

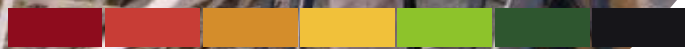


“China Sustainable Bamboo Enterprises” Celebrating five years support from Citi Foundation

Programme Outcomes and Impacts: 2009-2014

September 2014

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The **International Network for Bamboo and Rattan (INBAR)** is an intergovernmental organisation established in 1997. INBAR is dedicated to improving the social, economic, and environmental benefits of bamboo and rattan.

INBAR plays a unique role in finding and demonstrating innovative ways of using bamboo and rattan to protect environments and biodiversity, alleviate poverty, and facilitates fairer pro-poor trade. INBAR connects a global network of partners from the government, private, and not-for-profit sectors in over 50 countries to define and implement a global agenda for sustainable development through bamboo and rattan.

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Preface



Dr. Hans Friederich
Director General, INBAR

As the first intergovernmental organization headquartered in China, the International Network for Bamboo and Rattan (INBAR) is dedicated to improving the well-being of the producers and users of bamboo and rattan within the context of a sustainable bamboo and rattan resource base. INBAR provides services for more than 120 countries and organizations, as well as the nearly 3 billion people relying on bamboo and rattan resources around the globe.

On May 12, 2008, China's Sichuan Province suffered a devastating earthquake measuring 8.0 on the Richter scale, which has become known as the Wenchuan earthquake. In the disaster, as many as 80,000 people lost their lives, more than 5.5 million people were displaced from their homes, close to 370,000 people lost their jobs and more than 1.15 million villagers lost their incomes from agricultural livelihoods. In total, direct economic losses were 845.1 billion RMB. Immediately after the disaster, there was an urgent need for rapid economic and livelihood recovery with a high demand for production and living materials, especially building materials. This put a great amount of pressure on the environment and natural resources with lasting impacts.

Immediately after the earthquake, INBAR established expert working groups to help the Sichuan Provincial authorities with their relief efforts. Funded by the Citi Foundation, the "Sichuan Sustainable Bamboo Enterprise Development Programme" was launched in February 2009. Relying on the locally abundant bamboo resources and bamboo's natural qualities as a building material, the programme is aimed at enhancing the sustainable production and consumption process of the bamboo production chain and facilitating the sustainable growth of the economy and environment within the limited environment and resource capacity after the disaster. Particularly because bamboo is an ideal building material, the sustainable development and further utilization of the bamboo production chain can provide numerous employment opportunities for Sichuan Province in the post-disaster relief period. These opportunities have the potential to last over time, which could produce remarkable economic and environmental benefits.

In the past five years, the programme has not only made significant contributions to the post-disaster reconstruction of eight disaster-affected counties, but has also helped with the long-term recovery of local livelihoods, by increasing of employment and improving the devastated local environment after the disaster.

In 2011, the programme won the Innovation Award of the United Nations' New Ways of World Post-Disaster Reconstruction at the "World Conference on Post-Disaster Reconstruction" jointly organized by the World Bank, the Global Facility for Disaster Reduction and Recovery and the United Nations International Strategy for Disaster Reduction.

On 10 September 2010, Ms. Pamela Flaherty, the President and CEO of Citi Foundation arrived in Dujiangyan City, Sichuan Province, to visit the Programme. Together with Dr. Coosje Hoogendoorn, the then Director-General of INBAR, Ms. Flaherty visited the "Bamboo Training Centre" located in Dujiangyan Campus of Sichuan Agricultural University and the "bamboo processing demonstration" in Beichuan Qiang Autonomous County. After the visit, she complimented the programme and remarked that she considers it as one of the best programmes the Citi Foundation has funded.

At present, the production chain model developed by the programme has been disseminated to other bamboo production areas in China. The project also facilitated the establishment of the Bamboo Forest Low-Carbon Industrial Park in Changning County, Yibin, Sichuan Province. At the same time, the development model of the sustainable production chain has also been applied to the bamboo shoot industry to promote its sustainable production. INBAR is ready to promote this bamboo enterprise development model in bamboo production countries and regions in other countries in Asia, Africa and Latin America.

We are very glad hereby to share our achievements and experiences in the development of the sustainable bamboo enterprise development and promotion of post-disaster livelihoods recovery. With this publication, we also hope to promote enhancement of the economy and the sustainable development of post-disaster livelihoods in Sichuan Province and replicate the successful models and experiences in the similar cases where people need help under similar such disaster pressures.

The implementation and achievements of the project have not only benefited from the innovative project design, but also reflect the accountability, hard work and effective cooperation between various partners in the project. We are particularly grateful for the support of workers, developers and producers at grassroots levels.

INBAR would like take this opportunity to express our gratitude to the Citi Foundation and Citi China for their generous support, to show our great respect to all partners both at home and abroad for their close cooperation, and to convey our highest appreciation to all those who have supported the programme.

Summary

On May 12, 2008, China's Sichuan Province suffered a devastating earthquake measuring 8.0 on the Richter scale, which has become known as the Wenchuan earthquake. Besides the massive infrastructure destruction, the earthquake severely destroyed peoples' lives and livelihoods, including local supply chains, business networks, fungible assets and financing. The earthquake caused 370,000 people to lose their jobs and deprived 1.15 million of agricultural production. As a result, these areas experienced high levels of unemployment and an urgent need for income generation to rebuild livelihoods for the affected peoples.

To address the gaps and challenges faced by the residents during the reconstruction and post-quake revival of livelihoods of affected communities, Citi Foundation and Citi China immediately took action after the quake by funding the Sichuan Sustainable Bamboo Development Programme in partnership with the International Network for Bamboo and Rattan (INBAR) and local governmental agencies.

