



International Network for Bamboo and Rattan  
In Partnership for a Better World

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# Newsletter

South Asia Regional Office (SARO)

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## In this issue...

We are pleased to welcome you to this edition of the regional Newsletter from INBAR's South Asia regional office (SARO).

A recent landmark in the bamboo sector in India has been an end to a long-standing debate on whether bamboo is to be classified under tree or grass. The decision has immense socio-economic implications. The Ministry of Environment and Forests of the Government of India has decided to classify bamboo as grass. Bamboo grows in roughly 9 million hectares of forested areas in India, and is a major source of livelihood for the people living in and around the country's forests. The decision by the government provides the opportunity to utilize this ecological wealth for enhancing the economic well-being of the people, and is expected to usher new livelihood avenue for millions of poor depending on this wonderful plant. We bring you a report.

In the South Asia region, in Bhutan, INBAR is involved in the implementation of a project on bamboo structures and exploring bamboo as a sustainable alternative for wood. The project aims to promote local bamboo resources as an efficient building material, and build up the capacity of the people in this area through training and other programmes.

Working with us! In this issue, we bring to you some summer internship opportunities available at INBAR. These Summer Internships are expected to last from May to September 2011, and cover Trade Development Programme research, project information, language (English and Chinese) and multimedia. INBAR's Bamboo and Rattan Volunteer (BRV) Programme, which started in 2004, is still continuing and those interested could apply to work with INBAR as a volunteer.

Please write to us your comments, suggestions about the Newsletter. We look forward to hearing from you.

*INBAR South Asia Regional Office Team*

We invite articles, news items and other contributions on issues related to bamboo and rattan for inclusion in the quarterly newsletter. The contributions may typically be about 300 words. All contributions are to be sent to: Mr. T.P. Subramony, Regional Coordinator (South Asia), by e-mail at: [subramony@inbart.int](mailto:subramony@inbart.int)

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# INBAR in the Region

## Exploring bamboo as an alternative to wood in Bhutan

On 21 September 2009, a 6.1 magnitude earthquake hit Mongar district of Bhutan, about 180 km east of the capital Thimpu. While the earthquake killed only a dozen people, it caused extensive damage to many monasteries and residential houses in the district. Of the 3,747 houses that have been affected by the quake, 1,183 have been reported as non-repairable – that is, the damage is such that the houses have to be demolished and rebuilt.

Interestingly enough, while many of the concrete and stone buildings collapsed, traditional buildings built with wood and earth mostly escaped the quake without substantial damage. This is similar to observations made after major earthquakes in other countries, such as the earthquake in Costa Rica in April 1991 that damaged all the concrete buildings except 30 bamboo houses in the quake areas. Therefore, the Royal Government of Bhutan (RGoB) is convinced that locally available materials could have high potential for the reconstruction programme in the affected areas.

Although wood was abundantly used in earlier times, the practice may not be considered sustainable in the modern context. As a sustainable alternative for wood, Bhutan wisely chose bamboo.

Bamboo grows naturally in Bhutan, mostly in the lower hills and the plains of the country. In his field guide *Bamboos in Bhutan*, Dr. Chris Stepleton (1994) has recorded 15 bamboo species in the country, including three large diameter varieties that are suitable for construction purposes. Major species found in the sub-tropical areas include *Bambusa nutans*, *Dendrocalamus hamiltonii*, *D. sikkimensis*, *D. patelleries*, *D. strictus*, *Drepanostachyum hookerianum* and *D. intermedium*. Other species include *Arundinaria racemosa*, *A. maling*, *A. polystachya*, *A. griffithii* and *Dendrocalamus hookeri*.

### Reconstruction support by INBAR

As Bhutan is a member country, INBAR has decided to play its part in the reconstruction programme. The overall goal is to promote local bamboo resources as an energy-efficient, renewable and earthquake-resistant building material that would blend into the rich Bhutanese architectural practices. The



*Concrete and stone houses suffered extensive damage in the earthquake*

main objective of the current project is to build capacity of local people and construction firms to use bamboo effectively for the reconstruction programme in the areas now hit by the earthquake.

