Bamboo Society of India- The Indian Bamboo Movement

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Member, National Governing Council, Bamboo Society of India
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Managing Trustee, Center for Green Building Materials and Technology, Bangalore, India, cgbmtblr@gmail.com
World Bamboo Ambassador, World Bamboo Organisation

Dr. Hemant Bedekar
Executive Director, Bamboo Society of India, Maharashtra Chapter
INTRODUCTION

Bamboo Society of India (BSI) was formed in a period when for the first time a group of pioneers in the country foresaw ‘Bamboo’ in the context of its massive economic potential. In 1989, it was formally registered and certified under the Karnataka Societies, registration Act (1960). The society’s registered headquarters is situated in Bangalore City, Karnataka. BSI was started as a small society with only 5 founding members:

• Sri. K. A. Bhoja Shetty, IFS, Principal Chief Conservator of Forests (Retd)
• Sri. A. Krishnaswamy, Chief Conservator of Forests (Retd)
• Late Shri. S.K.VARADA RAJ, IFS (Retd)
• Late Shri. H. RAJAGOPAL SHETTY, IFS (Retd)
• Late Sri. ADKOLI, IFS (Retd)

and 2 members. Today it has grown manifold and has over 1050 members living throughout the country and in 6 other nations across the world.
Mr. Adkoli Narayan Subrao (rtd. IFS) was born in Akola-Karnataka and was the director of BSI. He single handedly was responsible for providing a vision to promote holistic growth of the bamboo sector in India along with the other founding members. He was a member of many other esteemed organizations like Society of Water Development etc. and through them was responsible for spreading awareness and raising key issues of the bamboo sector.
The Vision

It was with a vision of promoting the holistic growth of bamboo sector in India that BSI was formed, by stalwarts like Late Shri. N. S. Adkoli (IFS), Late Shri. K. A. Bhoja Shetty (IFS), Late Shri A. Krishnaswamy, and taken forward by Dr. D. N. Tiwari (IFS), Shri. A. C Laxman (IFS), Late Shri Hiremath, IFS and many such thought leaders of the country. They worked with scientists and people from across the world, and conducted and attended numerous national and international seminars and conferences on bamboo. They also successfully undertook study tours, researches etc to revitalize the bamboo sector and take it forward.

Shri. D. N Tiwari (IFS), one of the founding members furthered the society’s aspirations by playing the role of the main architect in the formation of India’s first Bamboo Mission – NMBA- National Mission for Bamboo Applications. It is a government body promoting bamboo and it’s applications at the national level and had state chapters. It would be no exaggeration to label them as among the fore runners of bamboo revolution not just in India but at a global level.
OBJECTIVES OF THE SOCIETY

Following their indelible footsteps today, BSI is endeavoring towards tapping the unrealized potential of the bamboo sector

- The society encourages and sponsors scientific study and research on bamboo.
- It constantly acquires data and disseminates it, on all aspects pertaining to the development of bamboo.
- BSI organizes conferences, seminars, workshops and exhibitions pertaining to bamboo
- and is constantly involved in organizing training to farmers in the field of management, utilization and marketing of bamboos.
- It serves as consultant to National and International organisations on bamboo development.
- Undertakes implementation of bamboo development projects on behalf of public or private bodies
- Most importantly it works as an advocacy group policy development for the bamboo sector
- Any other activity for promotion of bamboo
Administrative structure of BSI

Chairman

Executive Director & Treasurer

National Governing Council- 15 members

1. Vice Chairman
   Committee for policy Interpretation & Advocacy and Development of State Bamboo Chapters.

2. Vice Chairman
   Committee for Institutional Co-Operation and training (National/International).

3. Vice Chairman
   Committee for Media and Public relations.

4. Vice Chairman
   Committee for Students Drive, Entrepreneurship Opportunity and Mentoring.

State Chapters
   - Delhi Chapter
   - Kerala Chapter
   - Telangana -AP
   - Maharastra
   - Karnataka
   - Tripura
   - Madhya Pradesh
FOUNDER MEMBERS OF BSI

