EDIBLE BAMBOO SHOOT PROJECT

Tailoring green practices into the agro-food processing industry in China

The project supports 300 bamboo shoot SMEs in the Zhejiang and Sichuan Provinces to reduce water pollution by 50%
The Challenge

Currently, overuse of preservatives, water pollution, and low resource efficiency are pervasive throughout China’s agro-food processing industry, including packaged vegetable, fruit and meat products. In the preserved-food industry, these unsustainable practices are rife, especially with bamboo shoot preservation and processing. In the Sichuan Province, preservatives are often used in concentrations much higher than the maximum allowable limit regulated by China’s national standards. Despite the fact that preservatives are used less frequently in other vegetable, fruit and meat processing; companies use it in concentration higher than allowed. This phenomenon not only frustrates consumers and risks the market share, but also affects the development of sustainable livelihoods, environmental protection, and food safety in China.

Objective

The Edible Bamboo Shoot project aims to contribute to sustainable livelihoods, environmental protection, and food safety in China, as well as across the globe. The specific objectives include:

- To revive and increase sustainable bamboo shoot markets with economic benefits for 300 bamboo processing SMEs;
- To build a green standardised production chain for safe foods in the bamboo industries of the Zhejiang and Sichuan Provinces;
- To replicate and transfer, in the 3rd and 4th project year, successful experience gained from the bamboo food sector to 600 SMEs producing preserved-vegetable, fruit, and meat products where the use of polluting preservatives is prevalent.

Activities / Strategy

Creating Demand of Safe and Eco-friendly Preserved Foods

The project conducts a market survey on the quality of preserved bamboo shoots, laboratory tests and analysis of food samples, and awareness-raising events to increase consumers’ knowledge and awareness of processed bamboo shoots. These will increase consumption of safe and eco-friendly bamboo shoots by 10-15% and of preserved vegetable, fruit and meat products by 8-10% in the two target provinces.

Strengthening SMEs’ Capacity

About 300 SMEs are enabled to apply green and clean technologies for primary and final product processing. The project establishes demonstration sites in Zhejiang and Sichuan, and develops B2B models to promote technology and knowledge transfer among SMEs. This project activity will reduce water pollution by 50% and increase water use efficiency by 30-35% in those SMEs.

Contributing to Policy Formulation on Food Processing

The project engages policymakers and contributes to policy formulation and implementation in Sichuan to address the issue of preservatives overuse and pollution. Training sessions for government representatives and industrial associations to monitor and evaluate sustainable food production are conducted. The project will develop recommendations on provincial bamboo shoot processing standard and support governments in adopting and implementing the new standard.

TARGET GROUPS

- **Consumer groups**: raising consumer awareness of sustainable consumption and production (SCP) by engaging at least 1 million consumers to increase the consumption of eco-friendly bamboo shoots;
- **SMEs**: building the capacity of 300 bamboo shoot processing SMEs and replicating the best practice to 600 SMEs processing other vegetable, fruit and meat products;
- **Bamboo farmers**: demonstrating eco-friendly bamboo farming practice to farmers, by applying organic farming and certification;
- **Governments and business associations**: engaging provincial governments and Sichuan and Zhejiang Provincial Association for Small and Medium Enterprises in policy dialogue.
Scaling-up Strategy

Transferring Knowledge to Other Sectors
The project plans to replicate best practices from the bamboo shoot sector to another 600 SMEs producing preserved vegetables, fruits, and meats. This takes place during the last two years of the project period. “Green” manuals will be developed based on successful experience of bamboo shoot SMEs, covering whole activities from primary processing to final product in China’s food value chain. The manuals will help the vegetable, fruit and meat processing industry to also apply the green approach and clean technology.

Developing Standards and Policies
Two standards on eco-friendly bamboo shoot farming and SME primary processing technology, and two sets of policies will be issued and implemented in collaboration with two government agencies. The standards and policies will be part of governmental monitoring systems of SME compliance with provincial standards for safe food production.

Food safety is a critically sensitive issue in China. Therefore, the project addresses the overuse of preservatives and pollution by introducing technology improvement and policy formulation and governance in Sichuan. The project develops recommendations on provincial bamboo shoot processing standards, and supports the government to adopt the new standards. Also, the project seeks to build the capacity of government representatives and industrial associations to monitor and evaluate sustainable food production. All this, together with producers and consumers, we can revive the consumption of safe and eco-friendly preserved foods by green SMEs in China, which will also benefit consumers outside China.