In its first phase, the project will construct a model residential building as per a design that complies with local climatic conditions and the requirements for homes from the local people. The house will be used as a government guesthouse, which will accommodate important dignitaries.

In the second phase, the project will provide technical support to the construction companies contracted to build additional bamboo-based buildings in the earthquake areas. It will support RGoB to take necessary action at the policy level to build with bamboo and urge other donors to support such construction activities in Bhutan. Finally, the project will work to create more awareness about the potential of bamboo as a renewable and earthquake-tolerant construction material.



## Gregarious flowering of a long-lived tropical semelparous bamboo *Schizostachyum dullooa*

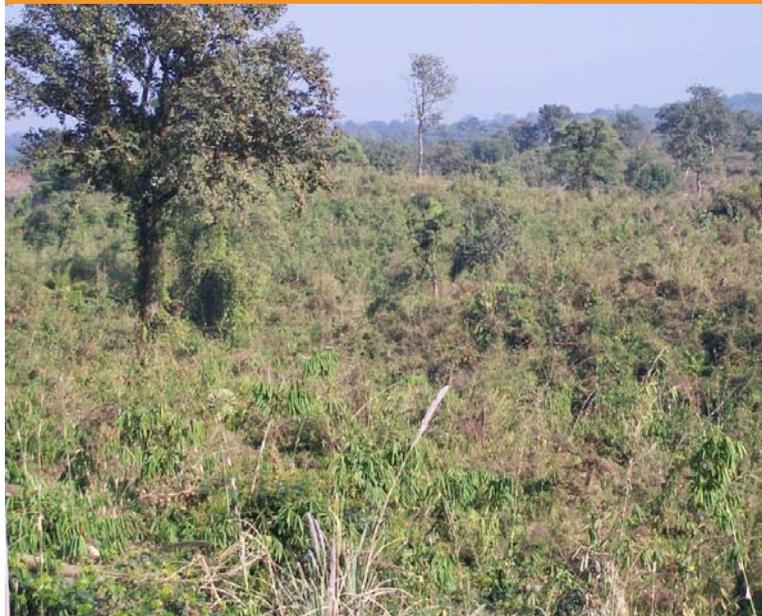
Arun Jyoti Nath and Ashesh Kumar Das  
Department of Ecology and Environmental Science,  
Assam University, Silchar 788011, Assam, India

*Schizostachyum dullooa* (Gamble) Majumder ('dolu bamboo') is a thin-walled, sympodial, moderate to large-sized tufted bamboo distributed in the moist semi-evergreen forests of North East India (Assam, Sikkim, Meghalaya, Tripura, Mizoram), extending up to Sylhet, Chittagong and Chittagong Hill Tracts of Bangladesh.<sup>1</sup> This bamboo species is dominant in the successional fallows of North East India<sup>2</sup> and forms the overriding vegetation in tropical and subtropical hill slopes in which it grows. After *Melocanna baccifera*, *S. dullooa* is the next important bamboo species in the hill tracts of Cachar district, Assam.

*S. dullooa* is traditionally harvested by human populations for subsistence and commercial needs. Internodes of the green culm are used for preparation of a traditional food during the religious harvest festival, in addition to its wide range of uses in house construction, fencing and craft making.<sup>3</sup> Young shoots of the species is also a food item of Phayre's Leaf monkey during rainy season. The importance of the species as the provider of ecosystem services<sup>4</sup> is clear from the numerous ways through which it generates services.

