



International Network for Bamboo and Rattan

In partnership for inclusive and green development



Contents

In this issue...	1
INBAR in the Region	
♦ Bamboo house in Bhutan inaugurated	2
♦ Value chain project on bamboo construction in Bhutan	2
♦ Sankalp Award for NATIVE KONBAC	3
♦ TRIBAC: Lending support to self-help groups in the bamboo sector	3
Workshop	
♦ International Training Workshop on Integrated Sustainable Development	4
News from the B&R World	
♦ Consumption of shoots threatens bamboo production	5
♦ Economic return from rattan supports sustainable forest and poverty reduction	5
♦ Bamboo vinegar as antibiotic alternative	6
♦ National Bamboo Mission exceeds target in bamboo planting	6
♦ A bamboo policy on the anvil in Manipur	6
♦ Central Kalimantan to witness boost in rattan industry	7
♦ Governments urged to plant bamboos in landslide-prone areas	7
♦ Investment for sustainable rattan production project continued	7
♦ New bamboo charcoal technology promises to jump-start Africa's bio-energy sector	8
New Publication	
♦ Cross-border value chains for NTFPs in four different Asian countries	8

In this issue...

We welcome you to this latest edition of the regional newsletter from INBAR's South Asia Regional Office (SARO).

With the current research and available technology, bamboo structures can be a wise choice to the construction industry, particularly in the field of housing, ecotourism, transitional shelters, and public facilities like schools, hospitals and community halls. The last two decades have witnessed renewed interest in building with bamboo. The high tensile and compressive strength of bamboo, supported by the international attempts at its standardization and codification as a building material, makes it an ideal material for construction in areas prone to earthquakes. Furthermore, the fast growth rate, sustainability and good insulating properties of bamboo give it an edge over steel and concrete. With the development of lamination and modern joinery techniques, architects and engineers are now able to build large spanned structures using bamboo. INBAR has been in the forefront of efforts aimed at furthering bamboo-based building technologies and popularizing bamboo constructions across the world. In this issue of the INBAR SARO newsletter, we bring you an overview of INBAR's bamboo construction projects in Bhutan – both completed and the newly launched project 'value chain project on bamboo construction'.

INBAR is proud to report the recent achievements and accolades of two of its valued partners in India, 'NATIVE KONBAC' and TRIBAC. We bring you a report.

INBAR, together with the Global NTFP Partnership, is pleased to bring out a new publication, a working paper on cross-border value chains for NTFPs in four different Asian countries. See page 8 for an abstract.

Send in your comments and suggestions about the newsletter. Your constructive feedback and suggestions will be very much appreciated.

INBAR South Asia Regional Office Team

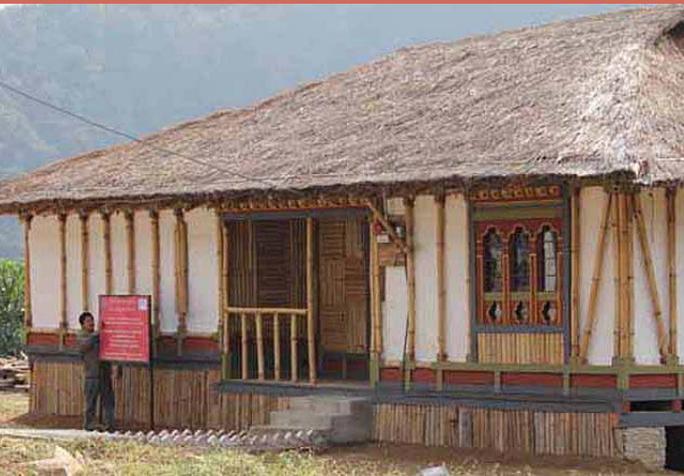
We invite articles, news items and other contributions on issues related to bamboo and rattan for inclusion in the quarterly newsletter. The contributions may typically be about 300 words. All contributions are to be sent to: Mr. T.P. Subramony, Regional Coordinator (South Asia), by e-mail at: subramony@inbart.int

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INBAR in the Region

Bamboo house in Bhutan inaugurated



The completed bamboo demonstration house

In December 2011, the Bhutanese government inaugurated the first bamboo-framed, traditional-style house in the country (*the October 2011 issue of this Newsletter had a report on the construction of the demonstration unit*). The 100 m² building in Tingtibi, Zhemgang District – designed and constructed by INBAR, the Ministry of Agriculture and Forestry of Bhutan and carpenters from all over Bhutan – is now the permanent residence of the Tingtibi Community Chief.

