

Sharing the latest news and activities from the bamboo and rattan sectors



## ***BAMBOO AND RATTAN: TOGETHER FOR THE GOALS***

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## ***Bamboo and Rattan Update***

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Dr. Charles Kojo, CEO of Kontiki Bamboo Works at his plantation near his bamboo factory in Hoima, Uganda. Credit: Todd Brown/UNEP

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### **About INBAR**

INBAR is an intergovernmental organization which promotes the use of bamboo and rattan for sustainable development.  
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**INBAR Headquarters:** Beijing, China  
**Regional Offices:** Central Africa, East Africa, West Africa, Latin America and the Caribbean, South Asia.

# BRU

# EDITORIAL

***Welcome to the fourth issue of the Bamboo and Rattan Update for 2025, which details the many ways bamboo and rattan can contribute to a diverse range of partnership frameworks that facilitate the achievement of the United Nations Sustainable Development Goals.***

Most of the Sustainable Development Goals (SDGs) of the United Nations (UN) focus on social, economic and environmental issues. They are typically core development challenges that significantly impact daily lives and planetary health. Among them, SDG 17 stands out as unique, with the explicit mission to “Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development,” making it the only goal that provides a framework for resource and technology mobilization, capacity building and cooperation agreements.

To put it simply, SDG 17 is about strengthening partnerships to achieve all the other SDGs. It does this by bringing governments, private sector and civil society actors, and international organizations together to ensure countries, especially developing ones, have the support they need to build a more sustainable and inclusive future.

The first article is a shining example of what can be achieved when institutions join hands for the common good. INBAR and the Food and Agriculture Organization of the UN have extended their longstanding partnership by renewing their Memorandum of Understanding through 2030, redoubling efforts to promote bamboo and rattan as powerful, nature-based solutions for sustainable development. Over the past five years, the collaboration has already supported restoration, livelihoods and climate action in all corners of the world. These efforts culminated in recognition as a UN World Restoration Flagship for a bamboo initiative responsible for restoring 200,000 hectares across nine countries. From assessing global bamboo resources with satellite tools to supporting Indigenous-led restoration in the Ecuadorian Amazon, the article shines a light on how bamboo’s impact on land restoration, cultural revitalization, green economic growth and more can help countries meet climate and development targets.

Bamboo and rattan can even contribute to some less commonly associated global challenges, including migration and humanitarian aid. Highlighted in the second article, INBAR and the International Organization for Migration (IOM) have launched a new partnership to integrate bamboo and rattan into the heart of humanitarian and climate action, supporting displaced and

# 17 PARTNERSHIPS FOR THE GOALS

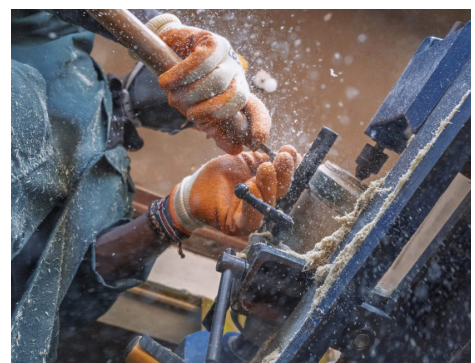


vulnerable communities around the world. Signed in October, this agreement combines IOM's comprehensive approach to global migration with INBAR's expertise in nature-based solutions, leveraging bamboo for applications in carbon storage, disaster-resistant shelters, clean energy and resilient livelihoods. As an increasingly erratic climate drives more people from their homes, this alliance represents a coming together of like-minded allies from different spheres to wield bamboo and rattan for the betterment of people and the planet.

The final article examines specific project work spurred on by a partnership that originated in 2017 between INBAR and the Spanish Agency for International Development Cooperation. The collaboration has illuminated the many ways bamboo can drive sustainable growth across Latin America, East Africa and beyond. A range of diverse cooperation frameworks have blended policy formulation, skills training, research and community development to allow stakeholders to tap into the range of benefits associated with bamboo and rattan. Leading to the creation of green jobs, restoration of degraded land, and the bolstering of local economies around the world, this distinctive approach was initiated in Latin America and the Caribbean, later reaching East Africa. In Ethiopia, we are seeing rehabilitated bamboo forests, resilient supply chains and new livelihoods for farmers, women and youth. All these success stories continue to build on one another, proving the case for bamboo time and time again as a nature-based solution that can help communities grow stronger in a changing climate.

The INBAR network continues to expand, its roots spreading across the fertile topsoil of the world. Bamboo and rattan will always play an instrumental role as central resources usable in a broad range of partnership frameworks that aim to scale up their use for inclusive and climate-smart development. Please enjoy this issue of the *Bamboo and Rattan Update*; we hope it inspires you to consider the power of collective action to meet the urgent challenges of our era.

## THE EDITORS



# INBAR AND FAO WORKING TOGETHER FOR SUSTAINABLE DEVELOPMENT



On 14 October 2025, two new bamboo pavilions were unveiled at FAO Headquarters in Rome, donated by INBAR.

***Official partnership between the two organizations is a natural and strategic alliance for global sustainability.***

In October 2020, the International Bamboo and Rattan Organization (INBAR) and the Food and Agriculture Organization of the United Nations (FAO) took the historic step of signing a Memorandum of Understanding (MoU) together, strengthening a strategic partnership to advance the sustainable production and consumption of bamboo and rattan in alignment with the Global Forest Goals and the United Nations (UN) Sustainable Development Goals (SDGs). This directly contributes to SDGs 1, 2, 15 and 17.

INBAR and FAO have recently renewed their MoU until October 2030, reinforcing a shared vision to advance global sustainability efforts under a new joint work plan aligned with the long-term strategies of both organizations.

## **A legacy of achievement**

The MoU focuses on three core areas of collaboration: (1) Joint development of project proposals for mobilizing resources; (2) coordinated implementation of pilot initiatives; and (3) joint development of knowledge products and data exchange, including outreach and communication.

