

The road from the Global Bamboo and Rattan Congress 2018

Translating the Beijing Declaration into action



Bamboo and rattan are versatile plants that can provide a host of solutions for sustainable development – if their benefits are recognised by decision makers and planners.

INBAR Policy Synthesis Reports

INBAR Policy Synthesis reports aim to inform decision makers in government and international development partners of the benefits that bamboo and rattan can bring to their efforts to build sustainable development and green economies that improve peoples' livelihoods. INBAR, the International Bamboo and Rattan Organisation, is an intergovernmental organisation bringing together some 40 countries for the promotion of the ecosystem benefits and values of bamboo and rattan.

Key Words

INBAR, the Global Bamboo and Rattan Congress, BARC 2018, sustainable development

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Foreword from the Director General

As Director General of the International Bamboo and Rattan Organisation (INBAR), it was my honour to help co-organise the Global Bamboo and Rattan Congress in Beijing, China from the 25th to the 27th of June 2018. Together with China's National Forestry and Grassland Administration, we hosted an event which was truly unique in its significance and scope.

Over the course of three days, we welcomed statements of support from a number of heads of state and the leaders of some of the world's most influential international organisations. We witnessed discussions that brought people from different countries and backgrounds together to forge new directions in bamboo and rattan development. We saw glimpses of the huge innovative potential of these plants and in particular the incredible strength of China's domestic bamboo industry.

As would be expected, when more than 1,000 participants from a large number of countries and a wide range of sectors come together, there were a great many outcomes. As well as providing a platform to share experiences and technologies, the conference helped inspire new collaborations, in particular a push for new policies, projects and partnerships. The call for action, which we heard throughout the Congress, was captured in the Beijing Declaration, which aims to encourage more serious consideration of these plants. In this way, the Congress formed a valuable part of INBAR's strategy from 2015 to 2030 and continued our aim to translate bamboo research into practice.

This report intends to capture the discussions held at the Global Bamboo and Rattan Congress and present some of the new directions for integrating bamboo and rattan into sustainable lifestyles. It should be of interest to anyone who wants to know more about the potential of nature-based solutions to sustainable development problems. It is also relevant to investors, policymakers and entrepreneurs who want to integrate bamboo and rattan into their work. Finally, we hope this report inspires those who have not yet realised the importance of these plants and non-timber forest products.

This Congress, and subsequent discussions with participants and speakers, have confirmed my belief that the time is right for bamboo and rattan. In this report, I hope we can convince you too. Thank you for reading, and I hope you continue to be inspired by the potential of these plants.



- Hans Friederich, Director General,
International Bamboo and Rattan Organisation

Introduction: the road from the Global Bamboo and Rattan Congress

Recognising that bamboo and rattan are two of the most important non-timber forest resources widely distributed across the world, and can contribute significantly to... the social, economic and environmental goals and targets of the UN 2030 Agenda for Sustainable Development...

- Beijing Declaration

The Global Bamboo and Rattan Congress, BARC 2018, opened on the 25th of June 2018 in Beijing, China. The three-day event, co-hosted by the International Bamboo and Rattan Organisation and China's National Forestry and Grassland Administration, welcomed around 1,200 participants from 70 countries, including ministers, policymakers and representatives from research institutes, development organisations, UN bodies and the private sector.

Over the course of three days, participants could choose to attend a ministerial summit, three high-level dialogues – which covered South-South cooperation, climate change, innovation and industry development – and around 80 parallel sessions. The overarching theme of the Congress was 'Enhancing South-South Cooperation for Green Development through Bamboo and Rattan's Contribution to the Sustainable Development Goals'. Discussions included how to realise bamboo and rattan's huge potential in a number of areas: sustainable commodity production, disaster-resilient construction, poverty alleviation, climate change mitigation and adaptation, land restoration and biodiversity protection.

'Critical, but underused' – this was the key message of BARC 2018. Fast-growing and local to some of the poorest communities in the tropics and subtropics, bamboo and rattan have a huge potential for climate change mitigation, innovative construction and job creation, but are rarely used for more than simple construction and household use. Indeed, bamboo and rattan are often regarded as 'poor man's timber' and inferior to timber products.

From its inception, BARC 2018 was planned as a very results-focused event: a platform for sharing knowledge, promoting new partnerships and programmes and inspiring participants to integrate bamboo and rattan into their policies, business plans and discussions. In particular, the Congress launched the Beijing Declaration. The Declaration recognises bamboo and rattan's various benefits and commits 'ministers, senior officials and participants' to call upon national governments and other bodies to implement a number of recommendations. The Declaration (see Annex) was first circulated to all INBAR member states at the Tenth Council Meeting in November 2017, and an updated draft was distributed to participants on the first day of the Congress. The Beijing Declaration was agreed in principle at the Congress, with some final logistical comments for the INBAR secretariat's consideration.

The Declaration marks a significant step for the development of bamboo and rattan. Now, the key task is to move it forward. This report, the fifth in INBAR's Policy Synthesis Report series, assesses 'the road from BARC': the commitments made, partnerships and programmes announced and the key activities which will help transform the Beijing Declaration into global action.

