President’s Message

by James Clever

A whirlwind of progress has been happening in the Bamboo Society this year. Our Society is moving forward with the new website, blogs and Face book, thanks to all the hard work of Bill Hollenback and many others. Paid advertising is now available as banner ads on the website, thanks to Bill King’s efforts. A new Importation Committee headed by Cliff Sussman is planning for importing new temperate bamboos for the society. Revamping the Bylaws has been done by David King, Tom Harlow, and Betty Shor. Also, David King and Lynn Clark are working on the revised “Grants” application form. The position of Treasurer as of July 1 is open for a new member to step forward. The many years that Sue Turtle has put into this task have been a gift to us all. The election of the opening of an At-Large board member is happening. Johan Gielis our Editor-in-Chief of “Bamboo Science and Culture” and Betty & Don Shor editors of this “Bamboo Magazine” have put in countless hours of their donated time into these world class publications. The Arts & Crafts contest will now be every second year, with none this year and starting fresh next year 2012, and again 2014. The chair, Charissa Brock, will be advertising this event broadly in an attempt to expose the public to the Society and bring in more talent to this contest. Participation on the member level is our most valuable asset. At your own chapter level, the effort you contribute reflects on what the Society does or does not. A strong chapter makes a strong society.

I would like to bring light to two chapters: Hawaii and Florida.

These two chapters, although there are many differences, are prime examples of the diversity we have in the American Bamboo Society. Hawaii has perennial summer and geographic expansiveness. For a Hawaii member to attend an ABS conference he/she would travel thousands of miles. In almost all cases he/she would see temperate bamboos, which they do not grow. To attend chapter meetings they have to travel by air from island to island, which is not usually a day trip. Florida has zones where members either are growing tropical or temperate bamboos. One would think this would divide a group. But we all know that in both cases bamboo is bamboo. Growing conditions may be different but techniques are quite similar. About four years into being a member of the ABS I realized I never made an attempt to read any article about tropical bamboos. Being in a temperate climate I thought “I do not get anything from these bamboo articles.” When the next issue came out, I decided to read all the articles — even ones about tropicals — with the thought in mind to apply this information to what I do or could do with bamboo. It is amazing: when one opens the eyes, the world
unfolds in front of him/her. My being shortsighted was nothing but prejudice on my part. The art of crafting bamboo is the same if you are in the cold winter of New England or the humid heat of Miami. Digging bamboo or propagating it is hard work whether in 80- or 40-degree heat. All one has to do is think about technique, not location. So when a fellow member or yourself says it is to far to go to a bamboo meeting, think about this. It took just as long for someone in Boston to travel to Hilo as it did for someone on Maui to travel to Miami. We travel great distances to learn, discover and experience the humanity of personal one-on-one meeting with our fellow members. Differences are what make us strong. And interesting.

David Fairchild wrote a very good book titled *The World is My Garden* (1938). In it he wrote about his experiences with plants and places he visited around the world. He lived in the Miami area and Virginia, went to school in Kansas. He spent time and had experiences with people and plants from many lands. And he found value in all. He did his travels in trains, by foot and steamships and an occasional sailing vessel. He raised a family and explored late into his years. Think about it. Our back yards are our home, but the world is our garden.

The 2011 ABS Conference is only weeks away. What better way to represent your chapter and yourself than by attending. The ABS Board meeting is open to all. As is the ABS General meeting. Come talk bamboo. Discuss with many others like yourself what you are doing on the ground level in your own town with bamboo. Come and see and experience the many wonders that Louisiana has. The bamboo that we shall see at Avery Island is world class. The food will be the best and the people you will meet and the experiences you will have will want you to come back again. Sitting at home reading about bamboo is educational. Being with those like you who are hooked on bamboo can be both educational and fun at the same time. Come and meet those you only read about. Come back to those who have been gone for a while and see old friends.

**Promoting Bamboo as a Sustainable Building Material in Africa**

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Sub-Saharan Africa faces significant challenges of urban development. African countries have the highest proportion of urban slum households in the world, with figures between 60% and 70%. In many cities of Sub-Saharan Africa, slums are emerging as a dominant and distinct type of settlement. The average urbanization rate for the whole of Africa is 3.31% per annum, and urbanization has become virtually synonymous with the growth of slums. Slum dwellers are more likely to contract water-borne diseases, such as cholera and typhoid, as well as opportunistic ones such as HIV/AIDS. About 30-60% of houses in Sub-Saharan Africa are built without professional advice or building standards. The standard of amenities has generally tended to deteriorate in some places even below rural standards.