At the beginning of 2009, Citi Foundation granted the *Sichuan Sustainable Bamboo Enterprise Programme* to INBAR that gave generous contributions to help rebuild better homes, and helped recover and develop the bamboo industry for the bamboo farmers living in the earthquake-affected areas. As well as helping repair the environment in the disaster-affected areas, the project also explored a sustainable development pattern to gradually alleviate the economic difficulties which the people in the disaster areas faced.

Building on the successful practices, models and experiences gained from the first phase of the Programme (2009), Citi Foundation has granted another two phases of the programme, covering a three year period from 2010 to 2012, to continue supporting the sustainable bamboo SMEs development in Sichuan.

The fourth phase, the "*China Sustainable Bamboo Enterprise Development Programme (2013-2014)*" is a two-year programme that aims to expand the successful practices, models and experiences gained from Sichuan to seven villages in Zhejiang province, benefiting more than 7,000 villagers while continuing with the eight previous programme sites in Sichuan.



After five years' work, the growth of community-based bamboo SMEs has leveraged a whole production chain, from bamboo forest resource cultivation, to harvesting, and primary processing, semi processing, end-products processing and marketing. The development of these bamboo production chains brings many job opportunities for local communities – the 241 demonstration bamboo enterprises established in the project and 28 farmer cooperatives have benefited about 21,957 people through technical upgrading and production capacity buildings, where the average annual income for the participants has increased by over 30%.



1. Introduction

1.1 Background

On May 12, 2008, a devastating earthquake struck Sichuan Province in China and shocked the world. The earthquake was destructive, claiming the lives of close to 80,000 people. In some towns near the epicenter, 80 percent of structures were destroyed and over 5.5 million people were left homeless and displaced as a result of the earthquake. Property losses from the earthquake were estimated at \$20 billion, including \$9.6 billion to businesses.



1.2 Key Issues and Challenges

As an intergovernmental organization, the International Network for Bamboo and Rattan (INBAR) is dedicated to improving the social, economic and environmental benefits of bamboo and rattan resources. INBAR established expert working groups immediately after the earthquake. In May and June, 2008, INBAR sent its staff to earthquake-stricken areas and met with government officials, community leaders and displaced residents determined to return home, to carry out bamboo resource investigations, to assess the post-disaster situation and look for the possible ways of rehabilitation. The main findings in terms of challenges faced by the locals during the reconstruction were identified as following:

1.2.1 The Most Affected Areas

The earthquake destroyed houses, traffic facilities and infrastructure in the epicenter. Beichuan County, Wenchuan County, Dujiangyan City were the three cities closest to the epicenter and suffered the most. Local community leaders and analysts noted the upward price pressure for building materials that would be needed for post-disaster reconstruction - the average domestic price of rebar steel, used in construction, was up by 55 percent from the previous year, and global copper prices reached a record high that year. The price of bamboo, however, only increased in line with inflation, at about 7%-10% per annum.

1.2.2 Destroyed Local Industry and Lack of Jobs

Besides the massive infrastructure destruction, the earthquake severely destroyed peoples' lives and livelihoods, including local supply chains, business networks, fungible assets and financing. The earthquake caused unemployment of 370,000 and deprived 1.15 million of agricultural production. As a result, these affected counties were experiencing high levels of unemployment and an urgent need for income generation to rebuild livelihoods.



1.3 Bamboo Offers an Option for Post Disaster Revival

As the immediate disaster situation evolved into a period of long-term recovery, long-term solutions based on community needs with a focus on rebuilding, recovery, and supporting the livelihoods of individuals and families in the region is crucial. In this context, bamboo can play a vital role in rebuilding livelihoods through the creation of sustainable bamboo community based enterprises.

1.3.1 Nature of Bamboo

Many bamboo resources were locally available in the earthquake-affected areas and local support from stakeholders exists to use these resources in recovery and reconstruction efforts. Due to its woody nature, high-tensile strength, and flexibility, bamboo is an ideal raw material for use in construction and furniture-making. Bamboo can be used to manufacture a range of high quality products, which are competitively priced in comparison with wooden equivalents. As bamboo can be harvested every 2-4 years, the natural resource base is highly sustainable.

1.3.2 Policy Support

China has conducted a national effort to develop the bamboo sector, through a combination of applied research, policy reform and business promotion. In China, recent innovations in cultivation and processing have given bamboo the status of a “miracle product,” that has multiple uses in high-rise construction, furniture making, interior decorating, land reclamation, food and textiles.

1.3.3 Local Bamboo Resource Availability

In 2007, bamboo covered approximately 467,000 hectares in Sichuan province (approximately 17% of China’s total bamboo cover and 3.61% of the Province’s total forest area). Annual harvest of bamboo culms alone was over 3,369,000 million culms for the locally available bamboo species *Moso (Phyllostachys pubescens)* and 1,237,000 tons for other locally available bamboo species. Annual bamboo shoot harvests amounted to over 400,000 tons, while yearly bamboo pulping is about 490,000 tons.

1.3.4 Business Potential for Local Community Development

Despite Sichuan’s vast bamboo resources, the Province’s industrial output of bamboo products is significantly lower compared to provinces such as Fujian and Zhejiang in the better-developed east of China. In 2007, China’s total bamboo market reached 66 billion RMB (970 million USD). Sichuan province contributed only 3 billion RMB (44 million USD), less than 4% of the national total, indicating that its bamboo resources continue to be largely untapped.

Bamboo’s woody stems (culms) grow extremely quickly and can be cut throughout the year. Prior to the earthquake, the local forestry sector in collaboration with local farmers began to use bamboo as an alternative source of income through Conversion Programmes or farmer plantations. The earthquake had limited impact on these bamboo plantations.





