

IMPACT SHEET • SWITCH-ASIA PROJECT  
**ENHANCING ECO-FRIENDLY PRO-POOR BAMBOO PRODUCTION  
SUPPLY CHAINS TO SUPPORT THE RECONSTRUCTION EFFORT  
IN SICHUAN, CHINA**

## **Creating green jobs for the earthquake affected population in Sichuan**



**The “Eco-friendly Bamboo” project helped closing  
new investments of 80 million RMB**



## The Challenge

In May 2008, a devastating earthquake hit Sichuan province. Bamboo resources have the potential to play a major role in the development of post-disaster reconstruction, and pro-poor, environmentally sustainable industries. However, the bamboo supply chain still includes challenges such as poor links between farmers, semi-processors, and end-product SMEs. Prior to the project, most farmers and producers lacked knowledge on cleaner production practices and did not possess sufficient market and management capacity.

## Objective

The project contributed to eco-friendly pro-poor economic growth in the post-disaster area of Sichuan Province, especially in earthquake-affected areas, and increased livelihood opportunities through the sustainable production of bamboo building materials for reconstruction. The specific objectives included:

- To set up an integrated government monitoring system for bamboo SMEs to enforce environmental standards;
- To build capacities of bamboo SMEs in sustainable bamboo production;
- To improve bamboo supply chain management system and enhance resource efficiency;
- To improve policy and investment environment for the bamboo sector in Sichuan;
- To develop a Provincial Bamboo Building Code (policy recommendation);
- To increase consumers' awareness and market demand for bamboo building materials.



### TARGET GROUPS

- End-product producing SMEs working in the Sichuan bamboo sector
- Bamboo semi-processing SMEs gained more income-earning opportunity through training and capacity building and the improved supply chain management systems
- Various provincial and national governmental institutions were involved in environmental monitoring systems and the policy recommendations on the bamboo building code
- Consumers and retailer groups to raise awareness and demand for bamboo as a quality, cost-competitive alternative building material

## Activities / Strategy



The *Eco-friendly Bamboo* Project has seven major activity areas:

1. A field study generated baseline figures on SME compliance with existing environmental standards, as well as recommendations for environmental improvements;
2. The project organised capacity building for local Environmental Protection Agencies to enforce existing environmental standards. Relevant government monitoring agencies now have the capacity to ensure compliance and to use consistent monitoring activities;
3. Through training sessions, the project enabled SMEs to produce bamboo products in compliance with environmental standards. By implementing validated environmentally friendly techniques, the SMEs now have the capacity to improve their cleaner production;
4. The project established a cluster supply chain management system to enhance resource efficiency and rural income generation. This system demonstrated proven practice of resource-efficiency, established networks and facilitated market information exchange across different supply chain actors;
5. Through the project, a new investment initiative in the Sichuan bamboo sector was established. This activity improved the investment climate by increasing visibility of the bamboo sector, information dissemination on potential private and government lenders, capacity building in financial management and marketing opportunities;
6. The project produced a policy recommendation of earthquake-resistant bamboo building codes submitted to the national as well as provincial governments. There are currently no building codes for bamboo housing in China. The recommendation helps to address this gap, which still is a major policy issue for bamboo SMEs;
7. Public awareness campaign targeted new consumer and retailer groups. The project increased awareness and understanding of both the important environmental and economic advantages of bamboo use for construction and manufacturing, and saw an increase in bamboo demand.

# Scaling-up Strategy



## Continued Promotion at Local Level

The project was well embedded in the existing organisational structures concerned with bamboo promotion, such as International Network for Bamboo and Rattan (INBAR), Sichuan Forestry Department, SMEs and cooperatives, which continue to promote the issue after the project's end. The bamboo supply chain model demonstrated by the project also fulfilled local needs for bamboo industrial development. INBAR will continue to work closely with the local government to extend the bamboo supply chain model to a wider area through its new programmes, such as the establishment of a green and low-carbon bamboo industrial park in Changning County and the SWITCH-Asia *Edible Bamboo Shoot* project. SMEs and cooperatives with improved supply chain capacity will remain and flourish.