This situation calls for urgent action to identify alternative housing materials that are cheap, are widely available, and require less technical know-how to construct, but are safe and affordable. Bamboo has proven to be an excellent building material due to its versatile characteristics. It is a low-cost building material that is popular in the areas where it grows naturally. Bamboo is especially suitable for buildings in earthquake zones because it is light and strong. However, special techniques are required for building with bamboo because of its hollow structure.

INBAR has implemented a project on “Development and Promotion of Bamboo Housing Technology” in Uganda, Kenya and Ethiopia, with the aim of promoting bamboo as a locally available, affordable, and sustainable building material. The project was started in May 2009 for a period of two years with funding support from International Development Research Center (IDRC), Canada. The project has been implemented in collaboration with Maseno University, Kisumu in Kenya and Mekerere University in Uganda.
The project is highly relevant in all three project countries. In Kenya, housing demand in the cities reaches 150,000 units per year while production of new houses meets approximately 50,000 units of this demand. This represents a demand-supply gap of 100,000 units per year. This housing shortfall has led to overcrowding, slums and substandard housing. For example, approximately 60%, or 1.9 million of the 3 million residents, of the capital city of Nairobi live in slums and informal settlements. Nearly 60% of Kenya’s 37 million residents are rural subsistence farmers who live on less than $2 a day. Families live in inadequate, overcrowded homes, typically with only one room and no windows. The houses usually have mud walls, cow dung and dirt floors, and thatch roofs. Poor construction means that they serve as breeding grounds for diseases such as malaria, amoebic dysentery and respiratory conditions, which commonly claim the lives of many of their inhabitants. Therefore, the country urgently needs a sustainable housing solution using alternative, affordable, and sustainable building materials.

Similarly, in Uganda, demand for housing is growing at a rapid pace. The country’s housing deficit is over 500,000 units in the country of which 160,000 units are located in urban areas. At present, new houses tend to target middle and upper-end markets. This situation is severe in urban areas like Kampala, where there is an increasing population as a result of the high rural-urban migration. About 60% of Kampala’s population lives in slums where poor sanitation has led to an increase in diseases like dysentery and cholera. Ethiopia has similar situations. The German Technical Assistance (GTZ) in Ethiopia has reported that 85% of the country’s urban population lives in inhuman, unhygienic, and confined conditions. The country’s population growth of 2.8% per year, coupled with accelerated migration to urban centers (6% per year), has increased the demand for affordable and decent housing. According to the census (1994), there were 1,482,589 housing units and 1,771,911 households in urban Ethiopia. This figure shows a deficit of housing for 289,319 households, which is equal to 16.3%. It is estimated that 89% of the population lives in substandard housing. In addition, homelessness is a major problem in urban areas. It is estimated that 80% of the residents in Addis Ababa are homeless or live in substandard housing. Presently, the country imports most of its building materials, such as cement and steel from China and India. The cost of building a...
concrete house is about $300 (U.S.) per square meter — an expensive option not easily accessible to the majority of the population. This situation indicates a strong need for identifying alternative building materials that are affordable, durable, and locally available.

Despite the miserable facts of the housing conditions in the region, the bright side is that most of the African countries have naturally growing bamboo resources. According to the world bamboo resources report (FAO 2005), six African countries (Uganda, Kenya, Ethiopia, Tanzania, Nigeria and Zimbabwe) reported a total of 2.4 million hectares of bamboo forest, which is 7% of the total recorded bamboo resources worldwide. Kenya has 124,000 hectares of bamboo forest, 3.5% of total forest area of the country. Most of the bamboo in Kenya is *Yushania alpina*. This species thrives in the Aberdares range, Mount Elgon, Mount Kenya, the Mau escarpment and the Cheranganyi hills. With the exception of a few clumps of the species left on farms by farmers living around forest areas in the highlands, very little cultivation of this species is done. The country has put a ban on forest logging, including bamboo, while experts recommend managing bamboo to prevent its deterioration. Some small farmers have been granted harvesting rights. There is as yet no formal bamboo management system in the country.

Uganda has reported a total of 67,000 hectares of bamboo forest area in the country, which is about 1.8% of total forest area. It is reported that most of the bamboo resources are located in the northwestern district of Arua and the western and southwestern districts of Hoima and Kabale. Significant portions of the resources are also found in the eastern district of Mbale. Little exploration has been done on the use of bamboo resources in these areas. Most of the resources are located in protected areas under government control.

