प्रिय पाठकों

Dear Readers,

उत्तर-पूर्वी महोत्सव से संबंधित कार्यक्रमों के दौरान बॉस प्राथमिक प्रसंस्करण मशीनों की प्रदर्शन-सह-व्यावहारिक अभ्यास

Demonstration- cum -Hands on Exercise with Bamboo Primary Processing Machines during North East Festival events

उत्तर-पूर्वी भारत बॉस के समूह संसाधनों से संपन्न है। लेकिन, आज तक बॉस के अनुपयोग प्राथमिक रूप से हमारी तथा जीवित कीजिएं और कुटीरों के पारित आवास क्षेत्र तक ही सीमित रहे हैं। हालांकि बॉस को अधिकाधिक उत्कृष्ट फैनल उपकरणों में अभिकल्पित करने के लिए, इपिंटी द्वारा विभिन्न चटाई और पत्ते आधारित प्रौद्योगिकियों का विकास किया गया है, तथापि बॉस-समूह इस क्षेत्र में इस प्रौद्योगिकियों के बारे में जागरूकता की अत्यधिक कमी है। इसलिए, इन क्षेत्रों में बॉस प्रौद्योगिकियों को प्रचारित करने और इसे बढ़ावा देने के करोड़ों के माल के उपयोग में सुधार की संभावना है और यह आर्थिक विकास को संचालित कर सकता है। इस संबंध में, इपिंटी ने वन एवं आदि प्रौद्योगिक विभागों के सहभागिता अधिकारियों, दिलचस्पी रखने वाले उद्योगियों और दस्तकार्य तथा अन्य लोगों के लिए प्रदर्शन-सह-व्यावहारिक अभ्यास के माध्यम से मशीन विकास के लिए प्राथमिक बॉस प्रसंस्करण मशीनों को प्रदर्शित करने के लिए आगे कदम बढ़ाया है।

अतः, आगामी उत्तर-पूर्वी महोत्सव के दौरान बॉस के प्राथमिक प्रसंस्करण के लिए मशीनों में दिलचस्पी पैदा करने और उत्कृष्ट बॉसी उपकरणों में रुचि को बढ़ावा देने; युवाओं के बीच (महिलाओं सहित) रोजगार योजना कोशल का उत्तराधिकारी और बॉस क्षेत्र में उदारतमीलता कोशल व युवाओं का निर्माण करने के लिए इन प्रदार्शन गतिविधियों को आयोजित करने का क्षेत्र रखा गया है, जो उत्तर-पूर्वी क्षेत्र के विकास के लिए महत्वपूर्ण है। इस दृष्टिकोण से, इपिंटी ने संगठित महोत्सव (21-30 नवंबर) में, होनबिल महोत्सव (1-10 दिसंबर), नागालैंड यात्री "उत्तर-पूर्वी महोत्सव के संबंधित कार्यक्रमों के दौरान बॉस कोशल विकास के लिए बॉस
North East India is endowed with rich resources of bamboo. However, till date the applications with Bamboo have primarily been limited to handicrafts and traditional housing sectors of huts and cottages. Although various Mat and Strip based technologies have been developed by IPIRTI, in order to engineer Bamboo in to a plethora of high-end panel products, the awareness about these technologies is poorly lacking in this bamboo-rich region. Hence, propagating and promoting the idea in these promising areas will improve the utilization of the raw materials and can play a driver for economic development. In this regard, IPIRTI has come forward to demonstrate the primary processing machines of bamboo for capacity development among concerned officials of Forest & Industry Departments, interested entrepreneurs and artesans and other public through Demonstration-cum-Hands on exercises.

Therefore, it is targeted to initiate the promotional activities; to create interest in machines for primary processing of bamboo and further in high end bamboo products during the upcoming North East Festivals; to introduce employable skills among the youth (including women) and build up the entrepreneurial skills and capacities in bamboo sector that is critical for the development of the NE region. In view of this, IPIRTI has submitted a project on “Demonstration-cum-Hands on Exercise with Bamboo Primary Processing Machines for Bamboo Skill Development during the North East Festival events” i.e. Sangai Festival (21-30 November) Manipur, Hornbill Festival (1-10 December), Nagaland and also for training of Govt. officials of other NE states on demand.