- Sri. K. A. Bhoja Shetty, IFS, Principal Chief Conservator of Forests (Retd)
- Sri. A. Krishnaswamy, Chief Conservator of Forests (Retd)
- Shri. S.K. VARADA RAJ, IFS (Retd)
- Shri. H. RAJAGOPAL SHETTY, IFS (Retd)
- Sri. ADKOLI, IFS (Retd)
- Sri. B. K. C. Rjan
- Shri. S. G. NEGINHAL, IFS (Retd)
- Alva’s Educational Foundation
- NMAM Institute of Technology
- Sahyadri Foundation Sayadri Campus
- Ratnakar Shetty
- Sudeesh Karunakaran
- Sri. V. Ramakrishnan
- M/s. Tata Coffee Limited
- Sri. Neelkanth Dnyaneshwar Aher
The society aims to promote bamboo sector across India through these state chapters, they are continuously working towards achieving the objectives of BSI.

<table>
<thead>
<tr>
<th>SL. NO</th>
<th>STATE CHAPTERS</th>
<th>TOTAL MEMBERS</th>
<th>Chairman</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bamboo Society Of India, HQ</td>
<td>345</td>
<td>Dr. K. Sundar Naik, IFS</td>
</tr>
<tr>
<td></td>
<td>Overseas Member</td>
<td>16</td>
<td>HQ</td>
</tr>
<tr>
<td>2.</td>
<td>Andhra Pradesh &amp; Telangana Chapter</td>
<td>143</td>
<td>Sri. R. K. Mehta</td>
</tr>
<tr>
<td>3.</td>
<td>New Delhi Chapter</td>
<td>32</td>
<td>Dr A K Bhattacharya, IFS (R)</td>
</tr>
<tr>
<td>4.</td>
<td>Maharashtra Chapter</td>
<td>277</td>
<td>Sri. Sunil Vishwasrao Joshi</td>
</tr>
<tr>
<td>5.</td>
<td>Tripura Chapter</td>
<td>0</td>
<td>Dr. Pawan K Kaushik</td>
</tr>
<tr>
<td>6.</td>
<td>Madhya Pradesh Chapter</td>
<td>6</td>
<td>Sri. Subhash Bhatia</td>
</tr>
<tr>
<td>7.</td>
<td>Kerala Chapter</td>
<td>44</td>
<td>Dr. K. V. Mohammed Kunhi</td>
</tr>
<tr>
<td>8.</td>
<td>Karnataka Chapter</td>
<td>168</td>
<td>Ar. Neelam Manjunath</td>
</tr>
<tr>
<td>9.</td>
<td><strong>Total</strong></td>
<td><strong>1031</strong></td>
<td></td>
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</tbody>
</table>
Overseas Members

- The Southern California Chapter of The American Bamboo Society
- The American Bamboo Society- Pacific North West Chapter
- Mr Karl Bareis, The International Bamboo Association, International Coordinator, California
- The Bamboo Society, EBS Great, The Librar, Royal Botanic Gardens-Kew, Great Britain
- Mr Abid Latif Mohamed, Forest Research Institute, Malaysia( FRIM)
- Mr Kant Sashi, University of Toronto
- Pacific North West Bamboo, USA
- International Development Research Center (IDRC), Singapore
- Bamboo Informatie Centrum, Netherland
- Coastrarican Institute of Technology, Cartago- Costa Rica
- And many more
Few of the Recent Programs by BSI

- International bamboo conclave 2014
- Bamboo Cultural Fest 2016
- World Bamboo Day 2017
- World Bamboo Day 2018
Activities
Study tour undertaken to study the scope of commercial investments in raising bamboo plantations in Karnataka from 28th to 30th March, 2011.
International Bamboo Conclave 2014
World Bamboo Day 2014
Bamboo Cultural Fest’16

Sep 17 & 18, 10:00am to 7:30pm
Venue - Institute of Wood Science and Technology, Bangalore

Chief Guest:
Michel Abadie
President
World Bamboo Organisation

Design Competitions
“Sun-breakers” Hands on Workshop with Bamboo
Hands on Bamboo Workshop

Bamboozled Bamboo Fashion Show

Bamboo Art

Bamboo music & Food

Talks & Lectures

Exhibition/Sales & Demo

Bamboo Walks

From
Yeshwanthpur (4.3km)
From
Majestic (5km)
City Junction Railway (4.8km)