Over the past five years, INBAR and FAO have worked together to advance sustainable

development practices across Africa, Asia and Latin America and the Caribbean. The partnership also supports various joint initiatives that promote bamboo and rattan as nature-based solutions for poverty reduction, sustainable livelihoods and climate action, while facilitating policy development, knowledge sharing and technical guidance.

INBAR and FAO are also coordinating efforts to devise methodologies to accurately assess and map global bamboo resources and to develop harmonized trade codes for more reliable trade data, strengthening countries' abilities to make evidence-based decisions for the sustainable growth of the bamboo and rattan sector.

### World Restoration Flagship award for bamboo-based restoration

The UN Decade on Ecosystem Restoration, led by FAO and the UN Environment Programme (UNEP), presented a World Restoration Flagship award to an INBAR-led bamboo-based restoration initiative in nine countries in Africa, Asia and Latin America. The restoration initiative has restored about 200,000 hectares and benefited local communities through improved livelihoods and incomes. By 2030, the initiative aims to attract investments to restore an additional 300,000 hectares.

These flagship awards recognize efforts around the globe to nurture degraded ecosystems, increase community incomes and promote food security, highlighting ambitious and promising large-scale restoration efforts to halt land degradation and ensure healthier, more resilient agri-food systems.

Bamboo grows rapidly and does not need additional inputs to regenerate, making it an excellent plant resource for combating the impacts of intensive agriculture and logging. Bamboo forests act like huge carbon sinks, sequestering more carbon than certain tree species, and high-quality bamboo items lock in carbon for the product's entire lifespan, significantly contributing to and supporting broader climate action.

### Bamboo resource assessment: A new approach

Found across the tropical and subtropical zones, bamboo thrives in low- and middle-income countries, where it has a rich history of economic and cultural utilization. Over 1600 species of bamboo cover an estimated area of 35 million hectares of diverse terrain, including sprawling mountains, deep valleys and biodiverse forests. Accordingly, it is crucial that comprehensive methodologies are developed for accurately mapping the extent of bamboo resources around the world to help inform evidence-based decision-making. Accurate data can empower policymakers to design effective regulations and laws, enterprises to create strategic and realistic plans of operation and livelihood development opportunities, and civil society organizations to monitor carbon stocks and evaluate the impacts of deforestation, among other applications.

To address these concerns, INBAR and FAO, with support from the Accelerating Innovative Monitoring for Forests (AIM4Forests) programme, collaborated to draft a report that proposes a simple and practical approach for mapping bamboo on a large scale in Southeast Asia. Entitled *Bamboo resources assessment: A methodological approach using SEPAL with case studies in Asia*, the publication seeks to fill this gap and provide users with a methodology for mapping bamboo using cloud-computing tools such as FAO's System for Earth Observation Data Access, Processing and Analysis for Land Monitoring (SEPAL) and Google Earth Engine, freely available satellite data, such as Sentinel-1 and Sentinel-2 time-series data, and global canopy height datasets. This integrated approach yielded detailed maps of bamboo distribution in Myanmar, the Chittagong Division of Bangladesh and Thailand.

Country case studies confirmed the efficiency and accuracy of this methodological approach, making it suitable for large-scale mapping efforts. Going forward, more robust ground-truth sampling can help resolve difficulties in species-level identification, clarify the diversity of bamboo species and ultimately verify the accuracy of the data. As a robust framework for mapping

that integrates multiple advanced technologies, open-access platforms and collaborative tools, this approach can play a key role in advancing evidence-based decision-making.

### Indigenous Peoples Biocentric Restoration Project

Indigenous Peoples' ancestral knowledge and deep connection to their territories are essential for guiding sustainable restoration efforts. Recently, FAO, INBAR, Ecuador's Ministry of the Environment, Water, and Ecological Transition, Ministry of Agriculture and Livestock, and local governments together launched the Indigenous Peoples Biocentric Restoration Project in the Ecuadorian Amazonian Indigenous Territories. This initiative involved four Kichwa communities in Napo Province – Pucachicta, Ongotá, Alto Tena and San Pablo – where 123 members of the “Amukina” Kichwa Women's Association engaged in participatory processes to establish “schools of life” – spaces where elders pass down wisdom to future generations, helping preserve traditional knowledge.

The project emphasized the recovery and transmission of ancestral knowledge to ensure that future generations inherit and build upon this legacy, fostering a new wave of nature custodians. In these communities, the native bamboo species, known locally as *wamag*, play a pivotal role due to their socio-economic, cultural and ecological potential. Harnessing *wamag* has led to the restoration of over 55 hectares, the reintroduction of 156 species, the establishment of four community nurseries, the production of nearly 21,000 plants for agroforestry integration, the founding of four schools of life, and a general revival of bamboo in the traditional Kichwa diet. The initiative is now in its second phase, expanding the land targeted for restoration, increasing the number of schools of life and nurseries, and targeting additional bamboo species with ecological, spiritual and medicinal value.

### The road ahead

These three categories of achievements reflect only a small portion of the success stories



*FAO Director-General Qu Dongyu spoke at the unveiling ceremony for the pavilions.*

from the INBAR-FAO partnership over the past five years. Beyond these milestones, the two organizations have laid the groundwork for a range of promising future initiatives, engaged senior leadership in delivering important addresses, organized and participated in global events and workshops, and co-authored and published impactful media products.

The renewed MoU builds on past endeavors while including new projects such as the two bamboo pavilions erected at FAO Headquarters in Rome during FAO's 80<sup>th</sup> anniversary and World Food Forum. Donated by INBAR and built by the Hangzhou BAMBOO Technology company, the pavilions showcase the versatility of bamboo as a low-carbon, climate-resilient building material.