This report is organised around some of the recurring themes of the Congress, which are also raised in the Beijing Declaration. The main themes reflect the focus areas of INBAR's 2015 to 2030 strategy: 'From Research to Development'. In plenary discussions and at separate sessions, participants

remarked on the need for greater policy support and investment; the need to plug the gaps in our knowledge about bamboo and rattan, as well as the significance of training and capacity building; the importance of strengthening cross-country and cross-sector knowledge sharing, particularly between countries of the Global South and the private sector; and the rationale for conducting demonstration projects to establish bamboo and rattan as 'nature-based solutions' to a range of sustainable development challenges. The report aims to provide a summary of the key outcomes agreed on at BARC and showcase the vitality and relevance of INBAR's programme of work – to policymakers, investors, entrepreneurs, engineers and development practitioners.

Policy support and investment

...Strengthen coordination and collaboration among INBAR member states and partners to ensure that bamboo and rattan are included in and contribute to the implementation of relevant regional and global policies, programmes and initiatives...

– Beijing Declaration

The importance of advocacy work – raising bamboo and rattan's profile on the global stage as well as for relevant national programmes and international policy discussions – was a key discussion point at BARC. However, the Congress showed that bamboo and rattan are already critical tools in many countries' plans and programmes for climate change, poverty alleviation, environmental protection and construction. The Congress saw a number of important political commitments made towards policies which encourage the use of bamboo and rattan for sustainable development. In addition, a number of practical next steps were decided, which should promote the inclusion of bamboo and rattan in national and international initiatives.

Publicising political support

At the opening ceremony of BARC, several heads of state sent messages confirming the importance of bamboo and rattan in their own countries. In a message read to all participants, the Chinese Premier, Li Keqiang, recognised the value of bamboo and rattan in promoting green growth, addressing climate change, improving the environment, increasing incomes and expanding South-South cooperation. The President of Ecuador, Lenín Moreno, praised the 'decisive role' which bamboo can play, both 'in the economy of countries and for the mitigation of climate change', and mentioned that bamboo will play a role in the government's ongoing housing project. Meanwhile, former President of Colombia and 2016 Nobel laureate Juan Manuel Santos stated that bamboo 'plays an essential role in rural people's lives' and credited it with helping 'reactivate rural areas' affected by the Colombia Peace Agreement.

At the same ceremony, the importance of bamboo and rattan within the UN Sustainable Development Agenda was also highlighted, with Achim Steiner, administrator of the UN Development Programme, and José Graziano da Silva, Director General of the Food and Agriculture Organization, reaffirming the relevance of these plants to their organisations' work. As these speeches showed, it is bamboo and rattan's holistic potential that makes them so powerful: an important part of the environment in which they grow, they can also contribute to climate change mitigation and poverty alleviation. In this vein, at the opening ceremony a lifetime achievement award was presented to Madame Jiang Zehui, co-chair of INBAR's board of trustees and a long-term promoter of the development of bamboo and rattan cross China and beyond.

All together, these speeches provide a powerful signal of the political willpower behind bamboo and rattan development and use – support which can be leveraged to inspire investment and innovation.

Providing more support across Africa

The need to develop the bamboo and rattan sector in Africa was a common theme across all three days of the Congress. A number of sessions focused on topics such as the use of trilateral cooperation to boost the bamboo sector

This congress... has set up an important platform for strengthening dialogue and facilitating sustainable development among all the countries.

– Li Keqiang, Premier of the State Council of the People's Republic of China

Bamboo and rattan can make an important difference to the fight against climate change. Nature-based solutions like bamboo and rattan do not just contribute to sustainable development; they also help build the kind of world we want.

– Patricia Espinosa,
Executive
Secretary, United
Nations Framework
Convention on
Climate Change

in East Africa and the potential of bamboo and rattan in West and Central Africa. Speaking in plenary, Javrine Kaliisa Kyomukama, member of the Parliament of Uganda, stressed the need for more support to help develop the continent's abundant bamboo and rattan resources.

The Congress made some important steps towards this end. On the first day, INBAR launched a new project which aims to develop the bamboo sectors in a number of African countries using experience from China. With partial funding from the International Fund for Agricultural Development in Rome, the project will span Cameroon, Ethiopia, Ghana and Madagascar and targets at least 30,000 rural smallholder farmers and community members, particularly women and youth, who will be taught how to plant, manage and create value-added products, including charcoal, using bamboo. The project will invest over USD 3 million and should provide an important boost to these countries' bamboo and rattan development.

As well as launching new projects, strong statements of support were made to extend existing initiatives. Speaking in plenary on Monday, Paul van der Logt from the Netherlands' Ministry of Foreign Affairs gave his support for a new phase of the Dutch-Sino-East Africa project – an INBAR-led trilateral project which is currently working across Ethiopia, Kenya and Uganda. The project uses expertise from Chinese and Dutch bamboo industries and applies it to three countries in East Africa, which have abundant but underused bamboo resources. A continuation of this project would provide a significant spur to the use of trilateral public-private partnerships for bamboo and rattan development across Africa.