2. Overview of the Sustainable Bamboo Enterprise Programme

2.1 Programme Introduction

Based on the results of post-earthquake investigations, INBAR has tabled comprehensive proposals for development of the bamboo sector as a strategy for post-quake reconstruction and livelihood revival of the area.

At the beginning of 2009, Citi Foundation granted the *Sichuan Sustainable Bamboo Enterprise Programme* to INBAR that gave generous contributions to help rebuild better homes, and recover and develop the bamboo industry for the bamboo farmers living in the earthquake affected areas. As well as helping repair the environment in the disaster areas, the project also explored a sustainable development pattern to gradually alleviate the economic difficulties which the people in the disaster areas faced.

Mr. Andrew Au, Chairman and CEO of Citi China and Dr. Coosje Hoogendoorn, former Director-General of INBAR formally launched the Sustainable Bamboo Enterprise Programme on February 25, 2009, in Beijing.

The event attracted extensive media attention, including CCTV, China News Agency, China Daily and the People's Daily.



Built on the successful practices, models and experiences gained from the first phase of the Programme (2009), Citi Foundation granted another two phases of the programme, covering a three year period from 2010 to 2012, to continue supporting the sustainable bamboo SMEs development in Sichuan.

The fourth phase, *China Sustainable Bamboo Enterprise Development Programme* (2013-2014), is a two-year programme that aims to expand the successful practices, models and experiences gained from Sichuan to seven villages in Zhejiang province, benefiting more than 7,000 villagers while continuing with the eight previous programme sites in Sichuan.

Table-1 Programme Summary

	Duration	Funds (USD)	Specific objectives and Main focus
Phase I	2009	200,000	Bamboo demo enterprise setup & exhibition center and training for communities.
Phase II	2010	100,000	Demonstration and training through households and cooperatives.
Phase III	2011-2012	400,000	Upgrading the bamboo enterprise work by developing business 2 business model, networking and marketing through technology transfer and local capacity building.
Phase IV	2013-2014	600,000	Upscaling the successful practices, models and experiences gained from the previous phases of the programme to 7 villages in Zhejiang and Hunan provinces, benefiting 7,340 villagers while continuing with the previous programme sites in Sichuan.



INBAR works with the six key partners that are critical to the Programme's success: 1) Sichuan Forestry Department; 2) Beichuan and Chongzhou Forestry Department; 3) Zhejiang Agriculture & Forestry University; 4) An'ji Forestry Bureau; 5) Yibin and Changning Forestry Bureau; 4) Lin'an Forestry Science & Technology Extension Center; 6) Fuping Development Institution (FDI).

Target Beneficiaries:

- 1) Employees in demonstration model enterprises: consisting of local suburban or rural, low-income, mostly female individuals who depend upon the bamboo resources for their main source of income.
- 2) Entrepreneurs: these people are generally lacking in experience and knowledge of bamboo management, including the range of technology and information available and the potential markets that exist for bamboo products both within Sichuan province and nationally. Due to the relatively small size of the sector, they face obstacles in accessing market information and investment opportunities.
- 3) Bamboo based farmer households
- 4) Community leaders and cooperatives

2.2 Objectives

The objective of the programme is to create sustainable livelihoods for earthquake-affected communities using locally available bamboo resources. It focuses on technology transfer and capacity building activities for local communities to acquire the knowledge and technology to establish their own sustainable bamboo enterprises. Each phases of the programme has its specific objectives and main focus (indicted in the Table-1).

2.3 Programme Sites

In the first two phases, the programme activities covered the four most earthquake-damaged areas, including: Beichuan Qiang Minority Autonomous County, Dujiangyan City, Anxian County and Chongzhou City. The third phase programme expands the work to the other six counties across Sichuan where that are rich in bamboo resources - Qionglai, Qingshen, Changning, Hejiang, Jingyan and Muchuan. The 4th phase expands the work to Zhejiang province.

Map of the project sites



2.4 Main Activities

2.4.1 Main Activities in Phase I (2009)

Phase I focused on technology transfer and capacity building activities to enable local communities to acquire the knowledge and technologies to establish their own sustainable bamboo enterprises in earthquake affected areas.

A Bamboo Processing Centre (BPC) was built to support rural micro or small and growing enterprises that will act as catalysts for using bamboo in construction and furniture making to support reconstruction efforts in Sichuan. The BPC has provided capacity building and training facilities for targeted beneficiaries on preservation, processing and finishing techniques used in bamboo building components and bamboo furniture production.



2.4.2 Main Activities in Phase II (2010)

The Phase II (2010) grant builds on the actions carried out in the first phase, and worked in two of the same locations: Chongzhou City and Beichuan Qiang Autonomous County. It focuses on demonstration and training through households and cooperatives. Through the training and demonstration activities, the demonstration enterprises established under the first Grant continue to receive support, especially in the upstream area of their operations - bamboo resource management and primary processing.

The Phase II of the programme has built synergies with INBAR's European Commission (EC) funded project entitled "Sustainable revival of livelihoods in post-disaster Sichuan: Enhancing eco-friendly, pro-poor bamboo production supply chains to support reconstruction effort." The 4-year project commenced in January 2010 and aims to increase livelihood opportunities through environmentally sustainable production of bamboo re-building materials in Sichuan, especially in earthquake-affected areas. The Citi funded Project has built linkages and leverage resources from the training related activities funded during the first two years of the EC project.

2.4.3 Main Activities in Phase III (2011-2012)

Phase III (2011-2012) seeks to overcome the gaps identified from the first two phases, particularly limited enterprise access to support services such as business advisory services, marketing and sales support, and network-building for the development of their businesses, lack of micro-finance knowledge, skills and linkages, limited farmer and household access to micro-finance for investments into materials and skill upgrading, lack of quality control mechanisms in the supply chain; lack of new designs and production techniques; and limited access to buyers in local and outside-provincial markets.