Gregarious flowering occurs almost over an entire area and is followed by the death of the clump.<sup>5</sup> Some bamboos are perennial monocarps with long flowering intervals.<sup>6</sup> During variable cycle periods, bamboos die over a large area after mass synchronous flowering and setting of seeds.<sup>7</sup> Flowering happens after many years of vegetative growth, varying from 20 to 60 or even 120 years.<sup>5</sup> Bamboo die-off events have severe ecological and economic impacts on the ecosystem – exposed forest soil, food crisis for dependent animals, unsuitability of dried culms for pulp and paper, cottage industries.<sup>8</sup> Therefore, knowledge of exact flowering cycle of each species is necessary for the effective management of bamboo stands to make adequate arrangement for proper utilization of culms and the storage of seeds.<sup>8</sup>

*S. dullooa* is a semelparous species that has a long period of vegetative growth followed by mass flowering. Recently the species is flowering in the entire forest range of Innerline Reserve Forest of



Young plants of *Schizostachyum dullooa*

Cachar. Flowering, observed in all the culm ages present in the clump, began in mid-October 2010, after the rainy season and continued till December. Young inflorescences within few weeks turned in to huge inflorescences. Leaves in the culm gradually turned brown and the culm became leafless. In Cachar district, gregarious flowering was previously reported in 1962.<sup>9</sup> There is no available report of gregarious flowering of the species since then, revealing the flowering cycle of the species as 48 years. The flowering cycle of 47 years (1880-1927) was reported from Rangamati, Chittagong hill tract, Bangladesh.<sup>10,11</sup> Reports from Kassalong Reserve, Bangladesh, revealed the flowering cycle of 47 years (1927-1974).<sup>12</sup> Flowering cycle of 37 years (1962-1999) was reported from Hazarikhil, Chittagong, Bangladesh.<sup>13</sup> Moreover, sporadic nature of flowering was also reported during 1951, 1967-68 from Assam<sup>14</sup> and during 1990 from Chittagong hill tract, Bangladesh.<sup>1</sup> Therefore, the flowering nature of the species is mostly gregarious (37-48 years) and occasionally sporadic.

The growing commercial trade of the species from its natural habitat has resulted in excessive harvest and therefore generated concern about overexploitation.<sup>3</sup> Present flowering phenomenon of the species may be an opportunity in disguise to investigate the gregarious flowering of the species in relation to biotic interferences. Further study is essential after die-off event to evaluate how the rural people convene their alternate requirement that otherwise are dependent on the species for their rural subsistence. It is also important at this stage to strengthen research to determine the effect of die-off event on the vegetational structure and functional aspect of the forest. It would also be interesting to explore the response of herbs, shrubs and tree seedlings to formation of exposed patches subsequent to the gregarious flowering of the species. Moreover, factors



# Working with INBAR

*Brief announcements on  
current employment opportunities in INBAR*

affecting recovery of original population size requires detailed investigation. Certain management considerations like seed collection, protection of natural regeneration and creation of seed and seedling bank are also required.

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## Summer Internships 2011

INBAR is now accepting applications for Summer Internships. These internships are expected to last up to September 2011. Kindly send your c.v. and letter of application in English to the staff member listed as the supervisor for the internship you are interested in, with a copy to [andrew@inbar.int](mailto:andrew@inbar.int). Please note that only candidates short-listed for interview will be contacted. If you have any questions on the internship scheme in general please feel free to email [andrew@inbar.int](mailto:andrew@inbar.int).

### 1. Trade Development Programme research internships

INBAR's Trade Development Programme (TDP) leads the organization's work monitoring and reporting trade developments in the bamboo and rattan sectors. TDP officers prepare reports for internal and external use on various aspects of international trade and issues related to it in bamboo and rattan, using INBAR's and other sources of data. We are seeking a number of interns to help produce these reports.

Skills required include excellent knowledge of English (working knowledge of Chinese, French, Spanish will be advantageous), a background knowledge of issues affecting world trade, and interest/experience in data analysis and producing reports.

Applications and requests for more information may be sent to Ren Hong ([hren@inbar.int](mailto:hren@inbar.int)).

### 2. Project information internship

INBAR runs a major project on developing bamboo charcoal as an alternative to wood charcoal in Africa. The project produces a range of publicity and information publications, including a website and a regular newsletter. This internship will involve helping produce English language materials, editing existing materials, updating the website, and developing new materials for the project, in conjunction with the project officers at INBAR.