The two organizations will continue to work hand-in-hand to integrate bamboo and rattan in sustainable agriculture systems, the sustainable bioeconomy and advocate for their inclusion in climate action. The world is increasingly recognizing the transformative potential of these nature-based solutions.

**This article was written as a joint publication by INBAR and FAO.**



The two unique bamboo pavilions, one round (left) and one square (right), are named “Pavilion of Harmony” (He Xie) and “Pavilion of Games” (Bo Yi), respectively.

# NEW PARTNERSHIP TO BOOST BAMBOO AND RATTAN'S CONTRIBUTIONS TO CLIMATE AND MIGRATION CHALLENGES

***INBAR and the International Organization for Migration to scale up efforts to support humanitarian and climate action, resilient livelihoods, capacity building and more.***

The International Bamboo and Rattan Organization (INBAR) and the International Organization for Migration (IOM) formally entered into a Memorandum of Understanding (MoU) on 30 October 2025.

As a related organization in the United Nations (UN) system, IOM is the leading intergovernmental organization in the field of migration. The organization was founded in 1951 in response to the widespread displacement of people and war refugees in Europe following the end of the Second World War. Today, it remains committed to the principle that undergirded its establishment over 70 years ago, namely, that humane and orderly migration benefits migrants and society.

With 175 Member States and 8 Observers, IOM's mission is to provide support to migrants across the world, develop effective responses to the shifting dynamics of migration, and offer advice on migration policy and practice. The vision is ultimately to deliver on the promise of migration by supporting vulnerable communities.

IOM works through its 550 field offices spread across six regions to bring about this promise, including in Latin America and the Caribbean, the Middle East and North Africa, Europe and Central Asia, West and Central Africa, Asia and the Pacific, and East Horn and Southern Africa. Given its global operations, it is a natural ally for INBAR,

which has also implemented project work in over 80 countries around the world – essentially, anywhere bamboo and rattan can be found.

## **New areas for cooperation**

The new partnership between INBAR and IOM aims to address several key areas for deepening cooperation in the field of migration, including emergency responses, climate change mitigation and adaptation, settlements and infrastructure, sustainable development and community resilience, bamboo and rattan value chains, joint project development, knowledge sharing, and capacity building. These represent the fruitful starting points for the inter-institutional engagement.

INBAR has used bamboo and rattan as powerful tools for sustainable development for over two decades. As nature-based solutions, they directly contribute to many of the UN Sustainable Development Goals (SDGs), including SDG 1: No poverty; SDG 5: Gender equality; SDG 7: Affordable and clean energy; SDG 11: Sustainable cities and communities; SDG 12: Responsible consumption and production; SDG 13: Climate action; SDG 15: Life on land; and SDG 17: Partnerships for the goals. At the same time, bamboo and rattan also indirectly contribute to many of the other UN goals.

Owing to the multifunctional nature of these plants, initiatives that champion bamboo and rattan are able to simultaneously contribute to multiple goals at once. This synergy makes them real powerhouses for driving sustainable development on a global scale.



*Bamboo treatment facility providing durable bamboo solutions to Rohingya refugees. Credit: Nate Webb/IOM*

## Zooming in

These plant resources can make a real impact on core programmatic areas within the scope of the MoU. Bamboo is one of the fastest-growing plants in the world, storing more carbon than even fast-growing tree species like the Chinese fir. As a sustainable source of biomass energy for cooking, heating and electricity, it can also make a significant contribution to climate change mitigation. Recent technological breakthroughs have also begun to unlock bamboo as a resilient, low-carbon building material where it can substitute for harmful high-energy materials—and, importantly, serve as a modular housing material that can be transported and assembled quickly. For these reasons, bamboo offers many feasible pathways for climate change mitigation and adaptation, especially in the migration context.

Bamboo has also appeared in the news for withstanding damage from natural disasters. In April 2016, a 7.8-magnitude earthquake struck Ecuador. While many structures were damaged, traditional bamboo structures – including homes – remained standing. This is because bamboo sways during earthquakes, bending with the seismic forces, giving it a substantial degree of seismic resilience. In places like Pakistan, which see regular severe flooding, particularly as climate change impacts continue to worsen, natural materials like bamboo can help villagers rebuild relief shelters quickly. Moreover, since these homes are lighter, there is less of a safety risk to occupants if the structure collapses.

There are also countless pathways to utilize bamboo and rattan for livelihood improvements. So many high-value end uses exist for bamboo, including laminated plywood, flat-pack furniture, activated charcoal, wind turbine blades and more. Rattan has uses in furniture and even as a bone-regenerating medical tissue. The staggering variety of value-added products gives producers a wide range of options, increasing their flexibility in times of market stress. In turn, this substantially contributes to poverty alleviation within the context of strengthening community resilience to adverse climatic conditions, as bamboo is a sustainable source of year-round income that is able to grow in low-nutrient soils or steep slopes.

IOM has already used bamboo as part of its humanitarian efforts in Cox's Bazar, Bangladesh. Establishing a bamboo treatment facility in 2019, the center represents the largest bamboo procurement effort in the humanitarian sector. At this facility, workers prepare bamboo poles for construction into shelters and public buildings, aimed at meeting the structural needs of nearly a million Rohingya refugees, fleeing violence in Myanmar's Rakhine State. It also seeks to help this isolated region of Bangladesh strengthen its connection with the international bamboo market to build a sustainable supply chain that can deliver income-generating opportunities for locals.

## Empowering migrants and refugees

Climate change is ushering in a new era for humankind, one characterized by unique challenges. Natural disasters related to climate change are becoming more severe and frequent. Our institutions need to rise to meet these challenges. Humanitarian infrastructure should be strengthened to facilitate the delivery of sustainable aid packages to refugees around the world and to assist in planning and preparation for increasing cross-border migration. The recent partnership between INBAR and IOM represents an important step in this direction.