To address these challenges, the Phase III programme puts into place a coordinated effort to provide technical assistance and business development services to the bamboo demonstration enterprises and farmer cooperatives through 1) establishing close commercial cooperation between the Programme's two demonstration enterprises and advanced and successful bamboo enterprises from Anji County in Zhejiang Province through a Business 2 Business Network platform, 2) providing bamboo enterprises with financial guidance and assistance through a series of training manuals and general guidelines for bamboo business development, product development, quality control, environmental management and marketing, 3) researching, designing appropriate loans for bamboo farming cooperatives and small enterprises, whilst at the same time improving the credit management of local communities through providing capacity building to local loan officers, 4) linking the Programme's enterprise workers and cooperatives with micro-finance institutions, such as Fuping Institute and China Foundation for Poverty Alleviation (CFPA), to explore future opportunities for sector and enterprise growth and financial sustainability, 5) implementing training and demonstration events for policymakers, consumers, farmers and SMS, to take positive action and initiate reforms that promote bamboo sector growth. 156 local entrepreneurs, workers, farmers and loan recipients will benefit from this phase.





2.4.4 Main Activities in Phase IV (2013-2014)

Phase IV (2013-2014) has been upscaling the successful models and experiences gained from previous programme to Zhejiang province, and aims to benefit more than 7,000 villagers while continuing with the previous programme sites in Sichuan. To achieve this goal, the programme has 1) Established one new and nine improved rural bamboo model enterprises to provide employment opportunities and increase earnings for participants; 2) Identified and trained 20 local community leaders and 100 trainers to increase their capacity to develop community-based bamboo SMEs in their hometowns and sustain the model enterprises established by the proposed programme; 3) Built and set up a Citi Bamboo SME Training Center in Changning of Sichuan Province to support the development of a larger local bamboo industry in the region which acts as a centralized training and capacity building facility to community leaders, potential bamboo entrepreneurs, trainers and skilled workers.



3. Achievements

At present, the Programme goals have been achieved and have even exceeded the following anticipated end-of-year results:

3.1 Enhanced Local Capacity Building Through a Series of Trainings

INBAR and the Sichuan Forestry Department joined forces to deliver a series of training workshops as part of the Sichuan Sustainable Bamboo Enterprise Programme. This was designed to improve bamboo processing technologies, create employment opportunities, increase farmers' income and promote the sustainable development of Sichuan's bamboo sector. Totally 7,747 people in target areas were trained in sustainable bamboo resource management and/or primary-processing in the five years.

3.1.1 Bamboo Resource Management Technology Training

These activities have targeted decision makers, grassroots management staff and farmers, to improve awareness and knowledge about bamboo products and industry. Trainings focused primarily on bamboo harvesting, cultivation and control of pests and disease.



In the first two phases, 603 people were trained in bamboo resource management technology and primary-processing technology, exceeding the original planned 500 by 21%. The larger numbers of additional trainees reflects the high level of local interest in developing bamboo resources among target groups, as well as the Programme's strong support from local government. More than 2000 households have benefited from bamboo industry development.

Case study: Mr He Shaoqing in Dujiangyan

Mr He Shaoqing lives in Taoyuan village, Dagan Town, Dujiangyan. He has 0.2ha of bamboo forest. After attending the Citi programme trainings on bamboo resource management in 2009, he applied his new knowledge in his bamboo forest. His income has increased from 1000 yuan in 2008 to 3000 yuan in 2010, which really inspired him. He has asked his son to bring 2000 new bamboo seedlings and has expanded his bamboo plantation to 1 ha., which brings another 30000 yuan cash income. Now, his son is working with him on the bamboo plantation, instead of becoming a migrant worker.

Six training sessions in bamboo resource technology have been conducted for rural communities in four districts--- bamboo technology training in Beichuan, Anxian, Dujiangyan and Chongzhou in 2009.

- On March 27th 2009, 84 people were trained on bamboo shoots scientific cultivation and bamboo shoots high-yield and pest and disease control in Puyang Town, Dujiangyan;
- On April 21st 2009, 96 people were trained on hybrid bamboo cultivation of science and rational harvesting and high-yield and pest and disease control in Huagai Town, An Xian County;
- On May 11th 2009, 80 people were trained on *Neosinocalamus* scientific cultivation, harvesting and yield and Pest Control in Daoming Town, Chongzhou City;
- On May 26th 2009, 74 people were trained on *Neosinocalamus* scientific cultivation, harvesting and yield and Pest Control in Xiangquan Township, Beichuan County;
- On May 27th 2009, 65 people were trained on Moso bamboo cultivation of scientific and rational harvesting and high-yield and pest and disease control in Tongkou Town, Beichuan County;

3.1.2 Employment Opportunities Trainings in Dujiangyan

In addition to the training courses in bamboo resource management, the programme also carried out nine training courses to improve management skills and promote employment in Dujiangyan, in 2009.



A total of 575 people were trained (exceeding the original target by 44%), and 3,000 training manuals were distributed.

According to the results of assessments of the trainings, 98.8% of trained bamboo farmers were satisfied with the training courses. The average income of per household increased to 2,606 RMB, 54% more than 2008. The project team added one extra training workshop to respond to local needs. Directly created employment days reached over 16,000 days, which benefited the earthquake victims financially.