The proposal has been accepted by the Ministry of Development of North Eastern Region (DoNER), Govt. of India and sanctioned Grant-in-aid for conducting six months Demonstration-cum-Hands on exercise with Bamboo Primary Processing Machines for public at large and officials of Forest & Industry
Departments. This is the first time that such a project has been approved to any organization by Ministry of DoNER on Bamboo Development in North-Eastern region. The Scientists and Technical staff of IPIRTI are bracing to take up the challenge head on and to make the best use of Bamboo mechanization in the NE in particular and country as a whole.

Dr. B. N. Mohanty, IFS
Director, IPIRTI

**RESEARCH & DEVELOPMENT**

**Studies on variation in plantation grown *Melia dubia* including selected clones of *Populus deltoids* and its suitability for plywood manufacturing**

The anatomical properties of three poplar timber clones viz., G-48, S7C15 and Wimco A26 were studied by Shri. Narasimha murthy, Scientist and his team at IPIRTI Bengaluru. From the studies it was observed that the *Populus deltoids* S7C15 and Wimco A26 clones were showing lower strength value as compared to *Melia dubia* species. *Populus deltoids* Clone G48 has shown good anatomical and strength properties when compared with *Melia dubia*. The anatomical properties of three clones have shown lesser values as compared to *Melia dubia*. Plywood samples were prepared for three clones and tested for physical and mechanical properties viz. moisture content, Modulus of Rupture (MoR), Modulus of Elasticity (MoE) and water resistance showing pass standard results as per Indian Standard IS:303 to study their suitability for making plywood.
Development of PUMF Resin for the manufacture of plywood

Phenol Urea Melamine Formaldehyde (PUMF) resin is a light coloured and low formaldehyde emission resin. PUMF resin adhesive was prepared by using Phenol, Urea and Melamine in five molar ratios. The effects of the molar ratio of Formaldehyde, Phenol, Urea, Melamine on performance of PUMF resin adhesive were studied by Mrs. Mamatha B.S. Scientist and her team at IPIRTI, Bengaluru. The resin developed was characterized by Differential Scanning Calorimeter (DSC) and Fourier Transform Infrared Spectroscopy (FTIR). The properties of the plywood made using PUMF resin adhesive yield best result at the molar ratio of (Phenol: Urea: Melamine: Formaldehyde) is 1:0.79:0.38 :: 2.15 at pH 9.0. The results indicate that the PUMF resin can be used to make wood-based panels of boiling water resistant grade conformity as per IS: 848-2006-“Specification for synthetic resin adhesives for plywood” (Phenolics and Amino Plastics).

Effect of Density of Wood used in frames of Fire Rated Doors

During designing of fire rated doors importance is given to materials used in construction of door shutter to achieve given fire rating. The frame used in fire rated door shutters is generally neglected during designing fire rated door assemblies. On the contrary, it is observed that even if the fire rated door resists fire for said duration the failure occurs because of wrong selection of door frame, resulting in non-conformity of door for the given fire rating. A study was carried out by Shri Anand Nandanwar, Scientist and his team at IPIRTI Bengaluru to correlate the density with rate of burning for selection of wooden frames used for fire rated doors. Some of the widely used species in frames of fire rated door were selected for the study viz. Red meranti (Shorea acuminata), Sal (Shorea robusta), Birch (Betula pendula), Padauk (Pterocarpus spp.), White Meranti (Shorea spp.). Samples were drawn from unburnt portions of ruminants of fire rated doors tested at laboratory.