The versatile nature of bamboo – sequestering carbon, generating year-round income, supporting diverse value addition and serving as modular, disaster-resistant housing – means it can be a powerful instrument in policymakers' toolkits in the humanitarian space. INBAR looks forward to working with IOM to harness the power of bamboo and rattan in advancing disaster relief, sustainable development and climate action for the betterment of people worldwide.

**This is a re-publication of a press release announcing the INBAR-IOM partnership. It has been updated with details.**

## FEATURED ARTICLE

# BAMBOO FOR SUSTAINABLE DEVELOPMENT: A PARTNERSHIP INVIGORATING THE WORLD



*Latin America has a 10,000-year-old history using bamboo as a resilient building material.*

## ***Bamboo is proving to be a vital plant for synergistic sustainable development in Latin America and Africa.***

Since 2017, the Spanish Agency for International Development Cooperation (AECID) and the International Bamboo and Rattan Organization (INBAR) have striven to build a powerful alliance in Latin America and the Caribbean (LAC), united by a common goal: To demonstrate how bamboo, an abundant resource in the region with a long and storied history of utilization, can serve as a key tool to address the sustainable development

challenges of our time. This collaboration fully embodies the spirit of Sustainable Development Goal 17 (SDG 17), which promotes effective partnerships among governments, international organizations, the private sector and civil society as a means to achieve the 2030 Agenda and ensure that no one is left behind.

### **A partnership built on shared values**

AECID, as the executing arm of Spanish Cooperation, works across Latin America and the Caribbean region, guided by principles of gender equality, inclusion, the fight against poverty



*Trainings are empowering communities with skills for tapping into bamboo for powerful economic development.*

and inequality, and respect for human rights and cultural diversity. Its approach focuses on promoting sustainable development through triangular cooperation, knowledge exchange and capacity building.

INBAR, an intergovernmental organization founded in 1997 with more than 50 Member States, aims to promote the well-being of bamboo producers and users by fostering sustainable development and using bamboo as a tool to reduce poverty and protect the environment. It seeks to accomplish this mission by focusing its efforts on policy shaping and representation. At the same time, advocacy, knowledge sharing, action research and multisectoral support also crucially inform INBAR's work on the ground.

The convergence of these visions has led to the establishment of a strategic alliance that combines technical expertise with development cooperation, showing how bamboo can be a catalyst that transforms livelihoods, generates green jobs, replenishes ecosystems, reduces emissions and ultimately infuses strength into local economies.

### **Bamboo: An ancient resource for the future**

Found growing across Latin American ecosystems and utilized by communities for over 10,000 years, bamboo has traditionally been used in construction, agriculture, crafts and everyday life products. Today, thanks to the joint efforts of AECID and INBAR, this resource has regained prominence as a nature-based solution to global challenges like climate change, poverty and inequality. As highlighted in the first article, it can even be used as part of disaster relief and humanitarian aid.

Since the partnership formally began in 2017, both institutions have promoted collaborative actions across the entire bamboo value chain, from the sustainable management and production of quality raw material to the development of public policies, technical training and awareness campaigns. This comprehensive approach seeks to generate the enabling conditions necessary for local development and effect the transition toward green and circular economies.



*Bamboo is a viable alternative to high-emissions materials, capable of catalyzing a green revolution in the construction sector.*

### Ecuador and Peru: First steps toward a regional vision

The first joint project between AECID and INBAR focused on the Regulation and Promotion of Sustainable Bamboo Management in Ecuador and Peru as a Mechanism to Promote a Green Economy, implemented under the Environment and Climate Change Program in Latin America and the Caribbean (ARAUCLIMA) program.

Launched in 2017, this project laid the technical and regulatory foundations for sustainable bamboo management, promoting public policies and

training programs in Ecuador and Peru. Building on its success, new projects were co-developed to bolster the overall bamboo construction value chain and sustainable building practices.

Some key initiatives built on the success of the initial project include: Support for Sustainable Construction through the Manabí Training School, promoting bamboo as a primary material for safe and sustainable buildings; Strengthening the Bamboo Construction Value Chain in Manabí, generating employment opportunities and advancing technical training; and Post-pandemic Local Economic Recovery through Sustainable

Bamboo Construction, which has revitalized local economies and fostered public-private development partnerships.

Thanks to these steadfast efforts, the Sustainable Bamboo Construction Workshop School was also established and now boasts over 200 graduates, helping to green a sector responsible for over one-third of global carbon emissions. These bamboo construction experts have found in bamboo a road forward to boost their income while contributing to the planet's health by reducing the carbon footprint associated with cement-based construction.

### Education, research and innovation

The AECID–INBAR partnership has also enriched the academic sector through the project Support for Research, Development, Innovation, and Higher Education in Sustainable Construction in Ecuador.

This initiative has promoted research on biomaterials, sustainable building systems, and university–community linkages, encouraging a new generation of professionals committed to sustainability and the bioeconomy. Thanks to its ecological and economic properties, bamboo has now become a driver of innovation among architects, engineers and designers in search of sustainable alternatives to high-emissions materials like cement, steel and plastics, making a not-insignificant contribution to decarbonizing the construction sector.

### Growing regional cooperation

Continued successes in Ecuador and Peru paved the way for expanded cooperation into new countries. As a result, in 2022, the project Promotion of Bamboo as a Nature-based Solution for Livelihood Development and Environmental Management for Climate Change Mitigation and Adaptation in Latin America and the Caribbean was launched, with a much broader regional vision and project scope.

The main objective of this initiative was to strengthen South-South cooperation to address climate challenges with bamboo, enhancing the resilience of rural families in Costa Rica, Panama,

Cuba and the Dominican Republic, while building upon past experiences.

