

MAIN USES OF BAMBOO AND RATTAN PROMOTED BY INBAR FOR ECOSYSTEM RESTORATION

[The INBAR - International Bamboo and Rattan Organization](#) is a supporting partner of the [Decade on Ecosystem Restoration](#) launched in June 2021 by the United Nations. Bamboo possesses qualities that make it ideal for restoring ecosystems and INBAR will continue to work to promote bamboo and rattan for land restoration, forest conservation and biodiversity protection.



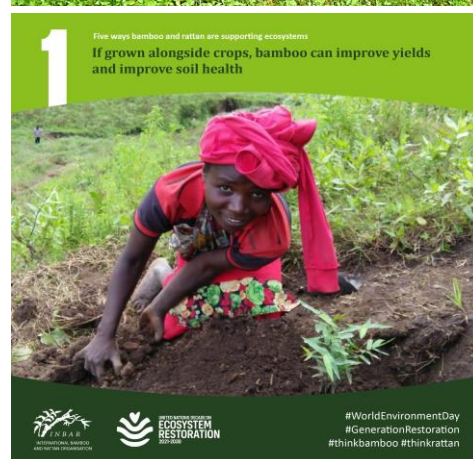
INBAR already works in a number of countries whose ecosystems, watersheds and rural livelihoods are affected by land degradation and desertification. Over the years, INBAR member states have restored several million hectares of degraded ecosystem with bamboo across Africa, Asia and Latin America and the results have been inspiring. Soil quality improves, biodiversity recovers and crucial ecosystem services are restored. With the right species in the appropriate locations, bamboo plantations can provide global and local significant ecosystem service values. Particularly, bamboos are multiple purpose species that provide wood, energy, food, feed and fodder, raising off-farm income and resilience of smallholders.



[The INBAR website summarizes the five main uses of Bamboo and Rattan](#) that framed in the objectives of the Decade can contribute in more countries and their territories to restore crucial ecosystem services, recover biodiversity and generate a significant economic and social impact for local populations. For each of these uses, INBAR provides information and gives access to articles, studies and manuals to deepen the knowledge and experiences already underway in different countries.



1. Included in farming systems Bamboo improves yields and soil health. This is because bamboo is an evergreen plant which provides shade, constant leaf litter and an extensive root system. Over time, bamboo leaf litter and root decomposition also enhanced the fertility and nutrient quality of soil. A [seven-year study carried out in Uttar Pradesh](#), India, showed how bamboo-based agroforestry systems increased crop yields for chickpea and sesame: within three years, yields were 13% higher than when they were grown as sole crops. Intercropping with bamboo is already taking place in many countries. In 2021, INBAR published a [manual for bamboo-based agroforestry](#) in Ghana and works on training programmes with smallholder farmers around the world to plant and manage bamboo.



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The way bamboo and rattan are supportive ecosystems
If grown alongside crops, bamboo can improve yields and improve soil health



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2. Solution for old mines, eroded riverbanks and unproductive farmland. Bamboo's root system acts as a net, binding soil and preventing water run-off. This makes it a useful plant to restore degraded or disturbed soils. [A report published by INBAR in 2018](#) reveals the benefits of bamboo for land restoration in eight countries. More success stories from different countries illustrate the great contribution of bamboo plantations to land restoration: in the



Philippines [mining companies are now required to plant bamboo](#) on 20% of their quarry land; Governments and communities in African countries are planting bamboo along riverbanks to prevent landslides; in India, a ten-year project to restore dusty, degraded farmland resulted in a [huge increase in income and agricultural productivity](#).

3. A key part of biodiverse ecosystems. Bamboo and rattan are key parts of tropical and subtropical ecosystems across Asia, Africa and the Americas with more than 1600 known species of bamboo, and 400 species of rattan. Many different animals, including giant panda, mountain gorillas and several other endangered species, rely on bamboo and rattan for food and shelter. Elephants, bears and lemurs eat rattan fruits and bamboo shoots. While unsustainable harvesting of bamboo and rattan can be harmful to these habitats, with the right management these plants can be a useful resource for humans and animals. By learning how to sustainably manage wild bamboo and rattan resources, local communities as far apart as [Laos](#) and [Rwanda](#) are actually helping manage and protect the vulnerable ecosystems in which bamboo and rattan live.

4. Bamboo charcoal is taking pressure off forests. Charcoal briquettes have a similar calorific value to other common forms of biomass, but a lower carbon footprint and eco-cost. Fast-growing and renewable, bamboo can be used as a [low-carbon alternative](#) to timber and other biomass as a source of energy for cooking and heating. This can be an important source of fuel in parts of the world like sub-Saharan Africa, where reliance on wood fuel is a [key driver of deforestation](#) and environmental degradation. Bamboo charcoal is growing in popularity: in 2018, the international trade value [reached USD 75 million](#), and in 2020, Uganda-based company [Divine Bamboo](#) won the prestigious Energy Access Booster Award for its work promoting bamboo as a renewable source of cooking fuel. A number of [INBAR projects](#) have spread bamboo charcoal use across countries including China, Ethiopia, Ghana, India, Madagascar, the Philippines, Viet Nam and more.

5. Bamboo forests can help storing carbon. Planting bamboo, or improving management and use of existing bamboo forests, can help store carbon. According to INBAR research, some bamboo plants and their products can [store more carbon than certain species of trees](#) over a 30-year period. China is [exploring bamboo's potential](#) as a powerful carbon sink and recognizes bamboo afforestation initiatives in voluntary carbon offset programmes. Companies are also experimenting with durable products which store carbon for several decades, including bamboo flooring, decking, housing materials, pipes and wind turbine blades. INBAR has published a number of resources to help foresters and policymakers integrate bamboo into their climate change plans, including a [manual on assessing bamboo carbon](#), a [policy brief](#) about how to include bamboo forestry projects in carbon markets, and a [synthesis report](#) on bamboo's potential for the circular economy.

The [UN Decade on Ecosystem Restoration](#) is a ten-year call to the largest number of actors in order to protect and restore ecosystems by launching thousands of initiatives on the ground. The INBAR partnership within the framework of the Decade aims to contribute so that more national and local governments, universities, associations of small producers, cooperatives and private sector companies implement initiatives to take advantage of the great natural resource of bamboo to recover degraded areas and generate important environmental and socio-economic benefits for local populations.



3 Five ways bamboo and rattan are supporting ecosystems
A huge range of species, including several endangered ones, rely on bamboo and rattan for food and shelter

4 Five ways bamboo and rattan are supporting ecosystems
Bamboo is taking pressure off forests. For example bamboo charcoal is a low-carbon alternative source of energy

5 Five ways bamboo and rattan are supporting ecosystems
Planting bamboo, or improving management and use of existing bamboo forests, can help store carbon

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The INBAR website, an exceptional communication tool that provides technical information and results of ongoing initiatives, can guide all stakeholders to undertake new practices within the framework of the Decade.

To know more

[Bamboo and Rattan for Ecosystem Restoration](#)

[United Nations Decade on Ecosystem Restoration](#)

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