In the study correlation of fire performance/ rating was drawn with respect to density and it was observed that the fire rating increases with density of wood used in fire rated door shutters. The effect of dimensions and area of cross section of wooden frame are also studied. Based on the study recommendations were drawn for selection of wood w.r.t density and cross section for use in frames of fire rated door shutters.
From the study it is concluded that density and dimensions of wooden frame plays an important role in selecting frames for use in fire rated door shutters. Minimum desirable density of wood used in frame is 500 Kg/m³ for 30 minutes fire rating and 800 Kg/m³ for 120 minutes fire rating, with suitable cross section. The fire rating increases with density of wood used in fire rated door shutters. Also, the depth of door frame and area of cross section also plays an important role in withstanding said fire rating.

For more details please contact: The Director, IPIRTI, Bengaluru

**INDUSTRY VISITS:**

06-08.09.2016: Shri. S.C. Sahoo, Scientist, IPIRTI Field Station, Kolkata visited M/s. Saraswati Plywood Industries, Yamunanagar to improve the pre-press qualities of the plywood and to solve the floor problem faced by them during manufacturing.


21.09.2016: Ms. Sujatha D., Shri. Uday D.N., Dr. Vipin Kumar Chawla, Mrs. Mamatha B.S. and Shri. Prakash V., Scientists visited M/s. Karnataka State Forest Industries Corporation Ltd. (KSFIC), Bengaluru to study the production line of Flush Door/Block boards and suggest improvement with reference to the process/machinery/chemical/treatment/Resin/Seasoning.

**MEETINGS/SEMINARS/CONFERENCES:**

09.07.2016: Dr. B.N. Mohanty, IFS, Director, IPIRTI attended the meeting of Parliamentary Committee on Papers Laid on the Table of Lok Sabha which visited Bengaluru and presented the activities of IPIRTI and status of papers laid on the table of Houses. Dr. Manoj K. Dubey, Joint Director coordinated for the visit and all the scientists of the Institute attended the meeting.

19.07.2016: Dr. B.N. Mohanty, IFS, Director attended the meeting at MoEF&CC, New Delhi and made presentation before the Committee on Environment Education, Training and R&D constituted by MoEF&CC for evaluation of the Plan Schemes.

25-27.07.2016: Dr. Ranjana Yadav, Scientist, Officer In-charge, IPIRTI-Centre, Mohali attended training on Measurement uncertainty at BIS, Chandigarh.

27-28.07.2016: Dr. B.N. Mohanty, IFS, Director attended the Conference of Central Autonomous Bodies (CABs) organized by Pension Fund Regulatory & Development Authority (PFRDA) at India Habitat Centre, New Delhi.

28.07.2016: Dr. Manoj K. Dubey, Joint Director participated in the Stakeholders meeting at Institute of Wood Science & Technology (IWST), Bengaluru.

12.08.2016: Dr. B.N. Mohanty, IFS, Director as Central Government Nominee attended Selection Committee Meeting of Kerala Cadre for the Select List of 2013 & 2014 for the promotion of SFS Officers to IFS at Kochi.

30.08.2016: The periodic meeting of Internal Committee for Sexual Harassment in work places was convened at IPIRTI, Bengaluru. Dr. B.N. Mohanty, IFS, Director chaired the meeting and Dr. Manoj K. Dubey, Joint Director and other ICC committee Members attended the meeting.

08.09.2016: Dr. B N Mohanty, Director & Dr. Manoj K. Dubey, Joint Director participated in a Centre for Science and Environment meeting on “Status of Wood Production and Consumption in India” held at Institute of Wood Science & Technology (IWST), Bengaluru.
09.09.2016: Dr. Manoj K. Dubey, Joint Director was invited as the Chief Guest to deliver an inaugural address during the two days National level seminar on “Technological Advancements in Fuel Cell Research” at Sri. Ventakateswara College of Engineering, Chennai.

20-23.09.2016: Dr. Manoj K. Dubey, Joint Director attended the training programme on “Laboratory Management System & Internal Audit as per IS/ISO/IEC 17025:2005 & NABL requirements” at Electronics Test and Development Centre (ETDC), Bengaluru.