The new structure used local bamboo as the framework of the house and for many of the walls, with timber still used for some joints. The use of traditional adobe walling and a thatched roof ensured that all materials, except the cement used in the foundations, were sourced locally. The house uses approximately 25.5 m³ less wood than an equivalent timber-framed home, and is nearly half the price, at a cost of US\$140/m². The house has an expected life span of at least 20 years. The Royal Government of Bhutan is planning to construct three more bamboo structures in 2012 with INBAR’s support.

Value chain project on bamboo construction in Bhutan

INBAR and Bhutan’s Ministry of Agriculture and Forests (MoAF) signed an agreement on 15 June 2012 to implement a new two-year pilot project on bamboo value chain development for construction



The new project aims to promote use of bamboo in housing construction in Bhutan

product funded by the Common Fund for Commodities (CFC). The agreement aims to achieve sustainability in Bhutan’s construction sector.

Although 30 bamboo species grow in Bhutan, including *Bambusa balcooa*, *B. nutans* and *B. tulda*, their full potential in construction had never been tested before the INBAR project. Traditional use of bamboo has been only as infill materials in timber-framed houses. In recent years, however, an unprecedented construction boom has led to a local timber shortage of 52,100 m³. This has given a boost to the utilization of local bamboo resources for construction.

The new CFC project “Bamboo for Sustainable Construction and Rural Value Chain Development in Bhutan: A Pilot Project” will now lay a foundation for the development of a quality bamboo construction sector in Bhutan that can provide a sustainable, affordable source of alternative timber for use in traditional wood frame housing. Through the project, a new cadre of skilled artisans and construction workers are already being trained in modern construction techniques using bamboo, with the construction of Bhutan’s second bamboo-framed building already under way in Pakpay, Samtse District. After two years, the project will benefit up to 500 farming families in Zhemgang, Samdrup Jongkhar, Tisrang and Samtse Districts through the provision of 6 hectares of bamboo plantations, resource management training and new access to construction markets for their bamboo resources.

On behalf of MoAF, Mr. Dasho Sherub Gyaltshen, Secretary, signed the project implementation agreement between INBAR and Social Forestry & Extension Division on 15 June 2012. The project is expected to commence shortly.





Sankalp Award for NATIVE KONBAC

NATIVE KONBAC – an INBAR partner organization that caters to the growing demand for high-quality bamboo products & services and in the process, creates a means of livelihood for local communities – has bagged Sankalp Award for 2011.



A bamboo cottage designed and constructed by NATIVE KONBAC

The “Sankalp Awards” is an Intellecap initiative to recognize some of the most innovative, scalable Indian businesses ideas that can facilitate large-scale social and environmental impact. Intellecap catalyses impact investments into sustainable, scalable businesses globally. Since 2009, the Sankalp Forum has created an eco-system of stakeholders that are interested in furthering social impact and entrepreneurship through market-based approaches.

For Sankalp 2011 Awards, out of the five categories (Agriculture, Food and Rural Business; Health Water and Sanitation; Education; Clean Energy; and Technology for Development), NATIVE KONBAC entered the Agriculture, Food and Rural Business category and emerged as first runner-up competing against a few giants of the Asian agri-businesses. NATIVE KONBAC has successfully ensured that bamboo is universally acknowledged as a product which is scalable and more important sustainable and if the approach is right it does not necessarily be supported by grants or operated at a project mode. It definitely proves that bamboo addresses the triple bottom line of people, planet and profit.

NATIVE KONBAC is supported by INBAR through its Livelihood and Economic Development (LED) programme.