Skills required include excellent knowledge of English, experience of writing for public consumption, and interest/experience in sustainable development/climate change, and ability to use relevant software such as photo-editing software.

Applications and requests for more information may be sent to Wu Junqi ([jqwu@inbar.int](mailto:jqwu@inbar.int)).



### 3. Language interns

INBAR employs a wide range of staff from different parts of the world in its Beijing office. We are now looking for interns to teach English and Chinese as foreign languages to the staff members interested to improve their language skills. The internships would also likely include translating for INBAR's website and other documents, and/or interpreting.

Skills required include good command over spoken and written English or Chinese (ideally with experience of teaching English/Chinese as a foreign language qualification). Experience of translating and interpreting would be an advantage.

Applications and enquires may be sent to Andrew Benton ([andrew@inbar.int](mailto:andrew@inbar.int)).

### 4. Multimedia internship

INBAR is seeking to strengthen its capacity to use multimedia technology to broaden the reach and impact of its communication efforts. Multimedia interns are expected to assist in: enhancing the quality and functionality of INBAR's photo, video

and other multimedia resources; tailoring multimedia resources into attractive, relevant and effective products; disseminating these multimedia products to INBAR's stakeholder audiences and the broader community; and developing an ongoing strategy for utilizing social media to achieve INBAR's mission and strategic goals.

Skills need include knowledge and experience with 'new media' technologies and opportunities, and technical proficiency with multimedia archiving and broadcast editing software. Experience in using English as working language is preferred.

Applications and enquiries may be directed to Tim Cronin ([tcronin@inbar.int](mailto:tcronin@inbar.int)).

### 5. Bamboo and Rattan Volunteers and Interns impact study internship

INBAR started Bamboo and Rattan Volunteers in 2004 and since then has welcomed over 150 volunteers (and latterly interns). Bamboo and Rattan Volunteers promote volunteerism in the global bamboo and rattan sectors as a means of helping combat poverty and improving livelihoods and the environment. It offers volunteering opportunities at INBAR and selected partners to help build voluntary capacity in the sector.

This year marks the tenth anniversary of the International Year of Volunteering and INBAR wants to review its own and other organizations work with volunteers on bamboo and rattan, for publication on or around International Volunteers Day (5th December). It also wants a review of the methods and results of Bamboo and Rattan Volunteers to date, and examine how Bamboo and Rattan Volunteers could be taken forward in the coming years.

Interns will be expected to research other organizations' experiences with volunteers and make actionable recommendations on how Bamboo and Rattan Volunteers could be taken forward in the next few years.

The ideal candidate will:

- Have demonstrable enthusiasm and experience of volunteering;
- Have excellent researching and interpersonal skills;
- Be a native English speaker with working knowledge of one or more of INBAR's other official languages (Chinese, French Spanish);
- Have demonstrable experience of running a review process and producing outputs of a sufficient quality for public dissemination;
- Be dedicated, hard working; and
- Enjoy working in a multi-cultural environment.

Enquiries and applications may be sent to Andrew Benton ([andrew@inbar.int](mailto:andrew@inbar.int)).

#### Obituary: Mr. N.S. Adkoli



Mr. N.S. Adkoli, a retired officer of the Indian Forest Service and the founder of the Bamboo Society of India, passed away on 5 April 2011. He was 80, and is survived by his wife, son and daughter.

Mr. Adkoli was an ardent bamboo enthusiast and had written several papers on the use of bamboo in various socially important sectors, such as sericulture.

Ever interested in the development of bamboo sector, Mr. Adkoli's demise occurred immediately after he returned from a tour of bamboo areas of the Western Ghats of Kerala and Karnataka states of India.

Besides being the Executive Director of Bamboo Society of India, Mr. Adkoli had served as Joint Managing Director of Karnataka Pulpwoods Ltd. and as Member of the Board of Governors, Indian Plywood Industries Research and Training Institute (IPIRTI).