22.09.2016: Dr. B.N. Mohanty, IFS, Director attended the Press Meet at Bengaluru Press Club about Bamboo Cultural Festival in IWST, Bengaluru.

24-25.09.2016: Dr. B.N. Mohanty, IFS, Director participated in the Bamboo Cultural Fest’ 2016 organized to celebrate World Bamboo Day by Bamboo Society of India at IWST Bengaluru and presented paper during Valedictory Session. Dr. Manoj K. Dubey, Joint Director co-ordinated as a collaborator for the cultural fest and Dr. Vipin K. Chawla, Scientist assisted in the fest. During the festival Shri. K. Thanigai, Scientist exhibited the Bamboo Products developed at the institute.

27-28.09.2016: Dr. B.N. Mohanty, IFS, Director attended the Conference organised by Ministry of Development of North Eastern Region (DoNER) to discuss various issues pertaining to optimal use of bamboo as a critical product for the development of North Eastern Region (including Bamboo Transportation and Taxation issues within the North Eastern Region) in Hotel Ashoka, New Delhi.

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**Swacchhata Day**

02.08.2016, 26.08.2016 and 03.10.2016: Dr. B.N. Mohanty, IFS, Director observed Swacchhata Day by organizing Campus Cleanliness Drive through Scientists, Staff and Trainees of IPIRTI, in a usual manner.
Visit of Dignitaries:

05.07.2016: The highest functionaries of Karnataka State Forest Industries Corporation (KSFIC) viz. Shri. T. Ishwar, Chairman, Shri. K.S. Sugur, PCCF & Managing Director & Shri. Markandeya, Executive Director, KSFIC visited IPIRTI, Bengaluru and had meeting with Dr. B.N. Mohanty, IFS, Director.

02.08.2016: Trainees Forest Rangers of Tamil Nadu Forest Academy (TNFA), Coimbatore visited IPIRTI, Bengaluru. Dr. B.N. Mohanty, IFS, Director addressed the trainees about value addition of Forest products for alternative to traditional timber. Dr. Manoj K. Dubey, Joint Director also addressed the gathering.

04.08.2016: Students of College of Forestry, Ponnampet visited IPIRTI, Bengaluru. Dr. B.N. Mohanty, IFS, Director addressed the students about the exposure on Panel products from plantation species.

10.08.2016: Shri. Sanjay Patwan and Shri. J.M. Shah, NGO from Gujarat visited IPIRTI, Bengaluru and had meeting with Dr. B.N. Mohanty, IFS, Director about prospects of plantation timber for plywood & panel products.

01.09.2016: Ms. Alexa Bednarz, Fellow Gates Foundation visited IPIRTI, Bengaluru and had meeting with Dr. B.N. Mohanty, IFS, Director & Dr. Manoj K. Dubey, Joint Director and discussed about Bamboo Housing, BMCS & Solid-state microcellular plastic scale-up.

09.09.2016: Dr. Ajay Mahapathra, Managing Director, IFS, Orissa Forest Development Corporation and Shri. Ajit Bharthuar, State Mission Director (NABM), Office of the Project Director, Orissa Bamboo Development Agency visited IPIRTI, Bengaluru and had meeting with Dr. B.N. Mohanty, IFS, Director and discussed about collaborative project on Plywood, Panel Products and Bamboo Development.

21.09.2016: Dr. Sudip Nath, Manager, R&D, M/s. United Nanotech Products, Kolkata visited IPIRTI Field Station, Kolkata and had discussion with Shri. Amitava Sil, Scientist, Officer In-charge, regarding sponsorship of a project of their developed nano preservative.

22.09.2016: Mr. Ulrich Tente, Divisional Manager, M/s. PROMAT, Belgium visited IPIRTI, Bengaluru and had meeting with Dr. B.N. Mohanty, IFS, Director, Dr. Manoj K. Dubey, Joint Director & Dr. K Ch Varadarajulu about assembly and testing of Fire Retardant Doors.

