

Reasons to #thinkbamboo

 International Bamboo and Rattan Organisation (INBAR)

Bamboo stock. Photo by INBAR

With over 30 million hectares spread across the world (FAO 2010), bamboo offers a naturally abundant, strategic tool for poverty alleviation, environmental protection and climate change mitigation.

Storing carbon

Bamboo is one of the fastest growing plants in the world. This makes it particularly suitable as a tool for carbon sequestration. Given its fast growth rate, bamboo can be harvested regularly, creating a large number of durable products that store carbon, in addition to what is captured in the plant itself. Over time, bamboo can sequester more carbon than some tree plantations (INBAR 2015).

Bamboo products are long lasting and recyclable, and can replace a variety of emissions-intensive materials, such as PVC, steel, aluminum and concrete. When you combine bamboo's potential displacement factor with the carbon stored in forests and durable products, bamboo can sequester enormous amounts of carbon – from 200 to almost 400 tonnes of carbon per hectare (van der Lugt et al. 2018). As bamboos grow throughout the tropics in Africa, Asia and the Americas, they can make a significant contribution to combatting climate change in the developing world.

Providing clean energy

Bamboo can provide a sustainable source of bioenergy for the 2.7 billion people who rely on solid biomass for cooking – whether used directly as fuelwood, modified into charcoal for cooking and heating, or converted into gas for thermal and electrical energy generation.

Because it regrows quickly and matures far faster than most types of trees, bamboo can take pressure off other forest resources, reducing deforestation. Bamboo charcoal and gas boast a similar calorific value to commonly used forms of bioenergy: a community of 250 households requires only 180 kg of dry bamboo to generate sufficient electricity for 6 hours.¹

Land restoration

Several aspects of bamboo's biology make it very useful for stabilizing loose soil to prevent soil erosion (INBAR 2018). Bamboo has extensive root systems, which can measure up to 100 kilometers per hectare of bamboo and live for around a century (Acharya et al. 2016). This underground biomass makes bamboo capable of surviving and regenerating when the biomass above ground is destroyed by fire. Bamboo is also tolerant to floods and droughts (Franklin et al. 2010).

For these reasons, an increasing number of countries have begun to identify and explicitly include bamboo as a high priority species for use in landscape restoration. Cameroon, China, Ethiopia, Kenya, Ghana, India, Madagascar, the Philippines and Vietnam are just some of the countries that now specifically include bamboo in their sustainable land management programs. In 2014, members of INBAR committed to supporting the global Bonn Challenge for land restoration using bamboo, and agreed to work towards a plan for reclaiming 5 million hectares of degraded land (for an overview of the natural distribution of bamboo, see Figure 1).

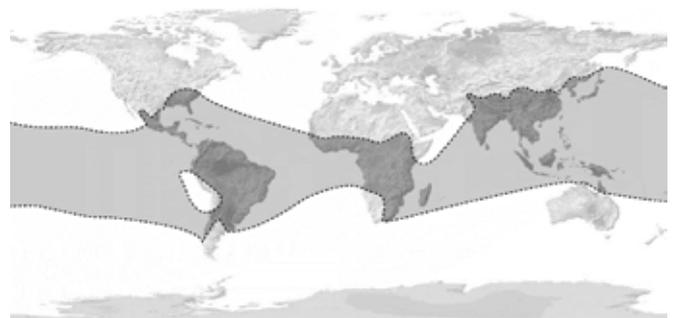


Figure 1. Bamboo's natural global spread
(Source: INBAR).

¹ Calculation based on the assumption the gasifier will work 8 hours a day for 264 operational days per year, based on the initial level of electricity consumption for rural households (0.7 kWh/day, OECD/IEA 2010).



Figure 2. Bamboo charcoal making in Tanzania, training in bamboo furniture making in Ghana (photos: INBAR), **school built with bamboo and earth in Nepal** (photo: Abari), **bamboo bicycles, and bamboo wind turbine blades** (photos: INBAR).

Promoting livelihoods

Fast growing and easy to manage, bamboo already provides a crucial source of income for tens of millions of people in rural communities around the world. Traditionally, bamboo has been used to create furniture and handicrafts. In recent decades, new technologies have enabled the creation of more high-value, durable bamboo products, with huge potential on international markets. Bamboo used in interior design can be seen across theatres, shopping malls and airports around the world (van der Lugt 2017), and bamboo composite can be used to create pipes, shells for transport vehicles, blades of wind turbines, shipping container flooring and even housing units. These new technologies offer the potential for rural communities to take part in a global sector with an estimated annual trade value of USD 60 billion (see Figure 2).

Importantly, bamboo's ability to lift people out of poverty often sits alongside other co-benefits. For example, households in East Africa that use bamboo for energy can also earn over USD 1000 a year from selling bamboo charcoal (INBAR 2008; Seboka and Duraisamy 2008).

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