Mr. Adkoli's sudden demise will sadden all bamboo enthusiasts, particularly in India. INBAR extends its condolences to the family and friends of Mr. Adkoli.



## The grass or tree question

Arun Kumar

Is bamboo a tree or a grass? Taxonomically, bamboo is a “woody” giant grass. In other words, it is a grass that has some wood-like characteristics. Not much of an issue there. The question, however, lingers in the fields of ecology, forestry and socio-economics. The reason for this non-resolution is not scientific issues but practical considerations.

Eminent forest ecologist Prof. Zhu Zhaohua, the first Deputy Director General of INBAR and a Distinguished Fellow of INBAR for Life, shares an interesting piece of information about an ancient Chinese book (written around 1,500 years ago), which played a notable role in the world’s history of biology. The book, which discussed incisively all features of bamboo, starts on the topic with almost a Zen-like statement: “Bamboo, neither grass nor tree”. This is the other end of the scientific position that bamboo is a grass and a tree. Nevertheless, both positions together paint the picture of the conundrum.

Prof. Zhu emphasizes the latter part of the statement – “nor tree” – to propose that bamboo should be seen as a grass and classified out of the timber-based forest economics. INBAR too had taken this position from its inception and its first Director-General, Dr. Cherla Sastry, had forcefully argued the case for a “non-wood” approach to bamboo at several international forums. It believed, and still does, that the development path for bamboo industry should be strategically and thematically different from that of timber industry: not an easy task, considering that the “woodiness” of bamboo is still the most economically valuable aspect of the plant.

Governments are increasingly taking this position. In 2006, as part of the moves for environmental conservation, the Chinese government had begun levying a consumption tax on disposable wood chopsticks, solid wood flooring, and engineered wood flooring. The same products made of bamboo were not subject to this task, as bamboo is a renewable resource and its use leaves no negative mark on ecology. Prof. Zhu points to a trade-related incident between China and the United States to argue that industrialized nations such as the United States too are beginning to accept this view. In November 2010, the United States Department of Commerce initiated investigations on the import of

multi-layered wooden flooring from China, which involved several bamboo flooring exporters from Anji County in China. An anti-dumping duty as high as 242.20% was imposed on the product. However, a month later, the decision was reversed on the consideration that bamboo was not wood.

India, which has the second largest bamboo stock in the world, too has subscribed to this view of late. Following a study that the Confederation of Indian Industry (CII) conducted jointly with the India Development Foundation (IDF), which unambiguously declared bamboo a “non-tree” plant, the Ministry of Environment and Forests removed bamboo from the definition of “tree” under Section 2(7) of the Indian Forest Act, 1927. Considering the legacy and standing of the Indian Forest Act 1927, this is almost revolutionary and may well mark the gathering momentum of the need for forest reforms.

As a tree, bamboo would be a “forest produce” and very much in the control of the state forest departments. The economic value of the produce accrues to the state, which “allots” thousands of tons of bamboo either by auction or by government order, often at very cheap rates, to large pulp, paper and rayon mills. For instance, about five decades ago, Mavoor Rayons in Kerala state (part of the giant Grasim Industries and claimed to be the first in the world to manufacture rayon-grade pulp from bamboo) used to get bamboo at the rate of Rs 1 per ton when the market rate was Rs 80 per ton! By tagging bamboo as a tree and therefore a “forest produce”, the forest departments get control over its harvest, transportation and trade.

As a grass, bamboo would be a “minor forest produce” – a non-timber forest produce of commercial value, although not defined as such in the Indian Forest Act 1927. People, particularly those who reside in or around forests, would then have the right to harvest it for sale or for value addition by making saleable products. This provides an opportunity to the people, often the poor and the marginalized, to make a living out of bamboo. However, state governments can “nationalize” any produce at any time and the forest department can then reclaim exclusive ownership. The struggle to get the situation corrected has been a long and arduous one.