Among its key achievements are the development of national studies on the status of bamboo and the formulation of National Bamboo Strategies and Programs (Costa Rica, Panama, Cuba and the Dominican Republic) aimed at promoting and expanding the sector in the participating countries through 2035. These actions are aligned with national sustainable development strategies and contribute to the fulfillment of a range of international environmental commitments and the SDGs.

The project has also strengthened academic research and higher education, engaging more than 28 researchers and university professors from participating countries. These actors in academia have produced or contributed to technical and scientific outputs that fill knowledge gaps and inspire bamboo innovation across the region and world.

At the community level, the initiative has benefited more than 500 rural families in Costa Rica, Cuba, the Dominican Republic and Panama through Bamboo Field Schools and training programs focused on the transformation and use of bamboo in ecotourism, energy, construction, handicrafts and other sectors. These activities have further reinforced South-South cooperation through the exchange of experiences and knowledge between pioneering countries – Ecuador, Peru and Colombia – and the new participating nations.

In each country where project work is taking place, bamboo has proven its versatility, from soil restoration and watershed protection to use in construction, energy generation and handicrafts. Through these applications, the project contributes directly to SDG 1: No poverty, SDG 13: Climate action, and SDG 15: Life on land. And, most importantly, this is closely aligned with SDG 17: Partnerships for the goals, as the regional approach is inherently synergistic, involving the coordination of partners working in different areas along with a range of multilevel stakeholders within the broader INBAR-AECID collaboration.

### Looking ahead: “Think bamboo”

The next milestone to carry forward this successful alliance will be the implementation of the project Development Corridors that Promote Bioeconomy, Circularity, Associativity, and Entrepreneurship through the Strengthening of the Bamboo Value Chain – Think Bamboo, slated to be implemented in Ecuador in the near future.

This initiative will integrate experiences from the Coastal, Andean and Amazonian regions, fostering a regional value chain that connects producers, entrepreneurs, institutions and knowledge centers. Its primary objective is to continue advancing bamboo as a driver of sustainable, inclusive and resilient development, both nationally and across the broader region. With a financial commitment of over EUR 2.5 million (approximately USD 3 million) from AECID in Latin America and the Caribbean through 2028, this partnership demonstrates the power of international cooperation to build green economies, promote equity and strengthen resilience to climate change.

### Strong roots, strong partnerships

The joint work of AECID and INBAR in Latin America and the Caribbean stands as an inspiring and practical example of SDG 17 in action. It shows how alliances built on trust, shared knowledge and common goals can make a real difference in transforming territories and communities. By leveraging the nature-based solution that is bamboo, this collaboration has crossed countless borders, fostering policy development, innovation, research and community empowerment, as a model for how an integrated approach stands to maximize sustainable benefits.

Most importantly, it has strengthened the community network that sustains sustainable development in the region.

Across the region, bamboo has ceased to be just a plant. It is now a symbol of cooperation, resilience and hope, bringing countries, institutions and people together under a shared purpose. Its strong roots are securing the foundation to build a future that is greener, fairer and more inclusive.



*Owing to bamboo's lightweight nature, women can participate in diverse economic activities with the plant.*

## Bearing fruit in Ethiopia

The success in the region kicked off further collaboration in another part of the world: East Africa.

The INBAR-AECID project Building Circular Economy and Climate Change Resilience through Bamboo Supply Chain Development in Ethiopia was launched in October 2022, lasting until April 2025. The project aimed to harness Ethiopia's underutilized bamboo resources to promote sustainable livelihoods, strengthen climate change resilience and develop the circular economy.

### What's the story?

Ethiopia is home to extensive bamboo resources in Africa, covering approximately 1.4 million hectares, yet challenges remain for tapping into its potential, including underdeveloped technology, weak supply chains and limited value addition.

Upgrading the bamboo value chain is complicated by a lack of formalized supply chains and differentiated product lines. Small and medium enterprises (SMEs) and industries must oversee all stages of production, from sourcing raw material and transportation to primary/secondary processing, product development and marketing. This reduces efficiency, as whole bamboo poles (without primary and secondary processing) must be transported unprocessed, resulting in higher costs and more waste. Moreover, key actors higher in the bamboo value chain, particularly processing enterprises, are small, informal and primarily survivalist. They have limited opportunities to access technologies and training that could help improve product quality. Relevant institutions are still emerging and do not yet address many gaps.

To address the prevailing challenges and make use of these ample native resources, INBAR is supporting bamboo sector development in Ethiopia under South-South and South-South-North cooperation frameworks. These efforts have yielded promising initial results. However, more work is needed to improve the supply chain to create pro-poor value for smallholder farmers, youth and women, with reliable and high-quality bamboo materials to diversify products.

## Bamboo as a driver of sustainable solutions

Financed by AECID, the project intended to build a reliable, pro-poor bamboo supply chain through restoration, enterprise development, infrastructure support and strengthening institutional capacity across Addis Ababa, Sidama and the South Ethiopia Regional State.

Efforts were focused on restoring degraded land and the sustainable management of bamboo resources. Over 400 hectares of bamboo forests and farms were brought under sustainable management and 103 hectares of degraded land were directly restored through project activities. Six bamboo nurseries were established and produced over five million seedlings across the targeted regions. These nurseries not only supplied planting material but also created job opportunities for local communities, enabling more than 400 farmers to be trained on bamboo propagation, plantation and sustainable management techniques.

A critical aspect of the project was improving the livelihoods of smallholder farmers, women, youth and enterprises. Through coordinated efforts, over 400 individuals, including farmers, intermediaries and SMEs, were integrated into structured bamboo supply chains by establishing and strengthening bamboo-growing cooperatives. The project also provided skills training focusing on bamboo product design, processing and quality enhancement, while also facilitating stakeholder participation in trade fairs. These efforts facilitated greater market access and business growth for bamboo-based enterprises. In addition, major infrastructure gaps were addressed in bamboo processing and preservation. Bamboo treatment and preservation facilities were built and model market depots were established to improve post-harvest handling practices and overall product quality.