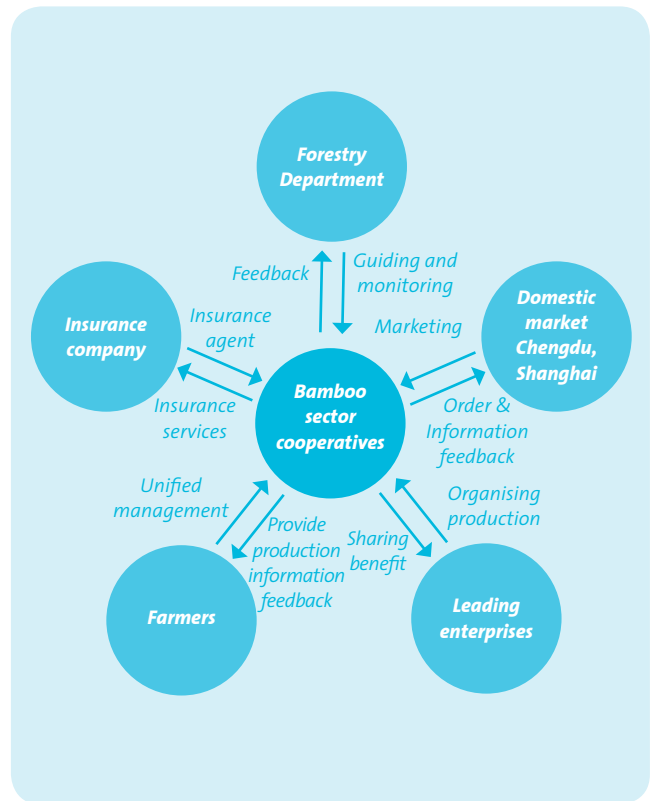
## Sustaining Project Results through Policy Advocacy

The project worked on policy recommendations to institutionalise environmental monitoring of SMEs in the bamboo industrial sector and for the introduction of bamboo building codes in the house construction sector. The Sichuan Provincial Forestry Department (SFD), the Sichuan Provincial Forestry Product and Furniture Quality Control and Inspection Station (SFPFQIC) and the Forestry Products Quality Inspection Centre of State Forestry Administration in Chengdu (SFA-FPQIC) have adopted the environmental monitoring system to conduct monitoring of 211 SMEs. The environmental monitoring system will continue to function and cover more SMEs through being internalised into the province's forest product quality security monitoring system. INBAR and the relevant parties, such as International Center for Bamboo and Rattan (ICBR) and the bamboo housing SMEs, will continue to work on the provincial earthquake-resistant bamboo building code until it is approved by the government. INBAR will also share outcomes and learning from the project with the State Forestry Administration (SFA), which is INBAR's Host Ministry in China. This will increase possibilities for replication and extension of action outcomes at the national level.



## Extending Best Practice Globally

INBAR will promote global replication through its own global network, with 38 member countries. INBAR will disseminate the project results to these countries, including earthquake-resistant bamboo building code test results. Especially in member countries that are increasingly vulnerable to natural disasters due to climate change, such as Bangladesh, India, Indonesia, Myanmar, the Philippines, Sri Lanka, and Vietnam, there is demand for this type of expertise.



*Through its 4-year implementation, the EU-funded “Eco-Friendly Bamboo” project has not only significantly contributed to the reconstruction of housing in eight earthquake-stricken counties in the Sichuan Province, but also facilitated long-term livelihood generation, increased employment opportunities and the rehabilitation of degraded land. INBAR will extend the bamboo supply chain model developed by the project to other major bamboo producing areas in China and the rest of the world, focusing on countries and regions in Africa, Asia and Latin America through INBAR’s new projects, such as the SWITCH-Asia Edible Bamboo Shoot project, and its global network.*



Dr. Lou Yiping,  
Programme Director of  
International Network  
for Bamboo and Rattan  
(INBAR)



## Results



### Environmental Standards Adopted

Two government monitoring agencies, the Sichuan Provincial Forestry Product and Furniture Quality Control and Inspection Station (SFPFQIC) and the Forestry Products Quality Inspection Centre of State Forestry Administration in Chengdu (SFA-FPQIC), have adopted the environmental monitoring system through which 211 bamboo SMEs have been monitored. The monitored SMEs meeting existing environmental standards has increased from 38% to 71%. The Sichuan Construction Department (SCD) has reviewed the “Technical Code on Sichuan Engineered Bamboo Structure (recommendation)” and commented that the draft code has met the needs for the development of an official engineering bamboo structure code in Sichuan, which will accelerate the production and application of engineering bamboo products.



### Resource Efficiency Improved

Resource efficiency in several demonstration enterprises was improved, with an estimated waste reduction of 10-15%.



### New Income Opportunities Created

Over 20 000 farmers through eight cooperatives have gained new income generation opportunities. About 201 000 bamboo farmers have been indirectly affected positively, with an increased income ranging from 92 RMB (approx. EUR 11) per household to 4 275 RMB (approx. EUR 550) per household.



### Investment Agreement Signed

The policy and investment environment for the bamboo sector has improved with an 80 million RMB (approx. EUR 10 million) investment agreement signed.



### Awareness Increased

More than 500 000 people have gained an improved awareness about bamboo products, which has potentially led to an increase in demand for bamboo products. Finally, an additional 220 000 m<sup>2</sup> bamboo was processed, replacing about 256 000 m<sup>2</sup> of timber.