Importantly, some steps forward were made to coordinate INBAR's work across Central Africa. Rich in bamboo and rattan resources, Central Africa still lacks the political support or capacity to make the most of these resources. At the Congress, the Central African Republic was announced as the newest member of INBAR and the fourth in the Central Africa region – joining Burundi, Cameroon and Rwanda. To coordinate work across these four countries, INBAR Director General Dr Hans Friederich announced plans to imminently launch a new regional office in Yaoundé, Cameroon. The office, which would enjoy the same diplomatic privileges as INBAR's other regional offices around the world, should be an important step in INBAR's mission to promote bamboo and rattan development across the region.

Finally, during the Congress, INBAR signed three new agreements with the Forum for Agricultural Research in Africa (FARA), the Gaborone Declaration for Sustainability in Africa (GDSA) and the Commission of Central African Forests (COMIFAC). The agreements establish a more formal partnership between the organisations beyond ad hoc project implementation. The partnership with FARA will focus on climate-smart agriculture, while the agreement with COMIFAC aims to strengthen collaboration in the Congo Basin of Central Africa. The Memorandum of Understanding (MoU) and GDSA will look at the value of bamboo ecosystem services, starting with a study in the Virunga Mountains of Uganda. GDSA executive secretary Ruud Jansen spoke for all agreements signed when he said that the MoU and INBAR will help 'our members directly benefit from effective partnership and activities on the ground'.

Consolidating a role in South-South cooperation

As many participants mentioned, one key form of political support for the bamboo and rattan sector is public procurement: purchasing bamboo and rattan for use in infrastructure and housing programmes, for example. Public procurement is particularly important in the context of climate change and sustainable development since unsustainable resource policies can lock

in high-carbon infrastructure and commit countries to emissions-intensive development.

The Belt and Road Initiative, proposed by China in 2013, is a key example of this trend. The initiative aims to build trade and infrastructure networks connecting Asia with Europe and Africa on and beyond the ancient Silk Road routes. In a special session dedicated to the Belt and Road Initiative, speakers recounted the ways in which bamboo products – including high-strength, durable drainage pipes, housing, fuselage and wind turbine blades – could become part of this huge infrastructure growth. Bamboo and rattan have great potential to contribute to the Belt and Road Initiative.

In different sessions, participants discussed the role of the private sector and the development of industrial production of bamboo goods. IKEA made the point that they need a sustainable supply of bamboo in order to develop a healthy business, and they are currently focusing on India as the next frontier. Several sessions reviewed different aspects of Indian bamboo development, and participants were informed about new research, the revitalisation of the India National Bamboo Mission and plans for large-scale bamboo developments, especially in Northeast India.

Many speakers agreed there were huge possibilities to scale up bamboo and rattan's use in public procurement projects of this nature. However, to realise these plants' potential, another crucial challenge was raised: the need to make bamboo and rattan 'part of the conversation' as nature-based solutions.

[Bamboo and rattan] offer a nature-based way to create jobs, to reduce poverty, and to generate and achieve the Sustainable Development Goals

– Achim Steiner, Administrator, UN Development Programme

Establishing bamboo and rattan as ‘nature-based solutions’

Recognising that bamboo and rattan are two of the most important non-timber forest resources widely distributed across the world and can contribute significantly to achieving many of the social, economic and environmental goals and targets of the UN 2030 Agenda for Sustainable Development, and to the creation of an ecological civilisation....

– Beijing Declaration

As the conversations at the Congress made clear, bamboo and rattan have a huge range of applications across the world: as commodities, renewable energy, resilient housing, food and fodder, carbon sinks and more. How to establish these plants as key tools in the minds of decision makers, investors and development practitioners? There was strong support to help INBAR do this from speakers across a range of international agencies and research institutes, including the World Wildlife Fund; the International Union for the Conservation of Nature; the UN Development Programme; the UN Educational, Scientific and Cultural Organisation (UNESCO); and the United Nations High Commissioner for Refugees

Part of the problem, as several speakers noted, is a lack of awareness about bamboo and rattan’s role in terrestrial ecosystems. While the role of bamboo and rattan in addressing land restoration and climate change was widely acknowledged throughout BARC, a number of participants mentioned that more needed to be done to show the value of bamboo and rattan in biodiversity and wildlife protection. Martin Frick, senior director for policy and programme coordination at the UN Framework Convention on Climate Change, summarised this need for holistic nature-based protection: ‘If you go for national climate plans, they need to run in the way that was developed for the Sustainable Development Goals (SDGs), leaving no one behind. In this aspect, bamboo and rattan are a fantastic point of departure.’

Expanding INBAR’s work in biodiversity

Biodiversity was a key concern at BARC, with a session dedicated to discussing the issue from Madagascan lemurs and the Ethiopian bale monkey to red pandas and gorillas. A key conclusion from the session was the need to integrate policies on wildlife protection into national programmes of work and to put more focus on bamboo as a source of food and shelter for these animals.

