishment of a forum for periodic discussions between MoEF, Ministry of

Industry, Ministry of Commerce & recognized associations of wood based industries to review and evolve appropriate timber trades and market information and promotion mechanism including a periodical timber bulletin.

- e. Strengthening of Marketing Research is needed to provide information regarding turnover, resource usage and manpower.

Theme V: Certification, Policy & Legal Issues:

- a. The increased demand for forest certification is likely to affect the economic prospects of many farm forestry/Agro forestry areas in India unless these areas are certified. The success of such a system largely depends on its credibility at both local and global contexts. So far, India has secured one FSC forest management unit certificate and a few chain of custody certification is mainly by small and medium companies to meet export demand. But the situation is likely to change due to increased demand for forest certification in the global market and the high growth of Indian economy. The impact of such demand on forest based industries and growers particularly those of small and medium scale in India will be severe unless they secure forest certification. To address this situation, there is a need to ensure adequate forest certifications in the country.
- b. Need to ensure forest certification for intelligent ecological use of the wood.
- c. Develop International acceptance certification scheme of sustainably managed forestry.
- d. Certified processing of managed forestry to maintain the image for panel industries



Dr. C. N. Pandey, Director, IPIRTI concluding the Technical Session in the presence of Dr. Lakshmana Murthy, IFS, Regional Director, FSI, Mr. Ladislaus Dory, President, European Panel Federation and V. Ramakrishnan, Leitz India Ltd., Bangalore

TRAINING

POST GRADUATE DIPLOMA COURSE IN WOOD AND PANEL PRODUCTS TECHNOLOGY

23rd Batch of One year Post-graduate Diploma in Wood and Panel Products Technology for graduates in Science or Engineering is in progress wherein 19 candidates are undergoing training.

SHORT TERM TRAINING COURSES

A short term training course on “Plywood manufacturing technology” was conducted during 2 January – 8 February, 2012 for 6 candidates at IPIRTI Field Station, Kolkata.

A short term training course on “Testing of plywood as per IS: 1328, 710 & 4990” was conducted during 13 – 17 February, 2012 for the candidates sponsored by Plywood industry at IPIRTI Centre, Mohali.

A short term training course on “Bamboo Preservation & Bamboo Joints” was conducted during 26-30 March, 2012 for 15 candidates sponsored by M/s. Centre for Green Building Material and Technology (CGBMT), Bangalore at IPIRTI, Bangalore.

A short term training course on “Resin manufacturing” was conducted during 26-30 March, 2012 for 3 candidates sponsored by Plywood industry at IPIRTI Field Station, Kolkata.

A special training course on “Development of Skills on Bamboo sector” was conducted during 11 April – 11 May, 2012 for 8 candidates sponsored by Directorate of Commerce & Industries, Govt. of Manipur at IPIRTI, Bangalore.



Students from Manipur undergoing training on Development of Skills in Bamboo Sector

A special training course for Bamboo Based Industries was conducted during 14-18 May 2012 for 13 candidates sponsored by M/s. Centre for Green Building Material and Technology (CGBMT), Bangalore at IPIRTI, Bangalore.

A short term training course on “Block board & Flush door Manufacturing” was conducted during 30 April – 4 May, 2012 for 5 candidates sponsored by plywood industry at IPIRTI, Field Station, Kolkata.

A special short term training course for Bamboo Based Industries was conducted during 14-18 May 2012 for the candidates sponsored by M/s. Centre for Green Building Material and Technology (CGBMT), Bangalore at IPIRTI, Bangalore.

A short term training course on “Band Saws and TCT Saws” was conducted during 21-25 May, 2012 for 5 candidates sponsored by Directorate of Fisheries, Lakshadweep, Kavaratti at IPIRTI, Bangalore.



Staff from Directorate of Fisheries, Lakshadweep, Kavaratti undergoing training at IPIRTI, Bangalore.

A short term training course on “Particleboard Manufacturing” was conducted during 21–25 May, 2012 for 7 candidates sponsored by plywood industry at IPIRTI, Field Station, Kolkata.

A short term training course on “Testing of block board and flush door as per IS 1659 & 2202” was conducted during 21-25 May, 2012 for 3 candidates sponsored by plywood industry at IPIRTI Centre, Mohali.

A short term training course on “Saw milling & Saw doctoring” was conducted during 23-27 July, 2012 for 16 candidates sponsored by Govt. Saw Mills at Chatam & Betapur at IPIRTI, Bangalore.