From
Vinayaka Circle (3.5km)

From
Vinayaka Circle (3.5km)

From
Yeshwanthpur (4.3km)

From
Majestic (5km)
City Junction Railway (4.8km)

From
Vinayaka Circle (3.5km)

From
Yeshwanthpur (4.3km)

From
Majestic (5km)
City Junction Railway (4.8km)

From
Vinayaka Circle (3.5km)
World Bamboo Day 2017
World Bamboo Day' 2017

Inauguration:
16th September 2017 at 11.A.M

Venue:
Karnataka Chitrakala Parishath
No.1, Art Complex, Kumara Krupa Road,
Bengaluru - 560 001

A Joint Initiative with

World Bamboo Day’17
World Bamboo Day 2018
State Chapters
AP and Telangana Chapter
Lectures and Discussions regarding the future of Bamboo construction

World Bamboo Day’18

Planting of Bamboo
BSI Maharashtra Chapter
Architects urged to plan for more use of bamboo

Nagpur: The Bamboo Research Training Centre (BRTC) at Chichpalli in Chandrapur district has urged the Indian Institute of Architects (IIA), Nagpur Chapter, to fill vacuum in bamboo architecture.

Over 35 practicing and faculty architects of IIA this week joined Bamboo Society of India (BSI), Maharashtra Chapter, in an exploratory visit-cum-workshop to BRTC to study bamboo resource and its technical applications in its ongoing project.
Bamboo for Sustainable Development

23rd & 24th February, 2017 (10 am to 5 pm)
Maharshi Karve Shikshan Sansthas, Dr. Nanawati College of Architecture
Campus, Off Karve Road, Pune.

Bamboo – no words can do justice to its grandeur! It is a crop economically beneficial not just to farmers and entrepreneurs, but also to the entire nation. Be it agriculture, construction, furniture, handicrafts, industrial use or trade, bamboo contributes to all these fields. Generates employment opportunities and also helps preserve the environment.

Bamboo is a wonder grass which is grown in various parts of our country. Maharashtra is also blessed with many species of bamboo which can be used for various applications. In an endeavor to sensitize and give hands-on experience to people interested in knowing about this green gold, Bamboo Society of India, Maharashtra Chapter is proud to present an interactive & informative two-day conference on ‘Bamboo for Sustainable Development’. This unique experience will make you aware of the finer aspects of bamboo products, structures, industry, cultivation, propagation, harvesting and government schemes. The conference will include lectures, panel discussions, demonstrations and bamboo expo.

Bamboo cultivators, businessmen, architects, interior designers, furniture makers & bamboo lovers are most welcome!

Join us as we take our first step towards sustainable development with Bamboo.

Program outline

23rd February, 2017 (Day 1): Bamboo Utilities – Products, structures and industry
Experts will share their views and experiences on various topics like bamboo construction, use of bamboo in furniture, other industrial usage like plywood, agarbatti, energy generation and bamboo trading.

24th February, 2017 (Day 2): Bamboo Cultivation
Bamboo plantation techniques, bamboo in rural economics, bamboo craft, need of training for bamboo business and setting up of rural enterprises.

A Souvenir on Bamboo plantation, application and business will be released on this occasion.

Bamboo Expo – A display of various applications, utilities, structures, plantation materials, treatment techniques, books and tools will be organized at the venue.

Registration fees

| Day 1 & 2 | Professionals | Rs. 2000 | | Students | Rs. 500 | | BSII Members | Rs. 200 |
| Only Day 2 | Rs. 300 | | Rs. 200 | | Rs. 250 |

Contact for Souvenir
BSII Consultancy & Services, Pune
020-25444153, bambooconference17@gmail.com

Organizing Committee
Arch. Sumei Joshi I Hermant Bedekar I Dr. Nachiket Thakur I Arch. Sayali Andhare

Institutional Partner: BNCA

For Registration Contact
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Dr. Nachiket Thakur: 9890909299 | bamboovishwa@yahoo.com
Arch. Sayali Andhare: 7769953721 | sayali.andhare@bnca.ac.in