Institutional strengthening and knowledge sharing formed an integral part of the project. Comprehensive South-South-North knowledge exchange workshops were conducted, enabling Ethiopian stakeholders to engage with international bamboo innovations, particularly through visits to China. Knowledge products,



*Bamboo conserves soil and protects watersheds with its extensive root systems.*

including technical publications and public awareness materials, were published, ensuring dissemination of findings and project outcomes to a broader audience.

Gender inclusion was a guiding principle throughout implementation of the project. Because of this, forty percent of beneficiaries were women. While women’s participation in bamboo furniture manufacturing remained low due to cultural norms and technical barriers, their involvement was strong in nursery management, handicrafts, training and cooperative activities – areas ripe for gender-targeted development. Strategies to increase women’s engagement included deepening involvement of women leaders, targeting women for training and enterprise development, and promoting successful women entrepreneurs as role models.

### Lasting impacts

The broad partnership with AECID has led to the development of stronger bamboo supply chains, enhancing local capacities, establishing critical infrastructure and fostering inclusive and sustainable economic development in Latin America and the Caribbean and East Africa. It ultimately offers a model for leveraging natural resources to address poverty, land degradation and climate vulnerability through innovation-driven, pro-poor bamboo supply chain development.

#### **PABLO JÁCOME ESTRELLA & BIRUK KEBEDE**

Pablo Jácome Esetrella is the INBAR Regional Director for Latin America and the Caribbean. Biruk Kebede is the INBAR Acting Regional Director for East Africa.

***Collating the latest international news and activities around bamboo and rattan sectors development.***



*Base Bahay built some 20 houses in the neighborhood of Palanog, Tacloban, in the Philippines. Credit: Base Bahay*

## **The wonders of bamboo groves: Nature's climate solution and sustainable resource**

Bamboo groves are overlooked powerhouses of the natural world, covering vast swaths of land and supporting diverse ecosystems. Recent assessments estimate that bamboo covers approximately 35 to 50 million hectares of land worldwide. With over 1600 species, bamboo offers a myriad of benefits, such as stabilizing soils, reducing erosion, purifying water and absorbing carbon, while providing food and shelter for wildlife from pandas and lemurs to elephants. It is even a habitat for rare organisms like bioluminescent fungi. Its ability to grow rapidly with strong, resilient root systems allows it to recover quickly from fire and extreme weather hazards. This makes it a vital tool for restoring degraded land in a changing climate, since it can withstand environmental shocks.

In addition, bamboo's strength, flexibility and renewability make it a compelling alternative to timber, plastics and paper. Growing rapidly and being biodegradable, it is increasingly used in construction, textiles and over 10,000 documented products. As climate pressures worsen, expanding and protecting bamboo groves offers a rare blend of ecological restoration and sustainable production, rooted in nature and capable of meeting the demands of modern society.

Some quick facts at a glance: A bamboo grove releases 35% more oxygen than an equivalent group of trees. The tallest bamboo species can grow over 30 meters in height, with some capable of growing almost 1 meter in 24 hours. Bamboo can even sequester carbon at a higher rate than some tree species, including Chinese fir.

*Source: One Earth, 2 October*

### Bamboo industry policy released in India

Maharashtra is the second-most populous state in India. The local government recently launched the Maharashtra Bamboo Industry Policy 2025, committing approximately INR 45 billion (approximately USD 5.6 billion) and targeting the creation of over 500,000 jobs in the next decade. The plan will establish 15 bamboo industry clusters across the state of Maharashtra, including major hubs in Amravati and Bhandara, to strengthen relevant commercial activities like bamboo farming and processing.

The policy extends support to farmers and artisans with common facility centers, smaller processing units, subsidies for both power and interest, and a robust fund for bamboo-based startups and small businesses. It also encourages modern technology, partnerships with research institutes, and innovative uses such as adding bamboo biomass to thermal power-generating plants. Trials on unused land in Vidarbha could greatly increase annual bamboo production, helping Maharashtra compete in a global bamboo market projected to reach USD 88.4 billion by 2030.

*Source: The Times of India, 15 October*

### 'Nature designed it to bend': The bamboo buildings that sway in earthquakes

Bamboo's flexibility and lightweight attributes are being increasingly recognized as key strengths in earthquake-resistant construction. Evidence from natural disasters such as the 2016 Ecuador earthquake shows that traditional bamboo structures fared much better in cases where concrete structures failed. A post-earthquake survey of over 1200 buildings found that overall, reinforced concrete buildings were more damaged than timber and bamboo buildings. A growing body of empirical evidence from laboratory tests and field surveys is now revealing bamboo's ductility as a crucial asset for allowing buildings to sway and absorb seismic energy, while its low mass reduces the overall force produced during earthquakes.

This renewed interest in bamboo as a sustainable and resilient disaster-proof material has spurred new bamboo housing projects in Ecuador, the Philippines, Pakistan and Colombia, along with the development of new building codes. In addition to being a construction material that has properties that enable its seismic resistance, bamboo is host to a plethora of other sustainable benefits as a fast-growing, affordable and low-carbon plant resource. These and more are all important factors contributing to its growing adoption as an attractive sustainable material in the construction sector, which is dominated by emissions-intensive materials like concrete, steel or plastics.

*Source: BBC, 29 October*

### Breathing new energy into bamboo culture

China's push for greener development is giving new momentum to the Southern Sichuan Bamboo Sea in Yibin, Sichuan, which is the world's largest natural bamboo forest and a longstanding cultural icon. As the site rolls out its own conservation and tourism plan, it highlights the rich biodiversity endemic to the region, including nearly 500 bamboo species growing across 120 km<sup>2</sup>, and its long history as a backdrop for Chinese art and film. The forest's pure air, stunning landscapes and cultural relevance continue to draw visitors seeking a calming connection with nature in a world becoming increasingly urban, demanding and fast-paced.

