

August 24, 2015

Preparation for the *UN Summit for the Adoption of the Post-2015 Development Agenda* (25-27 September).

## Bamboo, Rattan and the SDGs

### ***How countries can harness these resources to add value to action plans for sustainable development***

*Six of the 17 Sustainable Development Goals (SDGs) to be debated and adopted at the UN General Assembly in September are directly relevant for bamboo and rattan producing countries and their green economy plans. They target: poverty reduction; energy; housing and urban development; sustainable production and consumption; climate change and land degradation. They all contribute to a seventh Goal – stronger implementation and partnerships. INBAR Member States and other producer countries can use bamboo and rattan to improve their national plans and add value to the global sustainable development agenda. Bamboo and rattan can also make a positive contribution to other SDGs addressing food security, women’s empowerment, economic growth and technology.*

### **Background**

The final draft text of *‘Transforming our World: The 2030 Agenda for Sustainable Development’* was released in early August for discussion at the upcoming United Nations General Assembly<sup>1</sup> in September, in the *Summit for the Adoption of the Post-2015 Development Agenda* (25-27 September).

This Agenda is a plan of action for people, planet and prosperity, which comprises 17 Sustainable Development Goals and 169 targets. The Goals are described as ‘integrated and indivisible’ and balance the three dimensions of sustainable development: economic, social and environmental.

While the SDGs are inter-related, there are different entry points for bamboo and rattan depending on the specific topic of each Goal. INBAR – the International Network for Bamboo and Rattan – has identified seven SDGs where these resources can make a significant difference.

This briefing highlights benefits and opportunities for bamboo and rattan development for the new Sustainable Development Goals (SDGs) that will guide the global sustainable development agenda for the coming 15 years. INBAR’s Strategy 2015-2030 is driven by the SDGs. It supports Member States to better understand how they can develop bamboo and rattan as strategic resources in their green economy plans.

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<sup>1</sup> 70th Regular Session of the UN General Assembly opens in New York on September 15.

## Sustainable Development Goals of relevance to bamboo and rattan producing countries

*Comments annotated by the INBAR Secretariat highlight issues of particular relevance to countries.*

**SDG 1 (End poverty in all its forms everywhere)** includes targets to ensure that all men and women, in particular the poor and the vulnerable, have equal rights to economic resources, as well as access to basic services, ownership and control over land and other forms of natural resources. It also aims to build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters.

### **INBAR COMMENT**

INBAR believes that by promoting the planting and cultivation of bamboo and rattan, we can help to achieve these targets and SDG1. Bamboos can be grown on marginal land, which may not be under cultivation, and may not have existing land tenure. Promoting the cultivation of bamboo therefore helps to provide the poor with natural resources that they have access to and ownership over.

Bamboos in particular, and rattans to a lesser extent, are particularly resilient to climate changes and natural calamities. INBAR has documented cases where heavy snowfall has damaged woody plantations and natural forests beyond use for several years, while damaged bamboo forests are restored during the following annual growing season. INBAR also has documented cases where bamboo shoots have reappeared after bamboo forests were burned to the ground, and where bamboo rhizomes have survived long periods of drought or flooding. Bamboo supplies income and job opportunities. In China alone, for example, the bamboo sector employs some 7.55 million people (2013).

### **RECOMMENDATION**

*INBAR recommends that bamboos be considered as one of the alternative crops in situations of marginal land restoration, disaster response or building resilience*

**SDG 7 (Ensure access to affordable, reliable, sustainable and modern energy for all)** aims to increase substantially the share of renewable energy in the global energy mix and promotes international cooperation to facilitate access to clean energy research and technology, including renewable energy.

### **INBAR COMMENT**

Bamboo provides energy when it is burned as firewood, processed into chips or pellets, or carbonized as charcoal. Recent studies in China, Ethiopia and Ghana reveal that the calorific value of bamboo charcoal is similar to that of the most suitable woods used for charcoal. At an industrial scale, bamboo can be used to fire generators and power stations, and research is progressing in Indonesia, Japan and Spain to study how to establish large-scale power generation based on bamboo plantations. Bamboo and rattan can also be the raw material for biogas systems, and research is now starting to define the properties for bioethanol and biodiesel. The starting point for this value chain is that managed bamboo stands give a long-term, sustainable source of raw material for bio-energy that helps to avoid deforestation.