Supported by:
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Shri V. R. Jamdar  Chairman, BOG, VNIT, Nagpur

PATRON
Prof. P. M. Padole  Director, VNIT, Nagpur
Prof. M. V. Aware  TEQIP Coordinator
Prof. V. R. Kalamkar  Head, Mechanical Engineering

COORDINATORS
Dr. A. B. Andhare
Dr. Prasad Kane
Ar. Sunil Joshi

TEQIP- III Sponsored
Symposium on
Bamboo - Emerging Source of Energy for Industries
Date: 10 January 2019
Time: 2.30 p.m. onwards
Venue: Physics Assembly Hall

Organised by
Department of Mechanical Engineering
Visvesvaraya National Institute of Technology, Nagpur
In Association With
Bamboo Society of India, Maharashtra Chapter
and
Vidarbha Industries Association, Nagpur

VNIT Symposium’18

STUDENT’S TRAINING - 2018
HIGHLIGHTS

• Representation of BSI in 27 districts of Maharashtra out of 35 districts
• 225 members within 2 years of establishment
• Training program for students of architecture, Interior design are proposed within next 6 months
• Farmer gathering for awareness of bamboo cultivation are proposed within next 4 months before plantation season.
Karnataka Chapter
Krishi Mela 2018
Participation in Lake Rejuvenation
Tripura Chapter
Construction of Low Cost, Earthquake Resilient Bamboo Houses Using Treated Bamboos

Nuruj Jaman Islam and Pawan K Kaushik

Tripura and North-eastern part of India comes under Zone V of earthquake susceptible zone. It is difficult for the marginalized population in hilly areas of Tripura to afford pucca house to them. High degree of earthquake susceptibility in hilly region makes the high cost pucca houses unfeasible and risky for the low income groups of hill communities. North-eastern part of India is blessed with ample Bamboo resources. Tensile strength of 28000 pounds per square inch makes Bamboo one of the strongest building materials. The strong mechanical properties of bamboo enable it to withstand heavy loads of concrete during building construction.

To serve the dual purpose of promoting earthquake resilient Bamboo house and community micro-enterprise development through supply of treated Bamboos using VPI Treatment Plant to extend its durability FRC-LE came up with an ambitious project sponsored by National Mission on Himalayan Studies (NMHS). Keeping in view the limited budget provisions in mind, FRC-LE came up with a low-cost, earthquake resilient and eco-friendly Bamboo house design which serves the interest of marginalised hill people of Tripura.

Construction of bamboo buildings through a participatory approach at both the project sites (Machmara and Barkathal) are in progress by imparting trainings on different aspects on bamboo treatment and house constructions to the local target groups.

Fig: Making of Bamboo truss and panel for wall construction

Cost involved in Construction of each Bamboo House (400 sq ft)

<table>
<thead>
<tr>
<th>Items of Expenditure</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td></td>
</tr>
<tr>
<td>Bamboo (Treated)</td>
<td>2000</td>
</tr>
<tr>
<td>Matti (Melocanna baccifera)</td>
<td>6000</td>
</tr>
<tr>
<td>Kanakkaich (Thrysostachys oliveri)</td>
<td>1500</td>
</tr>
<tr>
<td>Roof tin and ridging</td>
<td>17141</td>
</tr>
<tr>
<td>Bricks</td>
<td>15765</td>
</tr>
<tr>
<td>Cement</td>
<td>7565</td>
</tr>
<tr>
<td>Sand</td>
<td>2250</td>
</tr>
<tr>
<td>Stone Chips</td>
<td>7000</td>
</tr>
<tr>
<td>Nut-bolts, J Hooks</td>
<td>2329</td>
</tr>
<tr>
<td>Paint and burnish</td>
<td>1000</td>
</tr>
<tr>
<td>Sand Paper</td>
<td>100</td>
</tr>
<tr>
<td>GI wire</td>
<td>240</td>
</tr>
<tr>
<td>Clamps</td>
<td>1530</td>
</tr>
<tr>
<td>Master Trainers/Labourers</td>
<td>7000</td>
</tr>
<tr>
<td>Other Misc. construction expenses</td>
<td>4289</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80000</td>
</tr>
</tbody>
</table>

Approx. 25 man-days were contributed by the participating communities during training etc.