The current move, which got on the road with the CII-IDF study “*Industrialization of bamboo sector in India*”, had its beginning in the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act – or the shorter Forest Rights Act (FRA) – of 2006, which defined, for the first





time, minor forest produce as including bamboo (and many other items). FRA also bestowed on tribal people and other traditional forest dwellers the “right of ownership, access to collect, use and dispose of minor forest produce” from within or outside their village boundaries.

Annual bamboo production in India is estimated at 13.47 million tons, from 9.6 million hectares (12.8 per cent of India’s forested area). Some of the country’s poorest live in and around these bamboo forests. Hence, liberating bamboo from the “forest produce” category would translate into much-needed socio-economic benefits for a large number of these poor people. The Union Environment Minister Mr. Jairam Ramesh has written to state chief ministers, recommending that full trade rights over bamboo be given to tribal and other communities in areas where the rights of such communities had been recognized. Mr. Ramesh even visited one such area in Maharashtra state and personally handed over bamboo harvesting permits to the tribal people there.

Earlier attempts at liberating the minor forest produce, including the laws passed by the Parliament, had not measured up when it mattered. There were reports that the latest announcement (FRA 2006 had already listed bamboo as a minor forest produce) by Mr. Ramesh had not gone well with some state forestry departments.

Writing in *The Times of India*, Mr. Nithin Sethi reported that the minor forest produce represents a booming unregulated trade worth Rs 500 billion (more than US\$11 billion) annually – roughly twice the national budget amount for rural health – and bamboo accounts for a fifth of that. The states in which the distribution of bamboo is concentrated stand to lose some revenue if FRA is given its due recognition. How to make good this “loss” is a lingering issue.

A paper presented at the International Conference on Improvement of Bamboo Productivity and Marketing for Sustainable Livelihood in 2008 (*Indian Bamboo Industry: Market Overview & Outlook* by Nirvan Jyoti Bhattacharjee and Kalyan Chakravarthy G.K.D.) noted that while India has 17% of the global acreage of bamboo, it has only 4% of global market owing to low yields. Freeing bamboo from controls would give shot in the arm to private plantations, which would lead to improved productivity in the sector. The question “is bamboo a grass or a tree” therefore may not get a final resolution until these thorny issues are thrashed out to the satisfaction of all parties concerned.

## News from the B&R World

### BANGLADESH

#### *Artificial bamboo crisis cuts production*

In Bangladesh, two units of Karnaphuli Paper Mills have shut down due to an artificial crisis of raw material, bamboo, allegedly created by a vested quarter. Incurring a loss of about Tk 300,000 (US\$4,080) to 400,000 (US\$5,440) a day, the factory is now producing 30-40 tons of newsprint using just one unit. The factory is capable of producing 100 tons a day, said Mostofa Mian, its administrative manager.

Since June, the factory authorities have floated six tenders to procure bamboo, during the peak of bamboo harvesting season. But every time, the bidders, who have stockpiled huge amounts of bamboo, quoted exorbitant prices surpassing the highest estimate of the factory.

“Last year the price was Tk 4,500 (US\$61.20) per ton. This year they are quoting Tk 5,777 (US\$78.55) for a ton, which is much more than the price fixed by the government,” said Zahirul Haque, managing director of the factory. The contractors are buying a ton at less than Tk 2,500 (US\$34).

(Source: *The Daily Star*, 04 December 2010)

### CHINA

#### *Chinese man lives in mobile bamboo house*

After college, Dai Haifei, 24, landed a good job at an architecture firm in Beijing. But since the living expenses in China’s capital are so high, Haifei was unable to afford rent and commuter costs.

To solve the problem, he used his design skills and built a 6-foot, 7-inch egg-shaped mobile home on public property near where the company is located. He lived in the hut for two months, until it was removed by authorities.

The US\$960 (6,400 yuan) home was everything he needed and more. It is waterproof, has wheels so that it can be moved, and has solar panels on the roof to produce electricity. It is made of bamboo and covered in sacks of soil with grass growing for camouflage. Inside is a bed, room for plenty of books and even a small water tank.