On April 29th, 86 people were trained on a view to management and Lei (*Phyllostachys praecox f.pervernalis*) bamboo shoots mining technology in Hongguang Village, Xiang'e Township, Dujiangyan City;

On May 8th, 70 people were trained on square bamboo (*Chimonobambusa quadrangularis*) management and mining technology, bamboo shoots in Wangling Village, Guankou Town, Dujiangyan City;

On May 14th, 90 people were trained on a view to management and bitter bamboo shoots (*Pleioblastus amarus*) mining technology in Liangshui Village, Puyang Town, Dujiangyan City;

On June 4th, 50 people were trained on square bamboo (*Chimonobambusa quadrangularis*) tending management techniques in Longfeng Village, Yutang Town, Dujiangyan City;

On June 9th, 62 people were trained on square bamboo (*Chimonobambusa quadrangularis*) tending management techniques in Lianghe Village, Zhongxing Town, Dujiangyan City;

On June 12th, 72 people were trained on square bamboo (*Chimonobambusa quadrangularis*) tending management techniques in Lianghe Village, Zhongxing Town, Dujiangyan City;

On August 21th, 88 people were trained on square bamboo (*Chimonobambusa quadrangularis*) tending management techniques in Taoyuan Village, Dagan Town, Dujiangyan City;

On November 19th, 57 people were trained with follow-up as early as the winter Lei (*Phyllostachys praecox f.pervernalis*) bamboo shoots technology in Jinteng Village, Puyang Town, Dujiangyan City.

3.1.3 Production Skills Upgrade Trainings

Six production skill upgrade trainings were conducted in 2010, and more than 600 people, including local government officials, technicians, and farmers, took part in these trainings and on-the-spot investigations. As a result, the local government and farmers gained an insight into the bamboo production and industry, and they also improved their bamboo production capacities.

The Zhuxing Daoming bamboo cooperative in Chongzhou organized the production skill training in the Chongzhou pilot site, and the main focus of the training was on bamboo processing, especially craftsmanship and packaging. They developed the Implementation Plan for the Chongzhou Pilot Site of the Second Phase of Citi Foundation funded Sichuan Sustainable Bamboo Enterprise Programme, and it was carried out from July to September, 2010 (Table 2). This Cooperative dispatched six members to do on-the-spot investigations in Qingsheng, and then organized three trainings.

Table 2 Schedule of production skill upgrade training in Chongzhou pilot site

Time	Trainers		Content	Trainees
	Name	Background		
Aug 20-27	Tao Tingge	Provincial-level expert on Bamboo Weaving	Selecting suitable bamboo and pretreating	Beginners
Aug 30 - Sep12	Ding Zhiyun	Provincial-level expert on Bamboo Weaving	Demonstration of bamboo weaving techniques and learners' actual operation	Learners with some knowledge on bamboo weaving
Sep 15- 27	Zhao Sijing	National-level expert on Bamboo Weaving	Bamboo production innovation and solving problems when necessary	Experts of bamboo weaving

In total, the programme has provided eight training workshops to 207 bamboo SMEs on sustainable production technologies, covering 458 individuals from eight districts of Sichuan province in 2012.



3.1.4 Organic Bamboo Shoot Farming Trainings

The 4th phase Programme has successfully delivered eight technical trainings on organic bamboo shoot farming and processing, and *P. praecox* cultivation technologies in Sichuan and Zhejiang demonstration sites. More than 2000 local small and medium sized bamboo entrepreneurs and cooperatives members have been trained.



3.2 Bamboo Processing Centers for Production Demonstration

Two bamboo processing demonstration sites in Beichuan and Chongzhou, Sichuan province were established in phase I, provided more than 100 employment opportunities for the local area by providing training, skills and technology to local farmers.

During the fourth phase, the programme has selected another 34 rural bamboo enterprises and 20 cooperatives as the piloting bamboo processing sites in 4 Counties in Zhejiang (Lin'an and Anji) and Sichuan (Beichuan and Chongzhou) provinces to provide employment opportunities and increase earnings for local communities. In total, the programme has supported 241 bamboo processing SMEs and 28 bamboo farmers cooperatives, benefiting 50000 local communities in the past five years.

3.2.1 Beichuan Bamboo Demonstration Enterprise

Beichuan Qiang Minority Autonomous County was one of the most devastated counties in the earthquake. Bamboo resources in Beichuan are abundant, covering approximately 3,000 hectares in 2009, and remain relatively intact following the earthquake. Building local capacity to utilize bamboo resources would greatly increase employment and income for local farmers in the wake of the earthquake.



A new bamboo demonstration enterprise was established in Beichuan in October 2009, to improve local processing capacity, exploit marketing opportunities and establish a bamboo supply chain. The demonstration enterprise includes a processing center for bamboo curtains, mats for fruit drying, and kebab sticks, with the products sold to Shaanxi, Gansu, Ningxia, Inner Mongolia and Xinjiang. The demonstration enterprise received funding for equipment, training and construction valued at USD 26,000, and launched the first set of training workshops in October 2009. Trial production started in December, benefiting a total of 25 trainees which will have effects through the whole Mianyang area. In total, 87 people received training in bamboo primary-processing technology.

3.2.2 Chongzhou Bamboo Demonstration Enterprise

Chongzhou features over 5,100 hectares of commercial bamboo forest, and Daoming Town is regarded as the home of bamboo weaving, having been declared a centre of cultural heritage. Over 800 kinds of bamboo weaving products, combining artistry and ancient culture, are sold to more than 20 provinces around China.



INBAR joined forces with the Sichuan Provincial Forestry Department, Chongzhou Forestry and Landscaping Bureau, the Daoming Government and the Zhuxing bamboo cooperative, a local bamboo weaving processing enterprise-Jijun-was selected as the programme's demonstration enterprise and renovations and training were carried out in June 2009 to remove security risks and increase production scale employing 80 persons. In total, 36 people were provided with training in primary-processing at the demonstration site.