Another session focused on how to link wildlife protection with environmental preservation in the context of the iconic giant panda. The session looked at the importance of well-managed bamboo resources to be included in China’s recently announced national Panda Park, which will cover a huge expanse of land across three provinces. Speakers agreed that one particular environmental risk that needs to be addressed is the flowering of the bamboo species that are critical for panda survival, and the fact that the bamboo dies after flowering. In addition, park authorities will need to work with surrounding communities, providing jobs and supporting the local economy. At the end of the session, China’s National Forestry and Grassland Administration, UNESCO, Conservation International, the International Union for the Conservation of Nature (IUCN), the Nature Conservancy, the Wildlife Conservation Society in China, and the WWF committed their support towards a potential planning workshop in early 2019 to further discuss how to integrate these issues.

Speaking at the end of the session, Scott Perkin, head of Asia's Natural Resources Group at IUCN, said he was 'struck by the degree of consensus among organisations about the practical steps that need to be taken. It's an exciting time for conservation in China.'

Calculating carbon storage

Bamboo's importance as a carbon sink is increasingly well documented. Its ability to sequester carbon, replace emissions-intensive materials and lock carbon into durable products could make the plant a very important part of governments' climate change strategies and companies' sustainability drives. A key question, then, is how to calculate bamboo's rate of carbon storage.

So far, only China is using bamboo in a serious way as a carbon sink. Speaking in a plenary discussion on the second day, Wang Chunfeng, deputy director-general of the National Forestry and Grassland Administration, made this clear by suggesting that bamboo plantations could be included in China's new national emissions trading scheme as a mechanism for offsetting emissions.

Two major breakthroughs at the Congress shed more light on the tricky calculations required for bamboo's carbon storage. In two sessions dedicated to bamboo's carbon sequestration potential, INBAR launched a new working paper, 'Carbon sequestration and carbon emissions reduction through bamboo forests and products'. The report shows how bamboo's fast rate of carbon storage and ability to 'displace' carbon by replacing more carbon-intensive products makes it a competitive tool for carbon sequestration. The report shows that, once this product-displacement factor is taken into account, bamboo can store more carbon than some tree species – from 200 to almost 400 tonnes of carbon per hectare. The report is a solid basis for promoting bamboo as a substitute for a wide range of materials, including wood, cement, plastics and steel.

As well as publishing new research, the Congress also heard from senior scientists conducting an ongoing investigation into the best methodologies for assessing bamboo's carbon sequestration potential. A workshop conducted as part of INBAR's flagship project, the Global Assessment for Bamboo and Rattan (GABAR), in partnership with the Food and Agriculture Organization (FAO), drew together researchers from 12 INBAR member states to agree on an international methodology for assessing bamboo's carbon storage potential. Once finalised, the methodology will help foresters, bamboo researchers and remote-sensing specialists across INBAR member states to better assess the usefulness of their native bamboo stocks as a carbon sink.

The Congress also made a striking statement in support of bamboo's use for carbon storage. In an announcement made on the final day of the Congress, Dr Li Nuyun, executive vice-president of the China Green Carbon Foundation, stated that her organisation will help establish a bamboo plantation in Yunnan Province, China. The project is being co-funded by Mr Yang Ziyi, the CEO of Kunming Suge Greening Engineering Company Ltd, and aims to sequester the estimated 2,000 tons of carbon dioxide generated over the three-day Congress.

Publishing the Beijing Declaration

Announced on the third day of the Congress, the Beijing Declaration marks a significant step in the development of bamboo and rattan as 'nature-based tools' for the UN Sustainable Development Agenda.

The Beijing Declaration [see Annex] is a rallying cry for all 'ministers, senior officials and [BARC] participants'. The Declaration acknowledges the importance of bamboo and rattan as 'two of the most important non-timber forest resources widely distributed across the world' which 'can contribute significantly to achieving many of the social, economic and environmental goals and targets of the UN 2030 Agenda for Sustainable Development.'

The Declaration further acknowledges that a number of challenges prevent the realisation of these plants' potential in many countries and commits all those in agreement to call upon relevant parties to act. In particular, the Declaration lists ten commitments to overcome these obstacles. These include the need to develop appropriate policy frameworks and allocate domestic resources for the bamboo and rattan sector; to find out more about the plants' distribution, availability, properties and uses; to establish robust value chains; to encourage innovation, technology transfer and private-sector participation; to advance South-South and trilateral cooperation, including the use of bamboo and rattan in regional and global initiatives; and to increase INBAR membership. The final part of the Declaration 'Encourage[s] the use of this Declaration to work together to support tangible examples of South-South and trilateral cooperation to help developing countries achieve economic, social and environmental sustainability' and to build 'an open, inclusive, clean and beautiful world that enjoys lasting peace, universal security and common prosperity.'

The Declaration was first circulated to INBAR members at the 10th INBAR Council meeting in April 2018, and the secretariat made significant changes to the text during the past months based on recommendations from INBAR member states. The final draft was distributed during the first day of BARC 2018, and further comments were received at the Congress. The final Declaration serves as a standard by which INBAR can measure future work and as a reminder to encourage BARC participants to include bamboo and rattan as nature-based solutions in their work.

Increasing our knowledge about bamboo and rattan

[We commit to] Carry out inventories, natural capital accounting and assessments so as to get a better understanding of bamboo and rattan's distribution, availability, properties and uses...