*Since the EU and INBAR came to Beichuan to implement the project, we participated in a number of activities such as training sessions and a study tour to Zhejiang, through which we gained plenty of new knowledge on technologies for sustainable bamboo management and production. Now our bamboo quality has improved greatly with a much higher selling price. With the bamboo factory set up in Beichuan by the project, we no longer worry about the sales of bamboo and have been increasingly confident in developing the local bamboo industry.*

*Mr. Chen Jiayin,  
the Head of Beichuan Tongkou  
Bamboo Cooperative*



Investor tour

## Impact in Numbers

<p><b>Economic Impact</b></p> 	<ul style="list-style-type: none"> <li>• 10% increase in market sales for Sichuan bamboo SMEs by project end.</li> <li>• Increase in overall public awareness and demand for bamboo products from industry, retailers, and general public in Sichuan.</li> </ul>	<p><b>Climate Benefits</b></p> 	<ul style="list-style-type: none"> <li>• The project contributed to climate mitigation in Sichuan and China by promoting sustainable bamboo farming as an approach to enhanced carbon sequestration.</li> </ul>
<p><b>Environmental Impact</b></p> 	<ul style="list-style-type: none"> <li>• The resource efficiency in several demonstration enterprises was improved with an estimated waste reduction of 10-15%.</li> <li>• 211 bamboo SMEs were monitored under the improved monitoring system. The number of SMEs meeting existing environmental standards has increased from 38% to 71%.</li> <li>• More than 220 000 m<sup>3</sup> of bamboo were additionally processed, replacing 256 000 m of timber.</li> <li>• An integrated government monitoring system for SMEs to enforce national and provincial environmental standards was set up.</li> <li>• SFPFQIC and SFA-FPQIC have adopted the environmental monitoring system.</li> <li>• Sustainable bamboo production was ensured through improved resource efficiency and management by targeted bamboo SMEs.</li> <li>• Increased livelihood opportunities through environmentally sustainable production of bamboo re-building materials in Sichuan, especially in earthquake-affected areas.</li> </ul>	<p><b>Green Finance</b></p> 	<ul style="list-style-type: none"> <li>• Investment agreements for over 80 million RMB (approx. EUR 10 million) were signed.</li> <li>• More than 100 potential investment institutions have gained access to target SMEs.</li> <li>• Investment initiatives in Sichuan's bamboo sector have significantly improved.</li> </ul>
<p><b>Social Impact</b></p> 	<ul style="list-style-type: none"> <li>• Over 20 000 farmers through eight cooperatives gained new revenue streams. About 201 000 bamboo farmers have been indirectly affected by the project with an increased income ranging from 92 RMB/household to 4 275 RMB/household.</li> <li>• Consumers and retailer groups have improved awareness about bamboo products leading to an increase in the demand for bamboo products.</li> <li>• The bamboo supply chain management system was improved to enhance resource efficiency and rural income generation.</li> </ul>	<p><b>Target group Engagement</b></p> 	<ul style="list-style-type: none"> <li>• 458 people from 207 SMEs and bamboo cooperatives were trained in environmental standards, sustainable production, product and marketing development, micro-finance and production chain management. 1 807 people from bamboo industrial cooperatives were trained in semi-processing techniques.</li> <li>• 858 farmers from eight cooperatives were trained in sustainable resource management through 12 training courses.</li> <li>• 64 high-level government, investment and industry leaders conducted two study tours to Anji County, Zhejiang Province, and expressed commitment to developing the Sichuan bamboo sector.</li> <li>• Bamboo farmers have enhanced capacity in resource management and semi-product processing, and have gained greater access to the bamboo supply chain through cooperatives.</li> <li>• More than 500 000 people were reached through project dissemination and have improved awareness about sustainable bamboo products.</li> </ul>
		<p><b>Policy Development</b></p> 	<ul style="list-style-type: none"> <li>• The project recommendation on bamboo building codes “Technical Code on Sichuan Engineered Bamboo Structure” has been reviewed by the relevant government agency, the Sichuan Construction Department.</li> <li>• Policy and investment frameworks improved the sustainable pro-poor growth of the Sichuan bamboo SME sector.</li> </ul>



**Legend**

- Eligible countries where SWITCH-Asia projects are implemented
- Eligible Asian countries for the SWITCH-Asia programme
- Non-eligible Asian countries for the SWITCH-Asia Programme

**Project implementation area**

- City
- Region
- Country

The boundaries shown on this map do not imply on the part of the European Union any judgment on the legal status of any territory or the endorsement or acceptance of such boundaries.

**OBJECTIVES**

The project aimed to contribute to eco-friendly pro-poor economic growth in the post-disaster Sichuan Province, especially in earthquake-affected areas, and to increase livelihood opportunities through the sustainable production of bamboo rebuilding materials.

**DURATION**



**PROJECT TOTAL BUDGET**

EUR 2 467 869  
(EU contribution: 80%)

**PROJECT CONTACT**

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**PARTNERS**



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Benelux Chamber of Commerce (BenCham), China



EU Project Innovation Centre (EUPIC), China