3.2.3 Eight Bamboo Processing Demonstration Sites set up in Zhejiang and Sichuan

The 4th phase Program has supporting establishment of a new bamboo processing demonstration enterprise respectively in Lin'an and Anji, Zhejiang province and Beichuan and Changning, Sichuan province, and also has selected and improving 34 existing rural bamboo enterprises and 20 farmers cooperatives to upgrade production and demonstrate advanced processing technologies to provide more employment opportunities and increase earnings for local communities.

3.3 Bamboo Training Center Demonstration

3.3.1 Bamboo Training Center in Dujiangyan, Sichuan

Dujiangyan has a long history of bamboo cultivation, with more than 20 species. Commercial bamboo forests cover 6,300 hectares, and bamboo plantations a further 3,000 hectares.

Construction of a 250 square meter Bamboo Training Center (BTC) took place between August 10 and November 30, 2009, in Dujiangyan Campus, Sichuan Agricultural University. The training center uses light steel as its major frame, but high quality reconstituted bamboo materials made from one of the abundant local bamboo species: local bamboo species (*Neosinocalamus affinis*) for the other major parts of the building, such as walls, flooring, and interior design.

The Centre therefore serves as a demonstration of the potential for bamboo as a high quality substitute for timber in construction. The first floor of the centre acts as the exhibition hall, which not only shows the outputs of programme but also holds a collection of typical bamboo products from around Sichuan. Displayed products included bamboo shoots and their production techniques, bamboo weaving, bamboo and cane furniture, bamboo flooring, bamboo plywood and reconstructed bamboo wood. The second floor is used as a training centre for theory and practical courses on bamboo industrial development.



The center also served as the training centers and media activities in the following years of the project.

3.3.2 Bamboo SME Training Center in Lin'an, Zhejiang

The project built and set up a Citi Bamboo SME Training Center in Lin'an County, Zhejiang Province to support the development of a larger local bamboo industry in the region which acts as a centralized training and capacity building facility to community leaders, potential bamboo entrepreneurs, trainers and skilled workers. It will be a permanent technology transfer and training platform for sustainable development of bamboo sector in whole China.

3.3.3 Bamboo SME Training Center in Changning, Sichuan

A Citi funded Bamboo SME Training Center has been set up in Changning county, Sichuan to serve as a platform for SEM entrepreneurs, farmers, technicians around Southwestern China to support the green development of bamboo industry.

3.4 Sustainable Bamboo Resource Management Demonstration

3.4.1 Beichuan Bamboo Resource Survey and Assessment

The project partner - Sichuan Forestry Department (SFD), in collaboration with the local Forestry Bureau and Sichuan Agricultural University, conducted field surveys of bamboo resources in Beichuan in 2010.

The assessment provided the following indicators: (1) Volume and Location of main bamboo species in the County, (2) Current levels of productivity, (3) Current costs and market prices, (4) Previous government and non-government initiatives in the sector, (5) Historical and current state of processing enterprises, and (6) Status of bamboo cooperatives operating in the County.



The resource assessment takes into account the physical availability of bamboo resources in the areas, the existence of bamboo enterprises, local household activities and capacity to further develop bamboo production and industrial utilization.

3.4.2 Development of Sustainable Management Plan for Bamboo Resources in Tongkou, Beichuan.

Based on the bamboo resource assessment in Beichuan, the Sustainable Management Plan for Bamboo Resources in Tongkou, Beichuan was developed in October 2010, which assessed current bamboo resources and their use, provided the plan of the different bases of bamboo resources according to their use, and then explained the techniques in relation to the bamboo cultivating and sustainable management.

3.4.3 Development of Demonstration Bamboo Farm Households in Beichuan

According to the ground survey and the willingness of the bamboo farmers, 23 farm households, involving 68 mu (about 4.5 hectares) of bamboo forests, were selected as demonstration bamboo farm households in Zhandou Village in Tongkou Township, Beichuan to stimulate 500 local households' enthusiasm for the development of bamboo. INBAR and SFD provided these households with technical support and training to increase their yields.

The training schedule for households was been drawn up and takes into consideration the agricultural season, and farmers availability, as well as timing considerations in order to allow for training lessons to be absorbed and implemented.



The training will cover scientific cultivation and management of bamboo resources, in order to improve yields.

3.5 Enhance Community-based Bamboo Cooperatives

3.5.1 Established a Farmer Cooperative in Tongkou Township, Beichuan in Sep 2010

The Bamboo Industry Association in Tongkou, Beichuan was established in Sep 2010. This association aimed to: 1) conserve and develop bamboo resources in Tongkou, 2) introduce and raise new bamboo varieties, and 3) provide technical and marketing information for farmers.

The members in this association include bamboo farmers, managers of bamboo factories, and some technicians. The number of members has increased from 50 at the beginning to 107 in 2011. In particular, the demonstration bamboo farm households are the members of this association.

3.5.2 Bamboo Shoot Farming Cooperative in Hongguang Village of Dujiangyan City

Supported one new bamboo shoot farmer cooperative (Hongguang cooperative), and conducted one training on bamboo shoot harvesting and management in 2011, with participation from 47 farmers. 3 trainings to improve skills of farmers' cooperatives on bamboo quality improvement in 10 demonstration household have been conducted in May and August in 2011 to build management skills to the farmers' cooperative.

3.5.3 Supporting Development of 20 New Bamboo Shoot Cooperatives in Lin'an County and Anji County of Zhejiang and Beichuan County and Changning County of Sichuan

The project supported 20 new bamboo farmers cooperatives located in Lin'an and Anji counties in Zhejiang province, and Beichuan and Changning counties in Sichuan during the 4th phase of Programme to enhance their capacity building in project development, providing technology assistance through trainings to cooperative members and local communities to increase the outputs from bamboo farming and business.