Haifei not only wanted a convenient place to live, but also hoped to raise awareness about the living conditions in China, and to open doors for alternative living possibilities.



*Dai Haifei in his bamboo nest*

While one might expect the mobile home was taken away due to complaints from the neighbours, they were not only not bothered by it but were also impressed by the novel house. The city officials removed it because it had violated regulations.

*(Source: www.tonic.com, 07 December 2010)*

## INDIA

### **The country's first bamboo park**

Bamboo-based industry in the North-East of India is up for a major transformation as Assam state will soon have the country's first and a state-of-the-art Bamboo Technology Park to boost bamboo cultivation in the region.

The foundation stone of the Park was recently laid by Assam's industry minister Pradyut Bordoloi. The Park, which is being constructed at an estimated cost of Rs 630 million (US\$14 million), is expected to attract at least Rs 2 billion (US\$44.45 million) investment in future, said Bordoloi. When completed, it would generate direct employment for at least 2,000 people.

The minister said the Park will be commissioned within two years as an environment-friendly complex. The Park will also have a state-of-the-art common facilities centre, an effluent treatment plant, dedicated power supply, a research and development centre and an artisan training centre.

Around 24 industrial units are expected to come up in the Park and would manufacture bamboo-based products like furniture, handicrafts, incense sticks, flooring, textile, bamboo shoot and so on.

*(Source: Business Standard, 04 January 2011)*

### **Move to give tribal people fair share in bamboo trade**

India's Ministry of Environment and Forests took half a step towards ending the monopoly of the forest department over the Rs 100 billion (US\$2.2 billion) annual bamboo trade in the country.

Environment minister Jairam Ramesh wrote to chief ministers of all states to alter their rules and instruct the state forest officers to treat bamboo as a minor forest produce. This would, technically, allow tribal people and villagers also to take part in the trade.

The Forest Rights Act of 2006 defined bamboo as minor forest produce but forest officials refused to deal with it accordingly and instead held a monopoly control on the trade.

Ramesh, writing to chief ministers, cleared the legal position on the lucrative product. But the fine print of his letter left doubts whether bamboo trade would really benefit substantial numbers.

Ramesh recommended that complete rights over the trade be given in areas where community rights of tribal and other people had been recognized. In other areas, he recommended that the forest department and tribal people jointly manage the trade. But in most places, as the Ministry's own expert panel has concluded, the community rights are not being recognized by forest departments and state governments. This could effectively nullify the progressive step Ramesh took with his letter.

The Minister asked forest departments to give gram sabha (village council) the right to issue transit passes to transport bamboo in areas designated as community forest resources vested under FRA and village forests under Indian Forest Act 1927.

*(Source: The Times of India, 23 March 2011)*

## INDONESIA

### **Call to revamp rattan trade and export**

The Indonesian Supervisory Commission on Business Competition (KPPU) has urged the country's federal government to revise the regulation on trade and export of rattan. According to KPPU, the supply of rattan had exceeded demand in the domestic market, thus hurting the livelihood of local rattan suppliers.

The Indonesian Rattan Businessmen Association (APRI) points out that annual domestic consumption of rattan is about 40,000 tons, while production has reached 696,000 tons. Moreover, rattan processing in the country has declined in the last few years, further weakening the demand for it.



The regulation on trade and export of rattan was enforced by the Ministry of Trade on 11 August 2009. It outlines the export ban of several species of rattan and limits the export volume of semi-processed rattan to 35,000 tons. Furthermore, the regulation also requires that rattan producers and suppliers must obtain letters of approval from the local rattan industry declaring that they have met and satisfied the requirements of the local rattan market.

According to APRI, the export of rattan in excess of actual domestic production of finished rattan products should be facilitated. The requirement of a letter of approval is open to abuses and should be issued by governmental authorities instead of local industry bodies, APRI says.