A short term training course on “Wood seasoning & wood preservation” was conducted during 23-



Special Training Course on Sawmilling, Manufacturing, Wood Seasoning & Wood Preservation held at IPIRTI, Bangalore

27 July, 2012 for 5 candidates sponsored by Govt. Saw Mills at Chatam & Betapur at IPIRTI, Bangalore.

A short term training course on “Plywood manufacturing technology” was conducted during 23-27 July, 2012 for 6 candidates sponsored by Plywood Industry at IPIRTI, Bangalore.

A short term training course on “Plywood manufacturing technology” was conducted during 01-31 August, 2012 for 12 candidates sponsored by Plywood Industry at IPIRTI, Field Station, Kolkata.

A short term training course on “Testing of Plywood, Block board and Flush door” was conducted during 16-20 September, 2012 for 4 candidates sponsored by Plywood Industry at IPIRTI, Field Station, Kolkata.

A short term training course on “Testing of plywood and block board as per IS: 303, 710, 1328, 4990, 1659” was conducted during 6-10 August, 2012 for 2 candidates sponsored by Plywood Industry at IPIRTI, Bangalore.

A short term training course on “Testing of Flush door and skin door” was conducted during 27-30 August, 2012 for 2 candidates sponsored by Plywood Industry at IPIRTI, Bangalore.

A. Training Course for IFS Officers

Two days training workshop was conducted on “Contribution of Forests Plantation in Livelihood Support and Industrial Production” for 23 IFS Officers from different states sponsored by MoEF, New Delhi at IPIRTI, Bangalore during 05th to 06th January, 2012.



B. Training Course for International Candidates

A Special Training Course on “Plywood Manufacturing and Resin Manufacturing Technology” was conducted during 3rd to 31st October, 2012 for 10 candidates sponsored by Rai Plywood (K) Ltd, Kenya at IPIRTI, Bangalore.



Staff from Rai Plywood(K) Ltd undergoing one month training at IPIRTI, Bangalore.

Mr. Tim Sundermann and Mr. Johannes Frey from University for Sustainable Development, Eberswalde, WKI, Germany undergone the Internship on the Project entitled “Bamboo Lumber”, which targets the use of engineered bamboo as construction material at IPIRTI, Bangalore during March 17th, 2012 to July 31st, 2012.



Mr. Tim Sundermann and Mr. Johannes Frey from University for Sustainable Development, Eberswalde, WKI, Germany undergoing training

C. Training Programme for Kannur University students

A Special Training course and practicals were conducted on “Sawmilling & Saw doctoring and Wood working & Wood finishing” during 13th to 24th February, 2012 for the final year students of M.Sc in Wood Science & Technology from Kannur University.



MSc.Students from Kannur University

Centre for Ph.D Registration

Two candidates Shri. K. Thanigai (Scientist, IPIRTI, Bangalore) and Shri. Ganesh Gopal T.M., Kerala enrolled for Ph.D in the field of Wood Science and Technology at IPIRTI, Bangalore as IPIRTI has been recognized as a Nodal Centre for Ph.D Registration under FRI Deemed University, Dehradun.

A Tribute



Dr. Joseph George
Ex-Director, IPIRTI, Bangalore

IPIRTI NEWS Records with profound sorrow the sad demise of Dr. Joseph George on 9th July, 2012.

Dr. Joseph George was a “Man of Environment and Forests” as he loved and admired nature very much. He beautified IPIRTI with various species of trees and bamboo and had them brought from various parts of the nation. He was an avid bird watcher and sparked that enthusiasm in many.

Dr. Joseph George was the Director of IPIRTI from 1970 - 1979

Dr, George was an eminent Scientist with over 100 publications in various fields and over 35 publications during his service in IPIRTI. He got an Indian Patent IP-141649 in 1977 for his finding “an adhesive composite based on natural polyphenols.” Realising the need for systematic Training in Wood Science and Technology, which at that point of time was an unorganized sector, Dr. George conducted three Plywood technical courses in Wood Science and Technology with emphasis on Wood Panel during 1970, 71 and 74.

Dr. George never let his age deter him from quenching his thirst for research and continued till one week before he was hospitalized. During his tenure as Director in IPIRTI, he had his own little laboratory in the vicinity of IPIRTI where he spent most of his time.

More than all, he was a person of great humility and was always cordial towards scientists and staff members of this Institute. IPIRTIANS fondly remember forever Dr. George and his contributions to IPIRTI.

MAY HIS NOBLE SOUL REST IN ETERNAL PEACE.

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