– Beijing Declaration

Conversations at the Congress raised a perennial issue: the need for more research to generate more information. Despite bamboo and rattan's huge potential, there are many gaps in our knowledge about these plants' spread, properties and uses and few international standards to enable the safety and quality of products and housing. This is off-putting for investors and policymakers alike. Shitaye Minale, Deputy Speaker of the House for Ethiopia, stated in her speech in plenary on Tuesday, 'We need to know how much this is worth to our national economies. We need to quantify the benefits of bamboo for our countries.'

The Congress drew together representatives from leading research institutions, as well as entrepreneurs at the cutting edge of bamboo and rattan innovations, to discuss their work and associated challenges. John Hardy, founder of the Green School in Bali, Indonesia, reflected on the importance of sustainability and bamboo in secondary education; Veerle Vanderweerd, a senior advisor for the Global Science Technology and Innovation Conferences, hosted the plenary session on innovation and applied research on day three, and several private-sector debates focused on design, innovation and the challenges and opportunities for development. A number of important new partnerships and initiatives were agreed on to take forward research into various areas.

Agreeing on methodologies for measuring bamboo stocks

As well as measuring bamboo's carbon sequestration potential (see above), members of the GABAR-FAO workshop were tasked with developing internationally applicable methodologies for assessing bamboo resources, including bamboo forest areas, bamboo stocks and carbon stored in bamboo forests. The workshop aimed to address a well-known knowledge gap about the spread of bamboo resources: many countries have no accurate data for what bamboo areas, stocks or species are present or where they are distributed.

Participants presented some of their early findings at the Congress. These included a new definition of bamboo forests based on terms used by either the FAO or the Kyoto Protocol. The workshop also discussed new remote-sensing technology, which participants agreed is the most effective way to measure forest cover with limited resources, as well as the bamboo information needed by countries and how data can be collected and managed. Following the workshop, participants will write guidelines for bamboo stock and carbon storage assessment as a way to help INBAR member states and others better understand the potential of their native species.

Importantly, the methodologies will be used by countries across the world as part of their contribution to the FAO's upcoming Forest Resource Assessment 2020. Because of the difficulties associated with assessing bamboo stocks, the plant has not always been included in worldwide forest surveys, which makes the GABAR training even more impactful – as INBAR's GABAR coordinator Trinh Thang Long said, 'We are literally putting bamboo and rattan "on the map".'

Bamboo and rattan can play a decisive role in the economy of countries and mitigation of climate change. Therefore, it is essential to continue with research, to find greater benefits for everyone.

– Lenín Moreno,
President of
Ecuador

Collaborating on international research

A number of new partnerships were formed at the Congress with an aim to strengthen bamboo and rattan research. On Monday, 25 June, INBAR and the International Centre for Bamboo and Rattan (ICBR) signed a statement of intent to create the International Bamboo and Rattan Research Institute of Innovation. The Institute, based in Jimo District, Qingdao City, aims to promote the sustainable development and use of bamboo and rattan resources and 'help realise a series of core goals proposed in the Belt and Road initiative' – including green economic growth, environment protection, poverty alleviation, livelihood improvement and employment generation.

The Congress also saw the launch of the new International Innovation Alliance Initiative for Bamboo and Rattan Research and Development. A number of research organisations – ICBR; the Faculty of Forestry, the University of British Columbia; the Forest Research Institute Malaysia; the University of Lisboa; and West Virginia University – formed the Alliance to call for further innovation and international cooperation on the conservation, development and use of global bamboo and rattan resources and to provide scientific and technological support for the sustainable development of related industries. As a first step, all Alliance members signed a letter of intent with INBAR, who will help the Alliance understand the needs for advanced bamboo research and innovation across INBAR's member states.

These new partnerships should provide an important boost to existing knowledge about bamboo and rattan and their uses and help coordinate more impactful work across the world.

Showcasing innovation

The Congress highlighted a number of important innovations in bamboo use. Gunter Pauli, a key speaker, discussed his new initiative, which uses bamboo diapers as part of a 'zero emissions' society drive. Other speakers talked about creating bamboo housing using flat-pack laminated boards, which could make a real difference in areas such as post-disaster housing, as well as a new bio-based epoxy which can replace traditional sources of glue in bamboo composites. China presented the latest technology in using bamboo fibres as the basis for composites suitable for applications such as housing units, railway carriages and wind turbine blades. Participants learned about the latest research on bamboo-fibre extraction for textile production, which was highlighted at a conference last year in Wageningen in the Netherlands, and heard about the production of bamboo telegraph poles in Kenya. Alongside these sessions, INBAR held an exhibition that displayed everything from charcoal and bicycles to furniture and flooring and even included a bamboo-based wind turbine blade. With applications across transport and infrastructure, the innovations showcased at BARC have a huge potential for application in South-South cooperation.

As a number of speakers highlighted, the lack of bamboo- and rattan-specific standards often prevents further take-up of bamboo technologies. With over 1,600 bamboo species and 600 rattan species, each with different properties, relevant product standards are needed to ensure high quality, durability and consistency and to help countries work with different species. At the Congress, speakers updated participants on International Standardisation Organisation (ISO) Technical Committee 296 (ISO TC 296), covering bamboo and rattan standards, and ISO TC 165, covering timber structures including bamboo. The sessions ended with a call to push forward with setting standards and for more INBAR members to join existing ISO TCs.