**TRAINING**

**One Year Post Graduate Diploma Course in Wood and Panel Products Technology:**

The 27th Batch of one year Post Graduate Diploma Course in Wood and Panel Products Technology is in progress and 30 trainees are undergoing the training.

**Short Term Vocational Training Courses:**

01-03.09.2016: One Month training course on “Plywood manufacturing technology” was conducted for six candidates at IPIRTI Field Station, Kolkata. Shri. Amitava Sil, Scientist, Officer In-charge, IPIRTI, Field Station, Kolkata, accompanied the trainees for demonstration at M/s. Century Plyboards (P) Ltd, Kolkata on 29.09.2016 as a part of the training programme.

19-23.09.2016: A training course on “Low cost and special resin manufacturing” was conducted for six candidates at IPIRTI Field Station, Kolkata.

**Special Training Course:**

11-15.07.2016: One week refresher training course for IFS Officers on “Bamboo Resource Development for addressing Livelihood Concerns of Communities” was organized by Dr. B.N. Mohanty, IFS, Director at IPIRTI Bengaluru. Dr. Manoj K. Dubey, Joint Director as a Course Director and Shri. K. Thanigai, Scientist as a Course-coordinator assisted the team. As a part of training course, the IFS Officers visited to M/s. Grow More, Hosur and M/s. INFOSYS for Bamboo Plantation in their campus.
## SHORT TERM TRAINING COURSES FOR SEP-DEC, 2016 AT BENGALURU

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Title of the Training Course</th>
<th>Duration</th>
<th>Date</th>
<th>Fees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Low Cost Phenolic Resins Using Renewable Bio Materials As Replacement For Phenol</td>
<td>5 Days</td>
<td>Sep 19-23</td>
<td>7500</td>
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<tr>
<td>2.</td>
<td>Low Formaldehyde Emission Adhesives For Plywood and Particle Board</td>
<td>5 Days</td>
<td>Oct 03-07</td>
<td>7500</td>
</tr>
</tbody>
</table>

* 15% Service Tax Extra  
** Programme Coordinator: Dr. V K Upadhyay, Head, IT & SORIT (upadhyay@ipirti.gov.in). You can apply online by filling and submitting the Registration Form (PDF)/Registration Form (doc). Registration has to be done 10 days before the date of commencement of the course by remitting prescribed course fee. Fees payable to the organization may be sent by crossed Demand Draft in favour of Director, IPIRTI, Bengaluru and sent by post to Post Bag No.2273, Tumkur Road, Yeshwanthpur PO, Bengaluru - 560 022.

## SHORT TERM TRAINING COURSES FOR SEP - DEC, 2016 AT KOLKATA

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Title of the Training Course</th>
<th>Duration</th>
<th>Date</th>
<th>Fees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>One Month Training Course on “Plywood Manufacturing Technology”</td>
<td>1 month</td>
<td>01-31 Sep</td>
<td>7,500</td>
</tr>
<tr>
<td>2.</td>
<td>Testing of Plywood, Block Board, Flush Door</td>
<td>5 days</td>
<td>19-23 Sep</td>
<td>7,500</td>
</tr>
<tr>
<td>3.</td>
<td>Analysis of raw material for resin manufacturing.</td>
<td>3 days</td>
<td>26-28 Oct</td>
<td>5,000</td>
</tr>
<tr>
<td>4.</td>
<td>Low Cost and Special Resin for manufacture of Plywood</td>
<td>5 days</td>
<td>21-25 Nov</td>
<td>7,500</td>
</tr>
<tr>
<td>5.</td>
<td>Preliminary Bamboo Processing</td>
<td>3 days</td>
<td>07-09 Dec</td>
<td>5,000</td>
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<tr>
<td>6.</td>
<td>Plywood and Adhesive manufacturing</td>
<td>3 days</td>
<td>21-23 Dec</td>
<td>5,000</td>
</tr>
</tbody>
</table>