Indonesia exported a total of US\$138 million worth of rattan products in 2010, down 21.5% from US\$168 million recorded in 2009. Indonesia accounts for 82% of the world's total rattan production and there are 300 rattan species found across the country.

(Source: IHB FORDAQ Network, 23 February 2011)

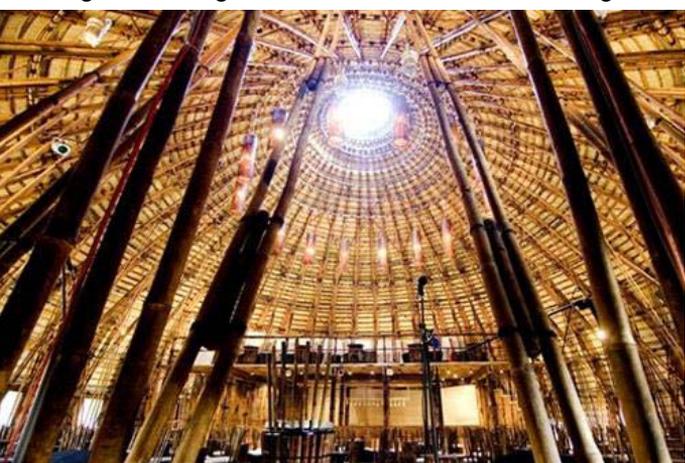
## VIETNAM

### **An architectural marvel with bamboo**

The Water and Wind Café situated in the Binh Duong province of Vietnam is an architectural marvel with its stunningly massive bamboo structure and the unique way in which it is constructed.

The most significant aspect of the building, designed and constructed by Vo Trong Nghia, is that it was built without using even one nail, or making use of any kind of modern machinery or metal structures.

The sustainable design has bamboo woven together using traditional Vietnamese weaving



*An interior view of the Water and Wind Café*

techniques. Shaped like a dome, this hemispherical café very well exhibits how versatile and strong bamboo is. The rounded bar inside the café features a frame that measures 30 feet high.

The opening at the very top of the dome allows daylight to stream inside to brighten the interior. The dome is covered in a local bush plant, thereby adding to its aesthetic quality.

(Source: [www.greenpacks.org](http://www.greenpacks.org), 07 December 2010)

## INTERNATIONAL

### **Cuba seeks to boost bamboo use**

A project underway in Holguin to expand bamboo forests has enabled the planting of 1,730 acres of the grass for use as an environmentally friendly alternative to wood.

Raul Figueredo, coordinator of the project called Bamboo Biomass, said the bamboo will be used to increase the production of handicrafts and build farms for animal husbandry. For this, three carpenter's workshops have been opened in the province and ten smaller ones will be opened in 2011.

Figueredo added that, as a result of the initiative, the soil salinized by earlier mining activity will be recovered and water resources of the province will be benefited as well.

(Source: [www.cubanews.ain.cu](http://www.cubanews.ain.cu), 18 February 2011)

### **Kenya on green drive to tap carbon credits**

The Kenyan government is seeking to tap billions of shillings from international carbon trading markets in a massive re-forestation drive that will also create jobs for thousands of youths.

The plan focuses on rehabilitating degraded lands through planting trees, grass (including bamboo) and flowering plants. The project will also create jobs for youths who will be hired to work on green beautification activities under Treasury's Economic Stimulus Programme.

Patrick Karani, the Executive Director of Bea International, the company helping the government to set up Nairobi Carbon Exchange, said each hectare can hold up to 1,500 trees that can sink 300 tons of carbon dioxide (CO<sub>2</sub>) every year. The soils on the same land can hold a further 200 tons of CO<sub>2</sub>. Thus, each rehabilitated hectare will prevent 500 tons of CO<sub>2</sub> emission.

At the current payment rate of 15 euros (Sh 1,605) for every ton of carbon dioxide not emitted into the atmosphere, the government could earn Sh 3.3 billion (30.8 million euros) every year.

(Source: *Business Daily*, 04 January 2011)