Collaborating for better trade data

Bamboo and rattan trade data was a focus area of an MoU signed between INBAR and the International Tropical Timber Organization (ITTO) on Monday. The MoU aims to facilitate the implementation of some joint activities in the field of the conservation, sustainable management, use and trade of natural resources. One specific area of cooperation was the collection and analysis of trade data for timber, bamboo and rattan products – a crucial 'missing link' in the quest to understand how much bamboo and rattan supports local livelihoods and their potential for growth. With the combined resources of INBAR (the International Commodity Body for Bamboo and Rattan, whose members comprise 86% of the bamboo and rattan trade) and the ITTO (the International Commodity Body for tropical timber, whose members account for 90% of the timber trade), the MoU should be the start of an important collaboration for improved trade statistics.

Training and capacity building

Recognising that most countries in the Global South have yet to realise the full potential of bamboo and rattan due to a lack of awareness, technical capacity and political and financial support...

– Beijing Declaration

Capacity building and training go hand in hand with efforts to build knowledge. This was a key theme of the Congress. Previous beneficiaries of INBAR training, including Philippine senator Cynthia Villar and successful Ghanaian bamboo charcoal entrepreneur Gloria Adu, spoke about the importance of training as a means to raise awareness and build capacity. At a session on capacity building, participating organisations agreed to a statement of intent which acknowledged a key problem: although bamboo and rattan-related initiatives have to be locally tailored and specific, 'many areas lack the relevant knowledge, expertise, and appropriately trained human resources to achieve this' and require support. A number of critical decisions were made regarding how to scale up existing training efforts.

Establishing a global network of training facilities

We are keen to learn new skills from other INBAR member states, which can help us build a more climate-resilient Uganda. With more training and capacity-building, we can teach more people to use bamboo for climate mitigation and adaptation.

– Jovrine Kaliisa Kyomukama, MP and member of Uganda's Parliamentary Forum on Climate Change

At a session on capacity building and training, Philippe Pypaert, programme specialist for Natural Science at UNESCO's Beijing office, read a statement of intent on the need to 'Establish a Global System of Bamboo and Rattan Training Facilities'. The statement, which was agreed to by the 15 organisations participating in the session, requested that INBAR explore the possibilities of realising a global system of training facilities. Among other ideas, discussions suggested the possibility of setting up training facilities based around UNESCO biosphere reserves and other designated conservation areas.

At the Congress, a number of initiatives for new training centres were discussed. These included possible bases in Fiji and Ghana and a China-Africa training centre in Ethiopia. Further support was promised to existing training facilities in China and India, which together have played a powerful role in INBAR's training programmes for some 20,000 people since 1997.

Inspiring policymakers

INBAR hosted a ministerial seminar alongside the Congress. The programme, 'Policy-Oriented Workshop on South and South Cooperation for Promoting Green and Sustainable Development with Bamboo and Rattan', was sponsored by China's Ministry of Commerce and ran from 24 June to 3 July. Attendees included ministers and high-level representatives from Brazil, Cambodia, Cameroon, Cuba, Ecuador, Ethiopia, Ghana, Kenya, Laos, Nepal, Nigeria, Panama, Peru, the Philippines, Senegal and Uganda.

The seminar ended with a trip to Meishan, a prefecture-level city and famous bamboo area of Sichuan, China. As part of the programme, ministers attended the International Bamboo Industry Trade Expo in Meishan, contributed to a forum on China's bamboo industry and visited a number of bamboo enterprises in the county. The field trip also included an introduction to giant pandas with a visit to the Dujiangyan Giant Panda Centre.

Overall, the aim of the programme was to educate and inspire policymakers about the potential for the bamboo sector. As in previous ministerial workshops, the attendees expressed their surprise at the potential of bamboo and showed enthusiasm about sharing these experiences with their countries. A number of ministers have since set up meetings with their governments to encourage further action on bamboo and rattan sector development.

Strengthening our network

Strengthen coordination and collaboration among INBAR member states and partners to ensure that bamboo and rattan are included in and contribute to the implementation of relevant regional and global policies, programmes and initiatives regarding the SDGs, climate change mitigation, adaptation and green growth...

– Beijing Declaration

It is essential to strengthen South-South cooperation and to build green development – together. This is the only way to have true development.

- Lenín Moreno,
President of
Ecuador

With participants from almost 70 countries, the Global Bamboo and Rattan Congress made clear the importance of the INBAR network. Since 1997, when INBAR was founded with nine members, the organisation has grown to include over 40 member states, almost all of which are developing countries from the Global South. Sessions at the Congress have discussed the importance of this network as a mechanism for sharing knowledge and experiences and emphasised the need to scale up this work on South-South and trilateral cooperation.

Welcoming new members

In the opening ceremony for the Congress on Monday, INBAR announced the accession of the Central African Republic as its newest member, effective from 1 July. The Republic is INBAR's 44th member state and the 19th from Africa. The Central African Republic has four known bamboo species and eleven rattan species, many of which are already being used in day-to-day life – making the country a valuable addition to INBAR's network. In turn, with rich forest resources which nurse a large variety of wildlife, including a number of species reliant on bamboo and rattan for their survival, the Republic can benefit from training in better bamboo and rattan management and use.