Advantages of Bamboo houses:

**Earthquake resilient:**
Bamboo has higher tensile strength than many alloys of steel.
Higher compressive strength to concrete mixtures.
Higher strength to weight ratio gives it a light weight but heavy strength.
Symmetrical layout in scientifically design bamboo house structure evenly distributes the load.
The whole structure acts as a single entity as walls are interconnected.

**Low cost and eco-friendly:**
The cost of construction of FRC-LE designed Bamboo house comes to Rs. 80000/- only.
Raw materials are easily available.
Bamboo houses are eco-friendly and has a soothing micro-climate inside.
Bamboo house are low cost designs which can be afforded by the low income groups of people in Hill regions.
Treated Bamboos makes the structure more durable which may be maintained for even 50 years. (The Author is Forest Research Centre for Livelihood Extension, Agartala)
BSI calls engg students to start bamboo clubs

Nagpur: To give a boost to bamboo industry, the Bamboo Society of India (BSI), Maharashtra chapter, has invited all engineering and architecture students start bamboo technology clubs.

The appeal comes on the eve of World Bamboo Day on September 18, which will be celebrated by BCI with next generation engineers by BCI, Maharashtra chapter and students of Priyadarshini College of Engineering (PCE).
Let's make Bangalore the first city to launch bamboo nationally and be a part of this global change, says Neelam Manjunath, Managing Trustee, Centre for Green Building Materials & Technology, Bengaluru. Several institutes in Bengaluru working towards the propagation of bamboo are coming together to celebrate a Bamboo Cultural Fest to commemorate World Bamboo Day (September 18) at the Institute of Wood Science and Technology (IWST), Malleswaram, on September 24 & 25. It is a joint initiative of IWST, the Centre for Green Building Materials and Technology (CGBMT), Manasaram Architects, Bamboo Society of India (BSI), RR College of Architecture, and IPIRTI.
Bamboo can largely replace wood and steel in construction and there is a need to highlight its features. This is what the International Bamboo Conclave and Expo will strive to do, says architect Neelam Manjunath in an interview.

India is the second largest producer of bamboo in the world, next to China. There are 1,750 species grown in the world, as one-fifth of the world population uses bamboo as a construction material today. In India though, bamboo penetration into the construction industry is yet to be realised. Experts say that one has to understand bamboo for its 100 per cent green character, with self-motivated appreciation after perceiving the dynamic characteristics and chemical composition of the material.
Stalwarts of BSI

- Late Dr Adkoli
- Dr D N Tiwari - Utthan foundation, World Bamboo Pioneer
- A C Laxman - called the Bamboo Man
- Indian Plywood Industrial Research and Training Institute, Bangalore
- Indian Wood Science Institute, Bangalore,
- Pointec ltd
- Dr N Bharathi
- Ar Neelam Manjunath - CGBMT, Manasaram Architects
- Ar Sunil Joshi - Vedha Foundation
- R K Mehta - Bamboo Enterpreneur
- Sanjeev Karpe - Native Konback
- Dr Ajoy Bhattacharya - Green Highways Authority
- Shri Subhash Bhatia
- Shri Sagar Mutha - Mutha Industries
- Prof Nirmala Chotham
- Prof Madho Bist
- Dr Syam Vishwanath - Dir KFRI
- ITC
- And many more
• All in all BSI has representatives in almost all the sectors of development of Bamboo! It has been silently connecting the dots for 30 years for a holistic development of bamboo sector pan India.
The Road Ahead

Today, Bamboo Society of India is fast a growing organisation and consists of students, artisans, activists, NGOs, growers, farmers, entrepreneurs, enterprises, artisan federations, researchers, botanists, nursery and plantation owners, architects, product designers, engineers, MSME's, technocrats, teachers, doctorates, master craftsmen, women, trainers, professors, professionals, design institutions, enthusiasts, bamboo lovers etc.

Every year BSI celebrates World Bamboo Day with great enthusiasm and involvement. It is through these events that BSI is striving to spread and reach out to larger groups of people and investors about the understated potential of bamboo in a country like ours where everyday economic development and possibilities are being looked out for.