TRIBAC: Lending support to self-help groups in the bamboo sector

TRIBAC, INBAR's partner institution in Tripura, India, has been in the forefront of creating bamboo-based livelihood opportunities for rural people through promotion of self-help groups (SHGs). TRIBAC has received financial support from the Self Help Promoting Institutions (SHPI) programme of National Bank for Agriculture and Rural Development (NABARD), India, to further this initiative by providing microfinance to SHGs. TRIBAC provided microfinance to more than 100 SHGs in Mohanpur RD Block in West Tripura District. TRIBAC's effective support to SHGs came in for praise from Mr. Amaresh Kumar, Executive Director of NABARD, who visited TRIBAC and its operational areas.



A bamboo furniture-making self-help group that TRIBAC has trained and supported

TRIBAC's microfinancing operations were initiated with funding received from Rastriya Gramin Vikas Nidhi (RGVN), an institution initiated and promoted by the Government of India, North-Eastern states and the Reserve Bank of India to support NGO movement in the North-East with a special focus to extend hand-holding support to microfinance initiatives undertaken by not-for-profit organizations. The governing body of RGVN, through its Agartala office, too expressed its deep appreciation for TRIBAC's initiative in arranging microfinancing in Agartala and its surrounding areas.

Since 2003, TRIBAC has been initiating and training SHGs in the bamboo and rattan sector, as well as supporting them through providing financing and marketing assistance.





International Training Workshop on Integrated Sustainable Development

INBAR, together with the Ministry of Science and Technology of the People's Republic of China and Lin'an Modern Forestry Technology Service Centre, is organizing an International Training Workshop on Integrated Sustainable Development in Mountainous Areas and Non-Timber Forest Products (NTFPs): Industrial and Commercial Development. The workshop will run from 2 to 22 September 2012 in Zhejiang province.



Bamboo curtain being made in Anji county

This workshop will provide a platform for people from various levels and fields of works who concerns mountainous development, rural development, environmental protection and natural resource management, etc. to share and explore the best practices in sustainable and integrated development in mountainous and hilly regions, especially, the technologies and products of NTFPs.

The main indoor courses will include:

Part I – Integrated Sustainable Development in Mountainous and Hilly Areas

- The ecological system construction in mountainous and hilly areas
- Sustainable development of Economy in mountainous and hilly areas
- Poverty alleviation in mountainous and hilly areas
- Mountain forest sustainable management
- The policy system for integrated and sustainable development in mountainous and hilly areas
- The development model of eco-tourism and leisure industry in Lin'an and Anji, Zhejiang Province "C a model which lead the local farmers on the way towards wealthy

Part II – Bamboo Industry Development and Relative Technologies; NTFPs Industrialization and Commercialization

- The main experiences in the sustainable development of China's bamboo sector and the bamboo processing technologies
- Bamboo plantation cultivation technologies
- Bamboo shoots processing technologies
- Sustainable management, industrialization and commercialization of NTFPs
- The impact of NTFPs on poverty alleviation and rural sustainable development in the forest area
- The role of government in promoting NTFPs
- Industrial cooperation and NGOs are the links among governments, companies, markets and farmers

The workshop will be held in Lin'an and Anji counties in Zhejiang province, both locations as successful examples of integrated sustainable development in mountain areas. Field visit programme will be arranged in combination with the indoor courses during the workshop. About 70% of the time will be for field visits. The Workshop will give an introduction to the successful model of integrated sustainable mountain development in Lin'an and China's NTFPs development experiences, especially on the aspects of industrialization and commercialization. Field visits will provide the participants with opportunities to see the large-scale bamboo industry in China, besides other areas of activities such as medicinal plants, honey and edible fungus production.

For more details, visit: <http://www.inbar.int/show.asp?BoardID=171&NewsID=842>

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News from the B&R World

BANGLADESH

Consumption of shoots threatens bamboo production

Traditionally, bamboo shoot is a popular dish among the tribal population in the Chittagong Hill Tracts (CHT), which is one of the largest bamboo-producing area in Bangladesh. Over the years, it has become popular among Bengali settlers in CHT too, increasing much its demand as a vegetable, hampering bamboo production in CHT. This could lead serious scarcity of bamboo in the country, and the government too will also lose much in terms of revenue from this natural resource.