Residing in the forest for generations, local communities now rely on tourism through homestays, handicrafts and bamboo food products. Programs are helping revitalize elements of bamboo culture, from workshops to performances. Yibin has grown into a nexus for communicating bamboo's enduring influence to the world beyond its borders. The park ultimately showcases bamboo's critical role as a renewable material capable of delivering numerous ecological benefits.

*Source: China Daily, 9 December*

***INBAR commissions research, conducts project work and raises awareness about bamboo and rattan across its 52 Member States.***



*Workers at Divine Bamboo nursery 1.5 hours outside of Kamapala, Uganda. Credit: Todd Brown/UNEP*

### **INBAR and WTO delegation explore collaboration on plastic pollution and bamboo solutions**

The International Bamboo and Rattan Organization (INBAR) hosted a high-level delegation from the World Trade Organization (WTO) in Beijing to explore cooperation on tackling plastic pollution through the Bamboo as a Substitute for Plastic (BASP) Initiative. Leadership from both INBAR and WTO spoke about bamboo's role as a renewable, low-carbon material and emphasized the need for stronger collaboration on standards, market access and innovation.

The visit also showcased INBAR's growing international partnerships in recent years, having entered into cooperation agreements with the United Nations (UN) Conference on Trade and

Development, the Secretariat of the UN Framework Convention on Climate Change, the Food and Agriculture Organization of the UN, and others, while working closely with the International Organization for Standardization and the World Customs Organization. WTO delegates from multiple countries discussed opportunities to promote bamboo products in markets and reduce trade barriers.

### **Healing nature with bamboo recognized as one of four UN World Restoration Flagships**

Recently, the UN designated four World Restoration Flagships under the UN Decade on Ecosystem Restoration, recognizing large-scale initiatives that tackle land degradation, strengthen agri-food systems and improve community livelihoods. The flagships span 18 countries and are already

restoring over 500,000 hectares of diverse ecosystems.

Among the four new flagships, INBAR's bamboo-based restoration initiative was selected as one of the four new flagships, with project work active across nine countries in Africa, Asia and Latin America. The initiative leverages bamboo's rapid growth and versatility to restore degraded land and support local economies. It has restored approximately 200,000 hectares and improved livelihoods for many, contributing to poverty reduction, biodiversity protection and climate mitigation. By 2030, the initiative seeks to mobilize enough investment to restore another 300,000 hectares.

### INBAR and FAO strengthen partnership

In October, INBAR donated two bamboo pavilions to mark FAO's 80<sup>th</sup> anniversary, unveiling the "Pavilion of Games" and "Pavilion of Harmony" at FAO headquarters in Rome. Senior leaders from both organizations highlighted bamboo's value as a sustainable, low-carbon building material and its symbolism of cooperation, harmony and dialogue. The pavilions reflect shared commitments to sustainable development and offer FAO staff and visitors inviting, comfortable spaces to rest and connect.

In the same period, INBAR and FAO reaffirmed their partnership. Both organizations signed a Memorandum of Understanding for another five years to promote joint collaboration in core programmatic areas, including technical collaboration, knowledge exchange and capacity development, supporting climate resilience and rural prosperity. This will ensure both institutions are coordinating resources to drive sustainable development and build a thriving forest-based bioeconomy with bamboo.

### Landmark new book offers practical instruction for bamboo housing

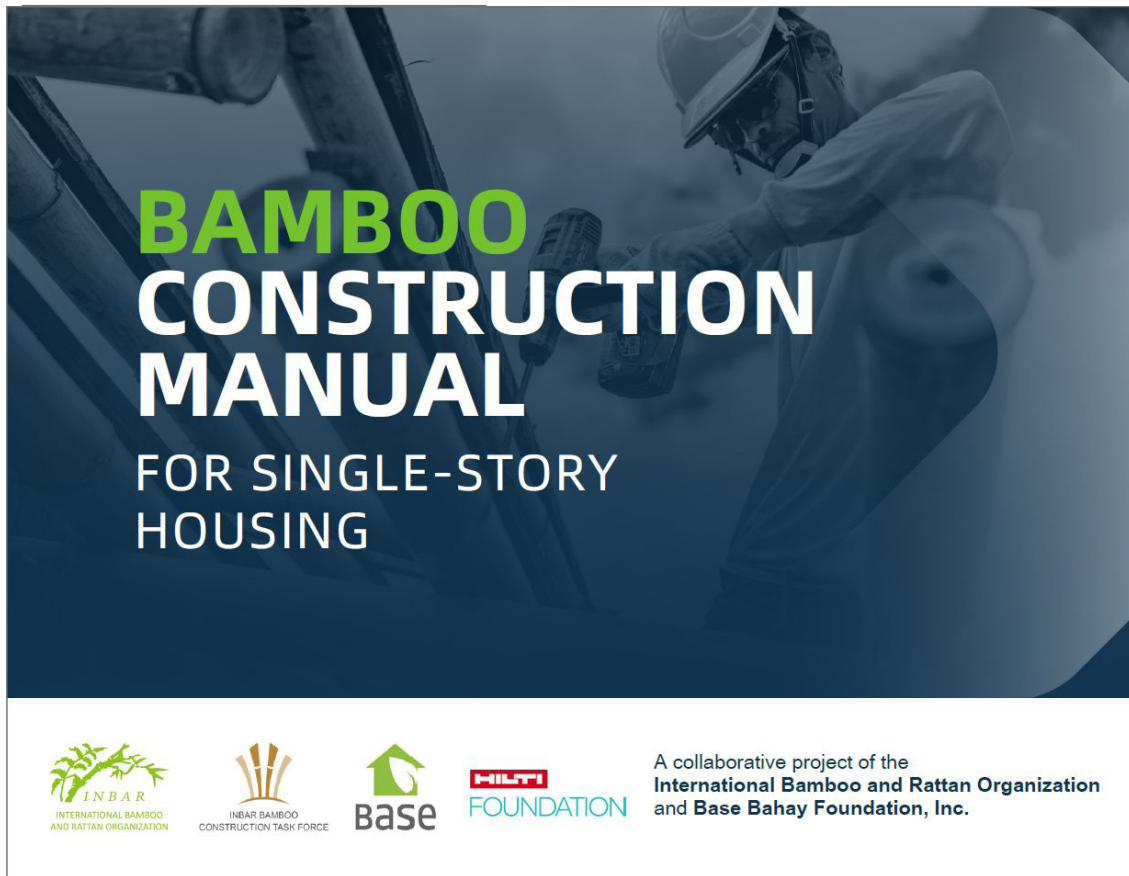
The Bamboo Construction Manual for Single-story Housing, released open access by INBAR and Base Bahay Foundation, provides a detailed guide on building a bamboo house using a composite bamboo shear wall system, which offers strong