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

Equipping Policymakers
Provincial governments are involved throughout the project period. The project conducts training seminars and study tours to government agencies responsible for environmental standards of food products. This will increase the government’s ability to train SMEs as well as monitor and enforce existing standards to ensure long-term sustainability of the action.

Building an Information and Service Platform
The project establishes a platform in Lin’an City, Zhejiang Province, to provide bamboo SMEs across the globe with new information and guidelines as well as training materials. The platform supports a sustainable, pro-poor supply chain by establishing close links among farmers, household and farm bamboo semi-processing and preservation SMEs with larger SMEs that produce final bamboo shoot products (canned shoots, salty shoots, dried shoots) as well as links with businesses, scientists and policymakers.
Demand Increased
As consumers become increasingly aware of environmental and food safety issues, the consumption and export of processed bamboo shoots have seen a decline of 2-5% annually in the past 10 years. By raising consumers’ awareness of the eco-friendly foods, the demand of preserved bamboo shoot will increase by 10-15%, and of vegetables, fruits and meats by 8-10%.

Pollution and Waste Reduced
Most bamboo shoot SMEs in Zhejiang and Sichuan are still plagued with high water consumption, pollution and waste. Particularly in Sichuan, harmful chemicals (mainly salt and sodium pyrosulphite) lead to severe pollution. The project builds the capacity of 300 SMEs, so they can reduce water pollution by 50% and the use of preservatives by 60%.

Demonstration Clusters Established
The project plans to build a demonstration cluster in Zhejiang and Sichuan to showcase water recycling in Zhejiang and reduced use of salt and sodium pyrosulphite in Sichuan.

New Policies and Standards Developed
In collaboration with business associations, the project will develop recommendations on provincial bamboo shoot processing standards for processed foods and pollution control at the end of the project period. The project also works with governments to implement the new standards.

SCP Promoted through Showcases
In the 3rd and 4th project year, the lessons learnt and business models from the bamboo shoot sector will be showcased and replicated to other food SMEs. This will reduce threats to consumers and the environment.
### Impact in Numbers

#### Economic Impact
- Increased consumption of safe and eco-friendly bamboo shoots by 10-15%
- Increased consumption of preserved vegetables, fruits and meats by 8-10%
- Lowered production costs by promoting the use of less preservatives
- Strengthened bamboo shoot industry by promoting eco-friendly practices that sustain businesses in the long-run

#### Environmental Impact
- Increased water use efficiency by 30-35%
- Reduced water pollution by 50% and soil pollution by 10-15%
- Reuse rate of bamboo shoot waste increased by 30%
- Reduced use of preservatives (salt and sodium pyrosulphite) by 50-60%
- Exerted positive change on water scarcity in China

#### Social Impact
- 40% of employees in the Zhejiang and Sichuan bamboo shoot SMEs are from disadvantaged social groups and engaged in project activities.
- Improved safety, sanitation and working conditions

#### Climate Benefits
- Approximately 180,000 tonnes of CO₂ will be preserved by preventing deforestation through bamboo promotion.
- Promoted the implementation of the “methodology for carbon accounting and monitoring of bamboo afforestation projects in China”

#### Target group Engagement
- Engaged 300 bamboo shoot processing SMEs, 600 other vegetable, fruit and meat processing SMEs, and at least 1 million consumers
- Conducted awareness-raising events including participation in 6 domestic and 2 international food fairs involving 10,000 consumers and 120 retailers
- Established cooperation among various SME associations in Zhejiang and Sichuan

#### Policy Development
- Two new standards and two sets of policy recommendations on eco-friendly bamboo shoot farming and SME primary processing technology will be developed and issued.

#### Europe-Asia Cooperation
- Promoted knowledge exchange by sending Chinese staff to Germany to study organic food farming and receive training on food processing; providing International Foundation for Organic Agriculture (IFOAM) trainings on eco-friendly bamboo farming to Chinese farmers.
OBJECTIVES

The project aims to contribute to sustainable livelihoods, environmental protection and food safety in China and across the globe. Specifically, it aims to revive and increase economic benefits of 300 bamboo shoot SMEs through the adoption of eco-friendly food processing technologies, and to replicate the successful experience in another 600 food processing SMEs.

DURATION

PROJECT TOTAL BUDGET

EUR 2,482,103 (EU contribution: 80%)

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