In a bid to increase bamboo production, the forest officials have imposed a three-month ban in June on all kinds of bamboo-cutting in 25 sub-districts of CHT as bamboo shoots start growing in the monsoon. Divisional Forest Officer (DFO) of Khagrachhari, Mr. Mohammad Zohurul Alam, said the ban was imposed in accordance with a work plan, prepared by Conservator of Forest Mr. Mahbubuddin Chowdhury.

However, owing to lack of policing and lack of awareness about the ban, more people are getting into the trade of collecting and selling the shoots openly in the markets. Mr. Ananta Bikash Tripura, a first class contractor, said if the consumption of bamboo shoots is not stopped during the monsoon, bamboo prices will go up affecting the construction sector of the country. "We are already witnessing a 30 percent rise in bamboo prices compared to last year's," he added.

Source: www.thedailystar.net

CAMBODIA

Economic return from rattan supports sustainable forest and poverty reduction

Representatives of the Cambodian government, local communities, World Wide Fund for Nature (WWF), rattan entrepreneurs and NGOs met recently to share stories of success of and lessons learnt from the sustainable rattan production project, which was implemented from 2009 to 2011. The project, co-funded by the European Union and IKEA, the Swedish home furnishings retailer, has demonstrated that by using sustainable natural resource management-based approaches, rattan can be a commercially competitive asset that can



Harvesting rattan in Cambodia

boost economic incentives for local communities and businesses and contribute to the growth of national revenue. WWF Sustainable Rattan Project aims at credible forest certification as well as establishing a more sustainable rattan production supply chain.

Rattan is one of the most economically valuable Non-Timber Forest Products (NTFP) harvested in the country and has a high potential to compete in international markets, the project's model of a sustainable rattan production system engaged different actors along the supply chain from village producer groups to traders and processors and finally to buyers.

"With the current sustainable practices, Cambodia's Rattan industry can generate a significant amount of foreign exchange, and can significantly improve rural economies contributing to poverty reduction," said Mr. Ou Ratanak, Rattan Project Manager with WWF.

Today, 4,900 families in the provinces of Kampot, Preah Sihanouk, Koh Kong, Kampong Thom and Preah Vihear involved in the sustainable rattan production initiative are fully committed to effective protection of natural resources and are managing the sustainable use of approximately 16,000 ha of forest.

However, there remain many challenges to the development of rattan trade in Cambodia, including infrastructure, the need for micro-financial support, consistent rattan supply and improving production skills, and quality to meet the standards of environmental sustainability and international market requirements. Export policies also need to encourage international product trade and steps have been made by the Government to improve market competitiveness.

Source: www.cambodia.panda.org



CHINA

Bamboo vinegar as antibiotic alternative

Chinese scientists have tested the effect of bamboo vinegar as an antibiotic alternative on growth performance and faecal bacterial communities of weaned piglets. The aim of the study was to investigate the effects of bamboo vinegar as an antibiotic alternative in the diet of weaned piglets on their growth performance and faecal bacterial communities.

One hundred and twenty weaned piglets, with an average weight of 8.4 kg, were randomly assigned to five treatments, with three pens per treatment. The diets included bamboo vinegar at levels of 0, 0.2, 0.4 or 0.8%, or antibiotics, and designated as control, BV2, BV4, BV8 and antibiotic, respectively. Feed intake and weight gain of pigs were recorded at the start and at the end of the feeding trial. At the end of the experiment, faecal samples of four pigs from each treatment were taken to analyse the faecal bacterial communities.

The compound composition of bamboo vinegar was analysed by gas chromatography–mass spectrometry. Thirty-four compounds were identified or characterized in acetic ether extract from bamboo vinegar. The main group from bamboo vinegar was phenolic compounds, ketone and furfural.

Daily weight gain of the pigs in BV4 and antibiotic was significantly higher than pigs in the control group. No significant difference was observed in daily weight gain among pigs fed diet containing bamboo vinegar and antibiotics. There was no significant difference in feed intake and feed to gain ratio among different treatment. The serum glutathione peroxidase activity of pigs in BV2 or BV4 was significantly higher than that of pigs in antibiotics treatment. The pigs in BV2 had significantly higher serum glutamic–oxaloacetic transaminase activity than those in control.

