

## Guest Editor's Note:

### Bamboo: the green gold mine

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Published online 16 December 2019

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It has been dubbed a gold mine – green in colour, Bamboo. It is an important forest resource ‘with wide distribution, fast growth, high ecological and economic value (Wang, 2019).

It all began with discussions at the 1991 International Workshop in Chiang Mai, Thailand. The following year, in Japan, the International Bamboo Association was established to facilitate exchanges of information on the ‘environmental, socioeconomic, biological, and cultural aspects of bamboo’ (WBO, 2019).

Members include individual bamboo enthusiasts, commercial enterprises, non-profit associations, and institutions all of whom are dedicated to the use of bamboo for the sake of the planet’s environment and the world’s economies (Akpan, 2019).

At the 8<sup>th</sup> World Bamboo Congress held in Bangkok (2009), it was decided that September 18 would become ‘World Bamboo Day’. It was celebrated this year in many parts of the world with plantings, interviews on television and morning radio talk shows, for example.

We agree that bamboo should be celebrated since bamboo is the fastest growing plant on earth and a sustainable building material, it could easily substitute all known wood applications without having to cut down entire bamboo groves or plantations. “Better yet, bamboo continuously grows after harvest without having to replant it” (Bamboo Imports Europe, 2019).

Bamboo’s many qualities include: it is quick growing with a 10-30% annual increase in biomass (compared to 2-5% for trees) and it regenerates itself. It’s strong, smooth, straight and light weight. And, requires little attention during its growing cycle and is well suited for agroforestry in normal ecosystems. Bamboo groves help mitigate water pollution due to its high nitrogen consumption; protects the surrounding environment during strong typhoons; reduces runoff in rainy season, thus preventing massive erosion (Bamboo Information Network, 2008; Shijing, 2019).

New engineered applications include lumber, veneer, particle boards, plywood, and more recently the development of high strength bio-composites.

Below is a partial list of common uses for bamboo. It should be noted that not all bamboo species are suitable for all applications. Incidentally, only a few of the species are edible while most are not, some can be used as structural timber while others only serve for ornamental use or pulp, according to Bamboo Imports Europe (2019).

**Agriculture.** Bamboo can be woven into farm tools: sieves, dustpans, brooms and drying mats. Its joints can be used as water pipes for irrigation and water diversion. The stalks can become rafts in flood season. Splitting bamboo into strips can be used for barriers to prevent erosion of river banks. For fishing, bamboo makes ideal frames for the nets, the masts and awnings for the boats.

**Construction.** Bamboo is used for building roads and bridges in India and in China, for example. Bamboo is used to build houses. “According to UNESCO, 70 hectares of bamboo produce enough of the material to build 1000 bamboo houses. Today, over one billion people live in bamboo houses” (Matador Network, 2019). And, bamboo is used for scaffolding: it is eco-friendly and cost effective. Because it is light weight, there are fewer serious casualties when storms hit construction sites (Undlin, 2019; Wang, 2019).

**Household items.** Among bamboo’s many uses are the following: floors, furniture such as beds, chairs, tables and chop sticks; rugs, toys and musical instruments (flutes, drums, and even saxophones). And, according to Japanese scientists, cloth made from bamboo contains an antibacterial quality and is suitable for making diapers for babies (Hua, 2019; Matador Network, 2019).

**Food for people and animals.** Bamboo shoots are used in Asian food preparations and can be used as natural food preservatives. Bamboo leaves and shoots are the staple food of pandas and elephants.

The World Bamboo Organisation invites individuals, schools, universities, and organisations to become members and to help disseminate information about this wondrous tree, bamboo, *the green gold mine*.

The editor-in-chief, and the staff of the *Journal of Current Science and Technology*, thank readers who have taken time to provide feedback to articles in previous issues. Readers of this issue, who may have been moved to become members of WBO after reading this Note, please write with a few details: [jcast2018@rsu.ac.th](mailto:jcast2018@rsu.ac.th).

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