Similarly Ethiopia possesses many bamboo resources covering about 849,000 hectares, approximately 6.5% of total forest area. There are two indigenous species of bamboo in Ethiopia — highland or African alpine bamboo (*Yushania alpina*) and lowland bamboo (*Oxytenanthera abyssinica*). Highland and lowland bamboos cover about 65% and 35% of the total bamboo forest area respectively. The lowland bamboo in Ethiopia has enormous importance for rural society. Because of the shortage of proper woody plants for con-
struction in the lowlands, the lowland bamboo is commonly used as an alternative for timber in house construction and for fences, as fodder for cattle, as food for people, and as a source of biomass energy.

INBAR’s project has been successful in increasing local capacity on building with bamboo. The major achievements are: 

Construction of conventional bamboo demonstration houses

INBAR built a conventional bamboo building with architectural support from Colombia architect Juan Carlos Jaramillo. A 600-square-foot bamboo canteen (photo 1, page 3) has been built at Maseno University in Kenya, and a 2200-square-foot size conference hall (photos 2,3,4, pp 4-5) has been built at Makerere University, Kampala, Uganda. Colombian architects trained a total of 30 local practitioners from Kenya and Uganda on bamboo construction during the construction of the bamboo houses. INBAR built a demonstration bamboo house in Ethiopia in 2006, which has been used as INBAR’s bamboo-charcoal project office in Addis Ababa.

Construction of modern engineered bamboo model building

Wood-frame construction is a popular system for building homes and apartments in North America and, more recently, in Japan. Increasingly this system is being used for the commercial and industrial buildings as well. Wood-frame construction is considered economical and insulated, and it provides maximum comfort to the occupants. It is adaptable to most architectural systems. The wood-frame system meets the standards of earthquake and strength. In this system 2-inch by 4-inch soft pinewood is used for studs and 2-inch by 10-inch lumber is used for structural beams.

Although the wood-frame system is sustainable and economical, it is not popular in developing countries. One reason is the lack of timber to construct buildings. Engineered bamboo could be used instead of wood to make bamboo-frame structures, which would provide a quality similar to those in North America. Such a construction system would provide a modern way of using bamboo for construction and would attract high-end marketing.

Realizing the vast potential of using bamboo for modern structures, INBAR collaborated with Advanced Bamboo and Timber Construction (Principal Scientist Prof Yan Xiao) to design and construct a model house in Beijing. The technology has recently been demonstrated in Uganda and Kenya. The structures were pre-
fabricated in China by ABTT and assembled at Maseno University in Kenya (photos 5,6,7, pp. 5-6) and at Mekerere University in Uganda. The buildings have received a lot of public attention, as people could hardly believe what one can do with bamboo, which has mostly been neglected in those countries.

**Capacity building of the local practitioners**

Besides the model buildings, INBAR has done several activities related to capacity buildings. As well as in their respective countries, we have trained professionals on bamboo housing in India and China. We have also trained professionals on bamboo processing and pre-processing in China. Recently 26 persons from Kenya and Uganda were trained for bamboo cultivation and management in Kisumu.

The project has initiated a dialogue among the African countries and informed the public on the sustainable use of local materials for housing. We believe that such demonstrations and capacity-building activities will eventually motivate the public and respective governments to adopting the national policy on sustainable management and utilization of local bamboo resources.

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**How to Sell Bamboo Poles in Unadilla, Georgia**

by Daphne Lewis, Pacific Northwest Chapter
(Now in Perry, Georgia)

As many of you know, I moved to Georgia to research bamboo as a farm crop in October 2010. I harvested bamboo shoots from my research plots at Georgia Bamboo from March until early May of this year. The yield data that this generated is posted to my web site [www.bamboofarmingusa.com](http://www.bamboofarmingusa.com). Now it is time to harvest poles to generate yield data for poles.

On June 21, I harvested poles from my earliest shooting grove, *Phyllostachys praecox*. The research plot is 1000 square feet. I cut 16 poles, which would be about 700 poles per acre. Some of these poles became two poles when I processed them to sellable lengths.

I washed them with water and a touch of white vinegar and a scrub brush. What a difference in color the washing made!

The question for farmers is "Can one sell bamboo poles?" I must demonstrate that