* 15% Service Tax Extra  
** Programme Coordinator: Mr. Amitava Sil, IPIRTI Field Station Kolkata, 2/2 Biren Roy Road (West), Sarsuna, Kolkata-61, Tele Fax:033-24983120, Mob:09874219758 (ipirtikolkata@ipirti.gov.in). Registration has to be done 10 days before the date of commencement of the course by remitting prescribed course fee. Fees payable to the organization may be sent by crossed Demand Draft in favour of Director, Indian Plywood Industries Research & Training Institute. You can apply online by filing and submitting the Registration Form.
## SHORTTERM TRAINING COURSES FOR SEP - DEC, 2016 AT MOHALI

<table>
<thead>
<tr>
<th>Sl. No</th>
<th>Title of the Training Course</th>
<th>Duration</th>
<th>Date</th>
<th>Fees*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Testing Of Block board And Flush Door As Per IS:1659 &amp; IS: 2202 (Part - I)</td>
<td>3 days</td>
<td>21-23 Sep</td>
<td>5,000</td>
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<tr>
<td>2.</td>
<td>Analysis of Raw Material for Resin Manufacturing</td>
<td>5 days</td>
<td>03-07 Oct</td>
<td>7,500</td>
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<tr>
<td>3.</td>
<td>Testing Of Plywood As Per IS 303, 1328, 710 &amp; 4990</td>
<td>5 days</td>
<td>07-11 Nov</td>
<td>5,000</td>
</tr>
</tbody>
</table>

* 15% Service Tax Extra  
** Lodging and Boarding are not included and have to be arranged by the trainees.

Programme Coordinator: Dr. Ranjana Yadav (ranjana@ipirti.gov.in) IPIRTI Centre (MoEF&CC, Govt of India) B-65, Phase -7, Industrial Area, Mohali-160055, Punjab. Tele: 0172-5095875. Registration has to be done 10 days before the date of commencement of the course by remitting prescribed course fee. Fees payable to the organization may be sent by crossed Demand Draft in favour of Director, IPIRTI, Bengaluru. You can apply online by filing and submitting the Registration Form.
संस्थान में हिंदी की गतिविधियाँ

हिंदी कार्याशाला

इपीर्टी फील्ड स्टेशन कोलकाता में दिनांक 30.08.2016 को हिंदी राजभाषा विभाग, कोलकाता के सहायक निदेशक, श्रीमती मंजू शरीरन के अध्यक्षता में एक हिंदी कार्याशाला पालन किया गया था।

हिंदी दिवस

आई.पी.आई.आई.टी.आई. बंगलुरु संस्थान में दिनांक 27.09.2016 को ‘हिंदी दिवस’ मनाया गया। इसके अंतर्गत विविध कार्यक्रम/प्रतियोगिताएं आयोजित किए गए। इसमें हिंदी निबंध लेखन, शब्दवाली विवाद और हिंदी गीत का आयोजन किया गया था। संस्थान के संयुक्त निदेशक, डॉ. मनोज कुमार दुबे ने हिंदी को प्रोत्साहन देते हुए कर्मचारियों को संबोधित किया। सभी प्रतियोगिताओं के विजेताओं तथा कार्यालय में हिंदी में अधिकार काम करने वाले कर्मचारियों को भी संयुक्त निदेशक द्वारा नकद पुरस्कार और सभी प्रतिभागियों को प्रोत्साहन पुरस्कार दिया गया।

इपीर्टी फील्ड स्टेशन कोलकाता में दिनांक 23.09.2016 को हिंदी राजभाषा विभाग, कोलकाता के सहायक निदेशक, श्रीमती मंजू शरीरन के अध्यक्षता में हिंदी दिवस पालन किया गया। और इस हिंदी दिवस के अवसर पर निबंध प्रतियोगिता, कविता पढ़ने और प्रश्नोत्तरी प्रतियोगिता का आयोजित किया गया था।