Case: Lin'an Hengfan bamboo shoot farmer cooperative

From 2013, the Citi programme has supported Hengfan cooperative to improve the management of bamboo forest to increase the bamboo shoot yield for farmers. After one year's applying improved cultivation practices, the demonstration farmers' income from bamboo shoots has been increased from 2000 yuan to 9000 yuan in 2014. Those demonstration farmers now are as tutor to the poorest to help them to generate more income from bamboo shoot. The cooperative will hand out necessary materials, such as tools, fertilizer and other materials to the poorest.

3.5.4 Enhanced the Capacity Building of Cooperatives

Trainings on organization and supply chain quality issues were provided to Farmer Cooperatives in 2012 to enhance their capacity to run bamboo business. The Programme has also organized exchange visits for bamboo cooperatives of Beichuan, Dujiangyan and Chongzhou to Qingshen, Qionglai and Changning in 2012 to foster mutual learning from their experiences.

3.5.5 Incubating Leadership of Community-based Bamboo SMEs

The project identified and trained 20 local community leaders and more than 100 trainers to increase their capacity to develop community-based bamboo SMEs in their hometowns and sustain the model enterprises established by the programme.



3.6 An Innovative Business Model Through B2B Network Between Zhejiang and Sichuan



3.6.1 Market and Enterprise Development review

An INBAR project officer visited went to Anji County to identify the dedicated external experts from the Anji Chamber of Commerce to carry out the market scenario and demonstration enterprise appraisals and analyses for the Sichuan bamboo site. The two studies will assess the existing and potential markets available across numerous sectors, locally and in nearby provinces, especially in the construction, tourism, handicraft, decoration and furniture sectors, looking at products which are already feasible to manufacture and those which require further development; and to identify the issues and constraints faced by the enterprises.

3.6.2 Business Development Consultations for Chongzhou and Beichuan Bamboo Demonstration Enterprises (BDEs)

The Yongyu Group, a famous bamboo flooring enterprise in Anji County has initially been contacted by INBAR project team, to help the Sichuan BDEs to adopt new technologies and improved planning to improve supply chains through the linkage built between Zhejiang and Sichuan in the bamboo sector.



Tongkou Town, Beichuan, is a centre of Kiwifruit and other fruits cultivation. With the project help and coordination, the Tongkou Government and bamboo association of Beichuan ran an industrial development study tour to Anji to learn the advanced bamboo processing technology and explore suitable bamboo products for Tongkou Township, especially to see the processing machines of

bamboo packing to produce Bamboo Packing and containers for Kiwifruit and other fruits by using local bamboo resources.

Two training courses and exchange visits have been made between Sichuan's Changning and Zhejiang's Lin'an and Anji, with 76 participants to learn the experience of Lin'an and Anji's bamboo sector development.

3.7 Green Finance

3.7.1 Microfinance Assessment and Piloting with Cooperatives

The Fuping Development Institute and INBAR have together drafted a plan to conduct the field survey to identify the credit needs and constraints at the household and cooperative levels, based upon the basic information collected during the first and second phase. The team has interviewed more than 500 households for micro-finance loan eligibility and packaging needs in five counties (Beichuan, Chongzhou, Dujiangyan, Changning, Qionglai) to lay a sound foundation for the Fuping Development Institute to design suitable microfinance packages and produced relevant reports and databases.

3.7.2 Micro-finance Training

The bamboo farmers and enterprise employees have been trained on micro-loans as a means of investing in their production. 90% of target populations have sufficient information on micro-loans to make a decision on whether to become an applicant. Five loan officers have been fully trained to operate independently - administering loans in the field.



3.8 Public education

3.8.1 Sichuan Bamboo Promotion Days held in Dujiangyan

More than 110 participants were directly involved in these events and presented more than 100 bamboo products ranging from bamboo furniture, flooring, crafts, daily consumables, 16 posters, and 40 bamboo landscape photos to raise awareness on bamboo applications and bamboo sector development in the green economy. At least 300 copies of project briefs were handed out, and the event has reached more than 3000 people.



3.8.2 Shanghai World Expo to Raise Public Awareness on Bamboo Products

To increase consumer awareness of the environmental, social and economic benefits of bamboo products, INBAR has showcased the Sichuan Sustainable Bamboo Enterprise Programme at the organization's Pavilion by featuring a model bamboo house produced by one of the SMEs from programme's sites in Sichuan province.

3.9 Citi's Engagement

Citi Foundation and Citi China, represented by Ms. Wang Li, Ms. Patricia Chu, and Ms. Marine Mao, have already played a significant role in organizing the opening ceremony event at INBAR's HQ in Beijing. In addition, Mr. Rang Youmin, Deputy Branch Manager of Citi's Chengdu Branch, also attended and made a speech at the official media launch of the project in Sichuan, which was conducted on March 27th 2009.

After attending the bamboo training center launching ceremony and the closing workshop of the project, on December 10th 2009, Ms Wang Li and Ms Patricia Chu attended the end-of-year project summary meeting, and conducted an evaluation of the project work, followed by a trip to Chongzhou bamboo processing demonstration sites.

From 14th to 19th August 2011, Ms Wang Li travelled with bamboo processing experts, Fuping Micro-finance experts and project staff to three project sites in Sichuan to investigate the local development needs of bamboo business in terms of technology, equipment, finance, human resource and markets. Ms. Wang provided her insight and advice on micro-finance and running business to local beneficiaries.

Both Citi Foundation and Citi China played a key role during the five-year program period through regular communications with the program team to discuss program plans, strategies, implementation progress and evaluation, so as to ensure the program operates successfully with the delivery of sustainable impact to beneficiaries.