Partnering with other organisations

At the opening ceremony, INBAR Director General Hans Friederich stated his hope that the Congress 'will be a platform for discussion and for development, and that we will come away with a series of real commitments, pledges and agreements'. This hope was fulfilled over the course of three days, as over a thousand participants spoke at and interacted with a large number of sessions and plenary discussions. In a significant deviation from previous meetings, BARC 2018 included input from a range of organisations whose work complements or expands INBAR's own, including UN agencies like the UN Development Programme, UN Refugee Agency and UN Women, and NGOs like SNV, the Sustainable Agriculture Network and the African Women's Network for Sustainable Development, or REFADD. INBAR formed partnerships with a range of new organisations, including COMIFAC, FARA, the Gaborone Declaration for Sustainable Development, the Global Green Growth Institute and the ITTO. BARC also witnessed the formation of new alliances and institutions between research institutions and organisations, including the launch of the Qingdao International Bamboo and Rattan Research Institute of Innovation, the Alliance of Innovation-Driven Development of Bamboo and Rattan Industries, the Genome Atlas of Bamboo and Rattan, and a new Sino-Canadian Joint Laboratory in Bamboo and Rattan.

The outcomes from these new partnerships will develop over the coming years. One thing, however, is clear: the Congress has provided an important platform for forging new partnerships. One example demonstrates this best.

Subsequent to discussions at BARC, the founder of one bamboo bicycle company has made close connections with a number of key INBAR partners. Israel-based company BambooBike has reached an agreement with several local governments in China. The governments and related companies will invest in the expansion of the bicycle business and help BambooBike open a local factory. Aside from vastly increasing capacity, the partnerships will also invest in new ventures, including the creation of electric bamboo bikes. Clearly, with the right conditions and access, new directions and links can help build sustainable bamboo and rattan value chains across the world – something which the Congress was meant to do.

Conclusion

The science is already there. We don't have to convince people about bamboo. How is it possible that we remain stupid? Because this is a big deal. We need to take steps so the next generation can say, 'how is it possible our parents didn't do this?' We don't have to educate them, we have to inspire them – and bamboo is an inspiring product.

– Gunter Pauli, entrepreneur and author of *The Blue Economy*

There is still a lot of homework that remains to be done for the future, and as the President, as a Colombian, and as a citizen of the world, I remain committed to this goal.

– Juan Manuel Santos, Nobel laureate and former President of Colombia

The Global Bamboo and Rattan Congress was the first international dialogue of its scale and scope. The aim of the Congress was to provide a platform for discussion and encourage a more holistic approach to solving sustainable development problems using bamboo and rattan. Although many people are aware of the benefits of bamboo and rattan, there are still significant obstacles to mainstreaming these plants into national and international climate, poverty and environmental policies. As well as raising awareness, the Congress aimed to provide solutions to those facing a lack of training, investment or research or those facing problems integrating bamboo or rattan into their work.

With an outstanding display of political support from heads of state as well as key UN organisations, BARC showed that bamboo and rattan are already part of the sustainable development debate. This support continued throughout the Congress, with speakers from a wide range of prominent organisations proposing their vision for bamboo and rattan development. By agreeing to the Beijing Declaration, all participants of BARC agreed to further this spirit with a series of robust commitments promoting future work.

By framing bamboo and rattan as 'nature-based solutions' to a wide range of problems, BARC encouraged discussions about the multifaceted nature of these plants – enabling them to be used as 'win-win' solutions for job creation, land restoration, resilient housing and climate change mitigation.

BARC also addressed a number of key challenges facing the development of these plants. As well as three workshops which took place alongside the Congress – one for foresters on 'Developing bamboo assessment methodologies', another for ministers on 'South and South Cooperation for Promoting Green and Sustainable Development' and a third symposium on 'Sustainable Bamboo Building Materials' – BARC also hosted a side session on capacity building and training, committing to establish a global network of training facilities. The importance of improving our knowledge about these plants was a key theme of BARC, from showcasing innovation and new publications to agreeing to collaborate with new partners for more data sharing and research.

Finally, the Congress contributed to a host of new partnerships, many of them between organisations and participants from the Global South. Over the next few years, the strength of these South-South partnerships should enable a continuation of the conversations which took place at BARC and boost the integrated, holistic use of bamboo and rattan.

In his closing remarks to participants at the end of the Congress, Hans Friederich commented, 'Bamboo and rattan are no longer "poor man's timber" – they are truly "green gold", and their applications for sustainable development and environmental protection go hand-in-hand with their industrial applications and use by the private sector. It is my fervent hope that, over the next few years, we can continue these discussions and work across different sectors to promote these plants' development.' With the continued support of all participants at BARC, bamboo and rattan may yet become a critical part of the sustainable development agenda.