### **RECOMMENDATION**

*INBAR recommends that countries evaluate the potential to establish bamboo plantations for energy related activities on land that is not productive, especially degraded or marginal lands that cannot be used for food-crops.*

**SDG 11 (Make cities and human settlements inclusive, safe, resilient and sustainable)** includes a target to ensure access for all to adequate, safe and affordable housing, and aims to significantly reduce the number of people affected by disasters. SDG 11 also calls for support for least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local material.

#### **INBAR COMMENT**

For affordable housing and dwellings that can be rapidly erected to respond to earthquakes, floods or other natural disasters, bamboo is emerging as a flexible construction material of choice for many uses. A number of documented cases testify how bamboo structures better withstand natural disasters, like earthquakes, than concrete housing, which is largely destroyed. Bamboo's unique properties of being sustainable and with high tensile strength, point to a revolution that is waiting to happen. In the world of high design, more top architects and designers are specifying bamboo for their creations in urban development.

#### **RECOMMENDATION**

*INBAR strongly recommends that bamboo be considered as an alternative construction material in the Global South, and urges its Members to consider modifying their national building codes to enable the use of bamboo by architects, designers and construction engineers.*

*INBAR calls upon donors and international organisations to help countries in the global south to make use of the opportunities bamboo provides in the field of sustainable, climate-smart construction.*

**SDG 12 (Ensure sustainable consumption and production patterns)** aims to achieve the sustainable management and efficient use of natural resources, encourage companies to adopt sustainable practices and promote public procurement practices that are sustainable.

#### **INBAR COMMENT**

Sustainable production and regulated trade require standards to be set and adhered to, and calls for certification, monitoring and enforcement of regulations.

Bamboo poles, fibre and engineered bamboo can be used for most purposes where timber is used. Bamboo is a "woody grass", not a tree and is selectively harvested without harming the ecosystem, or contributing to deforestation. Bamboo poles, fibre and engineered bamboo can be used for most purposes where timber is used today, and in some cases offers better performance than some timber products. In its cultivation and production life cycle, no part of the bamboo plant is wasted. Shoots are harvested for food; branches for poles used for many applications; the main bamboo pole for fibres for pulp or charcoal production and the lower trunk for construction uses or flooring and engineered bamboo products.

Managing rattan resources requires sustainable forest management practices, as 90% of the world's rattan originates from natural tropical forests. Without healthy natural tropical forests, there will be no future rattan supply.

INBAR monitors the international trade in bamboo and rattan, as it is the International Commodity Body for both products. INBAR works closely with the International Standards Organisation to promote the development of international standards for bamboo and rattan production; and is in contact with the relevant certification bodies about the need to ensure sustainable production and management of bamboo and rattan resources.

#### **RECOMMENDATION**

*INBAR encourages countries in the Global south to consider using bamboo instead of tropical hard-wood or imported soft-wood where possible*

*INBAR encourages sustainable management of rattan resources, as a component of proper forest management*  
*INBAR encourages bamboo and rattan producing countries and countries that import bamboo and rattan products to join its network, to ensure a stronger voice in international standard, trade and market negotiations. INBAR suggests that governments list bamboo and rattan products in governmental procurement specifications.*

**SDG 13 (Take urgent action to combat climate change and its impacts)** aims to strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries, while promoting mechanisms for raising capacity for effective climate change-related planning and management in least developed countries.

#### **INBAR COMMENT**

Like other plants, bamboo and rattan also absorb CO<sub>2</sub>, and research in China has shown that a managed bamboo Moso bamboo forest absorbs more CO<sub>2</sub> than an equivalent woodlot of Chinese fir. Unlike trees, bamboo is harvested selectively (in the case of Moso, only >3-4 years old culms are cut) and continues to store carbon for a longer term. Once products are made from bamboo, the carbon is locked up and is prevented from escaping into the atmosphere for the product lifetime. Bamboo therefore provides a secure carbon sink.

Bamboo and rattan species grow in mixed tropical and subtropical forests, and bamboo can help rural communities become less vulnerable as the plant's rapid growth allows frequent harvesting. Bamboo's excellent adaptability and resilience to natural disasters, allows farmers to adapt their landscape management practices, using bamboo, to respond to the changing weather patterns. At the same time, rattan harvesting and primary production are activities that can be done by unskilled people, bringing benefits to marginal groups. Bamboo and rattan can help to build resilience against changes in climate and related loss of livelihood options.

As an official Observer to the United Nations Framework Convention on Climate Change, INBAR will continue to raise awareness about the opportunities bamboo and rattan provide for climate change mitigation and adaptation.