resistance to natural disasters like earthquakes and typhoons. Covering everything from treated bamboo production to prefabrication, site preparation and installation, the manual aims to standardize bamboo construction practices and help local communities in bamboo-rich regions construct resilient, high-quality, low-carbon housing.

### INBAR and NSFC sign pact to boost scientific collaboration

INBAR and the National Natural Science Foundation of China (NSFC) signed a Memorandum of Understanding in Beijing on 1 December 2025, formalizing a partnership to strengthen scientific and technological cooperation on bamboo and rattan. Attending the ceremony, INBAR Board of Trustees Co-Chair Professor Jiang Zehui highlighted INBAR's role as the world's only intergovernmental organization dedicated to bamboo and rattan, noting its growth into a global cooperation platform spanning 52 Member States. She emphasized that collaboration with the NSFC will advance fundamental research, support talent development and generate rich scientific outcomes, contributing both to the sustainable development of the bamboo and rattan sector and to the achievement of the UN Sustainable Development Goals.

NSFC President Professor Dou Xiankang underscored the foundation's commitment to open, internationally oriented research cooperation and welcomed deeper collaboration with INBAR, praising its longstanding contributions to global ecological governance, poverty alleviation and green growth. Discussions between the two sides focused on expanding joint research, addressing global challenges such as climate change and biodiversity conservation, and prioritizing the conservation and sustainable use of bamboo and rattan germplasm resources. The partnership aims to establish a high-level international research platform that leverages scientific innovation to support sustainable development at the regional and global levels.



## BAMBOO CONSTRUCTION MANUAL FOR SINGLE-STORY HOUSING

Written as a joint project by the International Bamboo and Rattan Organization (INBAR) and Base Bahay Foundation, Inc. (BASE), the manual is a comprehensive introduction to the composite bamboo shear wall (CBSW) system. This innovative construction method integrates full bamboo culms with modern construction techniques and is protected by exterior plastering material.

“We have been working on this book for the last two years as a collaboration between Base Bahay, INBAR and the Construction Task Force, supported by the Hilti Foundation,” said Luis Felipe Lopez, General Manager of Base Bahay and a co-author of the book. “It is a very detailed and comprehensive work that will allow many people around the world to build their own houses using bamboo.”

The guide presents a step-by-step process for using this method to build a bamboo house, from the production of treated and structurally graded bamboo culms to the prefabrication of CBSW

components and roof trusses. It also explains how site preparation and foundation work can proceed in parallel, streamlining the building timeline and enabling rapid on-site installation. In addition, the work details best practices, common pitfalls and key considerations when seeking to effectively use structurally graded bamboo in housing construction.

“The CBSW system originates in Latin America,” said Kewei Liu, Global Bamboo Construction Programme Coordinator of INBAR and a co-author of the book. “This round bamboo construction technique has been widely adopted in countries like the Philippines and Nepal, offering excellent resistance to earthquakes and typhoons.”

*The Bamboo Construction Manual for Single-story Housing (2025) was published as a joint manual by INBAR and Base Bahay Foundation and is available online at INBAR and Base Bahay websites.*

## EVENTS

9 – 15 October  
**International Union for Conservation of Nature (IUCN) – World Conservation Congress**  
 Abu Dhabi, United Arab Emirates

10 – 21 November  
**UN Climate Change Conference 2025 (COP 30)**  
 Belém, Brazil

6 – 27 November  
**2025 International Online Seminar – Towards Mainstreaming Bamboo Construction: Research and Practice**  
 Online

3 – 5 December  
**The Third International Young Scientist Forum for Climate Change**  
 Hangzhou, China and online





2025 International Online Seminar  
**TOWARDS MAINSTREAMING BAMBOO CONSTRUCTION: RESEARCH AND PRACTICE**

Session 1  
**Life Cycle Assessment of Bamboo Materials and Buildings**  
 6 November 2025

Session 2  
**Scaling Up Bamboo Construction: Communities, Policies, and Global Adoption**  
 13 November 2025

Session 3  
**INBAR/RILEM TC 322-MCB Joint Session: Developments in Characterization and Applications of Bamboo Materials**  
 20 November 2025

Session 4  
**Engineering with Bamboo: From Laboratory Tests to Building Codes**  
 27 November 2025

Time for all sessions: 7:00-9:00 GMT-5, Quito  
 12:00-14:00 GMT, London  
 15:00-17:00 GMT+3, Nairobi  
 20:00-22:00 GMT+8, Beijing

**REGISTRATION**



<https://forms.office.com/r/XkrzmpbzPH>





*Bamboo seedlings growing in Uganda. Credit: Todd Brown/UNEP*



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