No significant differences were found in serum superoxide dismutase, hydrogen peroxide, hydrogen peroxidase, oxidation resistance, malondialdehyde and glutamicpyruvic transaminase activities among different treatments. The richness and Shannon index of diversity were significantly lower for the pigs on the diet containing antibiotics than that of control or diets containing 0.2% or 0.4% bamboo vinegar, and tended to decrease with the increase of bamboo vinegar inclusion in the diets.

The results demonstrate that bamboo vinegar in feed exerts an impact on the faecal bacterial community of piglets. The reasonable inclusion of

bamboo vinegar, like antibiotics in piglet diet benefited for a better performance of piglets in this experiment. The result suggested that bamboo vinegar could be used as a potential additive in animal production as antibiotic alternative.

Source: www.allaboutfeed.net

INDIA

National Bamboo Mission exceeds target in bamboo planting

India's National Bamboo Mission has achieved a bamboo coverage of 189,000 ha in different parts of the country against the target of 176,000 ha set for the period. Out of this, 133,000 ha is in forest areas and 56,000 ha is in non-forest areas, an official press release said.

An area of 47,000 ha of existing bamboo plantation has been improved for higher productivity. As many as 1,194 nurseries have been established in different states to supply quality planting material, it said. According to the press release, the Union government has spent close to Rs 4,854 million on the Mission since its inception.

The Mission was launched in 2006-07 in 27 states to harness the potential of bamboo crop. The key objective of the mission is to increase the productivity of bamboo from 3 tonnes/ha to 20 tonnes/ha. The major thrust areas include setting up nurseries for production and distribution of quality planting material, area expansion, rejuvenation of old and unproductive plantation, pest and disease management, bamboo markets and dissemination of latest knowledge thorough workshops, seminars and training programmes.

Source: netindian.in

A bamboo policy on the anvil in Manipur

The State Government of Manipur, India, is planning to come out soon with a definite policy on bamboo in order to facilitate large-scale production of bamboo and consumption of bamboo products, revealed Mr. A.K. Raina, Principal Secretary of Forest, during the inaugural ceremony of a recent one-day district level workshop organized by Bamboo Development Agency, Manipur, under the sponsorship of National Bamboo Mission.

Mr. Raina admitted that even though bamboo grows naturally in the soil of Manipur, it could not be produced in abundance in the absence of proper policy on bamboo. He said, in order to ensure voluminous production of bamboo, the department concerned would formulate a proper policy soon while also urging stakeholders to extend cooperation in this regard.





Bamboo culms being sawed to size for use in housing

Asserting that bamboo is a basic raw material for paper industry, Mr. Raina also elaborated on the need to maintain balance in destruction of forest and exploiting bamboo. He expounded the importance of bamboo culturally, economically and ecologically.

Source: e-pao.net

INDONESIA

Central Kalimantan to witness boost in rattan industry

In Indonesia, Central Kalimantan will see the opening of several rattan industry centres this year, as part of a government policy to develop economic activities, as well as to attract investors. In preparation of those centres, 50 to 100 experts in rattan processing or rattan goods-making would go to Central Kalimantan to train local people in turning raw rattan into exportable finished goods. With the existence of the rattan industry centres, East Kalimantan, which was the biggest rattan-producing region in Indonesia, could benefit optimally from the natural resource.

The sales price of raw rattan would also rise thus making rattan cultivation in the province more attractive to investors, Central Kalimantan vice governor Mr. H. Achmad Diran said. With the existence of the rattan industry centres, East Kalimantan which was the biggest rattan-producing region in Indonesia could benefit optimally from the natural resource.

No less than 80 per cent of world rattan production came from Indonesia and over 40 per cent of Indonesia's rattan output was cultivated in Central Kalimantan, Mr. Achmad added.

Source: www.theborneopost.com

THE PHILIPPINES

Governments urged to plant bamboos in landslide-prone areas

In Eastern Visayas, the Philippines, the Department of Environment and Natural Resources (DENR) has urged local government units tagged by the Mines and Geosciences Bureau as landslide-prone areas to embark on bamboo plantation projects.