#### **RECOMMENDATION**

*INBAR encourages its Member States and other countries which have bamboo and rattan resources to include both species in national climate change mitigation and adaptation plans.*

**SDG 15 (Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss)** is particularly relevant for bamboo and rattan. It includes targets related to the conservation, restoration and sustainable use of terrestrial ecosystems and their services; the implementation of sustainable management of all types of forests, restoring degraded forests and substantially increasing afforestation and reforestation globally; restoration of degraded land and soil; reducing the degradation of natural habitats; and integrating ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts.

SDG 15 also introduces measures to prevent the introduction and significantly reduce the impact of invasive alien species on land and water ecosystems and control or eradicate the priority species. In some cases – often inadvertently – bamboo has been labelled an ‘invasive species’. It is important to clarify the invasiveness character of bamboo and identify which species carry a risk and which species are harmless in this respect.

#### **INBAR COMMENT**

In the world’s developing regions, bamboo is used to rapidly restore severely degraded landscapes. With its 1250 species, bamboo offers a range of characteristics for different uses – from ‘temperate’ to ‘tropical’(clumping to running) – suitable for a range of restoration and land use planning needs. Bamboo grows rapidly, regenerates annually through an extensive root system and very good adoption to poor soil or climate conditions, and helps bind soil. These properties make it a unique and effective tool to control erosion and slope stability. Several countries use bamboos along river banks to maintain slope stability and restrain erosion. As official Observer to the UN Convention to Combat Desertification, INBAR continues to promote bamboo as a means to restore degraded lands and as an effective pioneer species for forest regeneration.

In addition to the soil conservation and climate change mitigation opportunities, ecosystem services provided by bamboo and rattan include biodiversity conservation, recreation and green spaces for wellbeing, especially in situations where the two species form part of a mixed canopy. However, the values of these various natural services is not well understood, and in most cases not reported. As official Observer to the United Nations Convention on Biological diversity, INBAR continues to promote sustainable ecosystem management.

#### **RECOMMENDATION**

*INBAR encourages countries to recognise the services and goods provided by bamboo and rattan ecosystems, and to assess the economic values and potential for restoring degraded forests, combating desertification and increasing healthy forests. Bamboo forest is also a natural habitat of threatened species including giant panda, African gorilla etc.*

*INBAR encourages Member States and other countries where bamboo is a natural species to include bamboo in their overall mix of landscape management tools, especially for restoration of marginal soils and slopes and for sustainable land and watershed management.*

**SDG 17 (Strengthen the means of implementation and revitalize the global partnership for sustainable development)** aims to enhance North-South, South-South and triangular regional and international cooperation.

#### **INBAR COMMENT**

INBAR is a global network of 41 States, working with many more partner organisations and individuals. Most of our work has included South-South collaboration, and is starting to engage more actively in triangular collaboration – especially between Europe, Asia and Africa.

#### **RECOMMENDATION**

*INBAR continues to promote South-South and triangular collaboration, and encourages donors to support its Member States in achieving the 17 Sustainable Development Goals.*

## Annex

### **United Nations Sustainable Development Summit 2015**

The United Nations summit for the adoption of the post-2015 development agenda will be held from 25 to 27 September 2015, in New York and convened as a high-level plenary meeting of the General Assembly.

Background and reference documents can be found here: <https://sustainabledevelopment.un.org/post2015/summit>

#### **Sustainable Development Goals**

Goal 1. End poverty in all its forms everywhere

Goal 2. End hunger, achieve food security and improved nutrition and promote sustainable agriculture

Goal 3. Ensure healthy lives and promote well-being for all at all ages

Goal 4. Ensure inclusive & equitable quality education and promote lifelong learning opportunities for all

Goal 5. Achieve gender equality and empower all women and girls

Goal 6. Ensure availability and sustainable management of water and sanitation for all

Goal 7. Ensure access to affordable, reliable, sustainable and modern energy for all

Goal 8. Promote sustained, inclusive & sustainable economic growth, full & productive employment & decent work for all

Goal 9. Build resilient infrastructure, promote inclusive & sustainable industrialization & foster innovation

Goal 10. Reduce inequality within and among countries

Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable

Goal 12. Ensure sustainable consumption and production patterns

Goal 13. Take urgent action to combat climate change and its impacts\*

Goal 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development

Goal 15. Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development

\* Acknowledging that the United Nations Framework Convention on Climate Change is the primary international, intergovernmental forum for negotiating the global response to climate change