Annex: The Beijing Declaration

Launched at the Global Bamboo and Rattan Congress, 25-27 June 2018, Beijing, China

We, ministers, senior officials and participants, attending the Global Bamboo and Rattan Congress (BARC2018), the first ever high-level policy-oriented global meeting on bamboo and rattan, organised by the International Bamboo and Rattan Organisation (INBAR) and National Forestry and Grassland Administration of China on 25-27 June 2018 in Beijing, China,

Acknowledging the important role and great potential of bamboo and rattan in achieving UN Sustainable Development Goals (SDGs);

Calling for new partnerships to strengthen South-South collaboration in the spirit of extensive consultation, joint contributions and shared benefits in order to build a community with a shared future for mankind;

Recognising that bamboo and rattan are two of the most important non-timber forest resources widely distributed across the world and can contribute significantly to achieving many of the social, economic and environmental goals and targets of the UN 2030 Agenda for Sustainable Development, and to the creation of an ecological civilisation, particularly:

- Poverty alleviation - Bamboo and rattan have an estimated 10,000 uses which can create jobs, empower women and contribute to green growth;
- Addressing climate change - Bamboo stores carbon at a fast rate, making it a strategic tool for climate change mitigation and adaptation actions;
- Sustainable construction and human habitats - Bamboo's strength and light weight make it an excellent construction material for affordable, disaster-resilient housing and infrastructure;
- Environmental protection – Bamboo and rattan make up a critical part of forests and ecosystems, and bamboo is a very effective resource for restoring degraded land and managing water;
- Clean energy - Bamboo can provide a sustainable, renewable source of bioenergy which reduces pressure on forest resources and energy-poor communities;
- Sustainable production and consumption – Bamboo and rattan provide a low-carbon, renewable alternative to a number of materials used in construction, furniture, paper and packaging;

Acknowledging the opportunity for shared benefits through consultation among bamboo and rattan consumer countries, with their expertise in value-added production and trade;

Further acknowledging that technical innovation will promote the sustainable use and development of bamboo and rattan and facilitate industrial advancement;

Reaffirming INBAR's important contributions to facilitating South-South and trilateral cooperation via bamboo and rattan, and looking forward to its greater role in advancing the achievement of SDGs and international development cooperation as Observer to the United Nations General Assembly;

Recognising that most countries in the Global South have yet to realise the full potential of bamboo and rattan due to a lack of awareness, technical capacity, and political and financial support;

Further recognising that the Global Assessment of Bamboo and Rattan, 'GABAR', as INBAR's flagship programme, is working to tap the potential of these strategic plants by providing inventories, comprehensive assessments and policy-relevant information.

Commit to calling upon national governments and other relevant parties to implement the following recommendations:

1. *Develop* appropriate policy frameworks and allocate domestic resources to support the sustainable management of bamboo and rattan resources, development of local industry, and production and trade of bamboo and rattan goods, for the achievement of related SDGs and the building of an ecological civilisation;
2. *Carry out* inventories, natural capital accounting and assessments so as to get a better understanding of bamboo and rattan's distribution, availability, properties and uses;
3. *Strengthen* coordination and collaboration among INBAR Member States and partners to ensure that bamboo and rattan are included in and contribute to the implementation of relevant regional and global policies, programmes and initiatives regarding the SDGs, climate change mitigation, adaptation and green growth;
4. *Establish* value chains with access to local, regional, and international markets via appropriate standards setting, implementation and monitoring of sustainable forest management guidelines, and maintenance of quality control;
5. *Encourage* bamboo and rattan technology innovation and the establishment of formative partnerships which connect research institutes, technology centres and the private sector;
6. Participants attending the plenary session on South-South Cooperation and Belt & Road Initiative encourage interested countries and international organisations to work together to replicate successful bamboo and rattan projects that are easily scalable and replicable to advance South-South and trilateral cooperation for common and sustainable development, including in the context of development cooperation initiatives such as Belt & Road Initiative announced by individual countries;¹
7. *Encourage* bamboo and rattan knowledge sharing and technology transfer to promote collaboration and enhanced local participation for common development;
8. *Call for* investment from bilateral and multilateral financing mechanisms to support bamboo and rattan programmes and initiatives, and resolve to work together to jointly mobilise resources;
9. *Call upon* all nations to recognise the high value of bamboo and rattan, to join INBAR as new Member States, and to contribute to a more sustainable world via bamboo and rattan;
10. *Encourage* the use of this Declaration to work together to support tangible examples of South-South and trilateral cooperation to help developing countries achieve economic, social and environmental sustainability and build an open, inclusive, clean and beautiful world that enjoys lasting peace, universal security and common prosperity.

¹ The Indian delegation did not attend the plenary session on South-South Cooperation and Belt & Road Initiative.

The Global Bamboo and Rattan Congress, BARC 2018, opened on the 25th of June 2018 in Beijing, China. The three-day event, co-hosted by the International Bamboo and Rattan Organisation and China's National Forestry and Grassland Administration, welcomed around 1,200 participants from 70 countries, including ministers, policymakers and representatives from research institutes, development organisations, UN bodies and the private sector. This report aims to provide a summary of the key outcomes agreed on at BARC and showcase the vitality and relevance of INBAR's programme of work—to policymakers, investors, entrepreneurs, engineers and development practitioners.