"This is the only tree variety best suited along river banks to mitigate landslides. And we need local authorities to initiate the planting of this species," DENR Regional Technical Director Mr. Manolito Ragub said. "Bamboo has a wide spreading root system capable of holding loose soil. In other words, the tree is deep-rooted and best suited against landslides," Mr. Ragub said. The roots of the tree are capable of expanding by 25% to hold six cubic metres of soil, he added.

Source: www.sunstar.com.ph

VIETNAM

Investment for sustainable rattan production project continued

A project on sustainable production of rattan products will be continued in the central province of Thua Thien-Hue, Vietnam, with funding from IKEA, the Swedish home furnishings company. The second phase of the project with a total capital of US\$56,539 channelled through the World Wide Fund for Nature (WWF) will be carried out in Nam Dong and A Luoi districts from January 2012 to July 2014. It aims to develop the rattan processing and production industry, help improve the environment, increase competitiveness and reduce poverty reduction.

The project will also help provide technical assistance for local people, establish a system of rattan supply and develop materials areas. Additionally, projected beneficiaries will be educated about the law and policies, plans for sustainable forest management and harvesting methods.

The Ministry of Agriculture and Rural Development (MARD) has defined bamboo and rattan as the major trees in non-timber exports that help reduce poverty and boost rural economic development in Vietnam in the 2011-2015 period. To ensure sustainable development, the Ministry will plant an additional 165,000 ha of natural bamboo and rattan plants apart from the existing 1.6 million ha. MARD will also provide seedlings and investment capital to bamboo and rattan growers and apply measures to protect bamboo and rattan forests.

Source: www.tuoiitrenews.vn





INTERNATIONAL
*New bamboo charcoal technology
promises to jump-start
Africa's bio-energy sector*



Bamboo charcoal

Bamboo, a plant not often associated with Africa, may be the key to combating soil degradation and massive deforestation on the continent. The plant can be used as an alternative source of energy.

A partnership among African nations and communities, INBAR and China are working to substitute bamboo charcoal and firewood for forest wood on which 80% of the rural population in sub-Saharan Africa depend for their fuel needs.

Initial successes with bamboo charcoal in Ghana and Ethiopia, which have put bamboo biomass at the centre of renewable energy policies, are spurring interest in countries across the continent and prompting calls for greater investment in bamboo-based charcoal production as a 'green biofuel' that could fight deforestation and mitigate climate change.

Scientifically, burning wood also has a significant impact on the climate. Scientists predict that the burning of wood fuel by African households would release the equivalent of 6.7 billion tonnes of greenhouse gases into the atmosphere by 2050.

In terms of health, the burning of fuel wood claims the lives of an estimated 2 million people every year mostly women and children who inhale the smoke, according to data from INBAR. Continued widespread indoor use of forest wood charcoal as a household fuel could cause 10 million premature deaths by 2030.

INBAR's bamboo as sustainable biomass energy initiative is the first to transfer bamboo charcoal technologies from China to sub-Saharan Africa to produce sustainable 'green biofuels' using locally available bamboo resources.

Source: www.ghanabusinessnews.com

New Publication

Cross-border value chains for non-timber forest products in four different Asian countries

Non-timber forest products (NTFPs) are important in many ways for food security, livelihoods, and health of small farmers and forest dwellers in the developing world. They are traded internationally and in some cases the majority of a given product crosses international borders. Often, little is known about participants and their roles in international supply chains.



Various non-timber forest products

Given the importance of NTFPs for the vulnerable groups that include small farmers and forest dwellers, and the knowledge gap in the international NTFP trade, the Global NTFP Partnership decided to carry out an analysis of available information to identify issues and options for interventions. Generation and sharing of knowledge are at the core of the activities of the Global NTFP Partnership.

In this publication, the Partnership takes up two case studies on selected NTFPs crossing borders between Laos and China and between Nepal and India. These two studies use a value-chain approach to address international issues around NTFPs, specifically, external drivers of NTFP-based livelihoods and associated forest management regimes and policies. The publication not only help identify common issues and opportunities in the countries studied, but also position the Partnership and other stakeholders for the development of collaborative project ideas, concepts, and proposals. For the full publication visit:
<http://www.inbar.int/publication/pubdownload.asp?publicid=241&filetype=pdf>