In August 2014, a team of Citi colleagues visit the new program sites in Zhejiang Province, including Ms. Regina Seow, Managing Director, Corporate Affairs and Citizenship, Citi Asia Pacific, Mr. Yibin Chu, Community Investment Manager, Citi Asia Pacific, Ms. Marine Mao, Head of Corporate Affairs, Citi China, Ms. Lingzi Liu, Head of Citizenship, Citi China and colleagues from a few other Asian countries. The team visited the bamboo fields, met with the leading program villagers and representing cooperatives and SMEs to discuss program progress and future plans.

3.10 Communications

To date, the programme has received good media coverage in China, both at the regional and national level. An official Opening Ceremony for the Programme was held at INBAR HQ in February 2009, which attracted coverage from a broad range of media outlets. In addition, the Programme has conducted a formal opening event in Sichuan in Dujiangyan, as well as a commemorative event for the one-year anniversary of the earthquake in Chongzhou.

An Opening Ceremony for the Bamboo Training Centre was held at Sichuan Agricultural University, Dujuiangyan Campus in December 2009, which attracted coverage from a broad range of media outlets. All project activities are also featured on Sichuan government and provincial forestry authority websites.

In addition, the Sichuan Forestry Science and Technology Promotion Centre coordinated a column that gives comprehensive coverage of the Citi-funded Sichuan bamboo processing enterprise through June-December 2009 in Green Tian Fu Magazine.



4. Impacts

The people involved with implementing the project were extremely well motivated, and it is clear that delivering a sound and needed programme has positive results. The increased awareness of bamboo production of people who have received training is reflected in the statistics, and in people's responses, and much of the improvement is attributable to this project. A local bamboo supply chain is gradually coming into being, and farmer's incomes have started to increase. The success in Beichuan and Chongzhou could be used to support similar activities elsewhere in the region.

4.1 Establishing a Green Bamboo Industrial Development Zone in Yibin, Sichuan

4.1.1 Framework Agreement signed on Development of Low-Carbon Bamboo Forest Management Demonstration and a Green Industrial Development Zone in Yibin, Sichuan

INBAR, Citi China and Yibin Municipal Government made joint efforts to upscale the outcomes of the programme to promote the sustainable development of Sichuan's bamboo industry.

On October 20, 2011, INBAR, Citi China and Yibin Municipal Government signed a Memorandum of Understanding on a demonstration of the development of low-carbon bamboo forest management and a green industrial development zone in Yibin Sichuan.

As a part of the efforts to implement the Framework Agreement signed by the three parties with the aim of promoting the leapfrog development of local bamboo industries, INBAR and the Changning Government have been working together on developing a new green bamboo-shoot industry zone to demonstrate new green and healthy processing technologies of bamboo shoots at regional level in Changning County. This work has been reviewed by consultants, local government and the bamboo shoot association since 2012. The new bamboo-shoot industry zone aims to upgrade shoot production, quality and improve environmental impact in the region from processing to marketing bamboo shoots, and is planned to complete by 2015, with a budget of USD 3 million from local government.



4.2 Attracted New Grants Pooled into Bamboo Industry Development

Building on the achievements and results gained from the Citi funded programme, the European Commission (EC) has granted INBAR another two projects valued at 3.9 million Euros to enhance the development of bamboo production chains in Sichuan and expand this to another province - Zhejiang - to leverage the development of bamboo production chain in the whole of China and even globally, with synergies built with the Citi funded programme.

4.2.1 Eco-friendly, Pro-poor Bamboo Production Supply Chains Project

The first European Commission funded project entitled "*Sustainable revival of livelihoods in post-disaster Sichuan: Enhancing eco-friendly, pro-poor bamboo production supply chains to support reconstruction effort.*" The 4-year project commenced in January 2010 and aims to increase livelihood opportunities through environmentally sustainable production of bamboo re-construction materials in Sichuan, especially in earthquake-affected areas. The overall objective of the project is to contribute to environmentally sustainable, pro-poor economic growth in post-disaster Sichuan.

4.2.2 Greening Food Production and Consumption Project

The second European Commission funded project is Greening food production and consumption: *Transforming the highly- polluting and resource-consuming edible bamboo shoot industry into a sustainable value chain in China (2013.3-2017.2)*. The project is to: (1) Revive and increase bamboo shoot markets for consumers with economic benefits for 300 bamboo SMEs through a more resource-efficient and a less polluting food processing industry; (2) Build a green standardized production value-added chain for safe foods in the bamboo industries of Zhejiang and Sichuan Provinces; and (3) Replicate and transfer successful experiences found in the bamboo food sector to 600 other preserved vegetable, fruit, and meat processing SMEs where the use of polluting preservatives is prevalent.

4.3 Local Cartners' Capacity Enhanced, Livelihood Improved.

4.3.1 Job Creation for Local Communities Through Processing Centers

In total, 21,957 people benefited from the 241 bamboo processing enterprises and 28 farmers cooperatives supported by the Citi Programme. The average income of the employees in the SMEs and cooperatives has increased by 30%.

4.3.2 Bamboo Cooperatives Play an Important Role in Community-based Bamboo Industry

The Zhuxing Daoming bamboo cooperative in Chongzhou, in cooperation with SFD, organized production skill upgrade training in Chongzhou. These Cooperatives created the preliminary framework required to provide security to both farmers and the demonstration enterprises.

4.4 The Three Bamboo Training Centers Serve as Technology and Information Disseminating Centers in the Long Run

The SME training center in Changning will act as a technology and information dissemination center in Southwest China. The Anji one will act as the global training center for bamboo sector. Dujiangyan bamboo center will serve the public for showcase bamboo products and awareness raising.

4.5 Important Events



4.5.1 The Programme Granted as Winner of the World Reconstruction Conference's Innovation Competition

The project has been selected as one of only three projects as a winner of the World Reconstruction Conference's innovation competition, and its work was presented there on May 11th in Geneva. The Forum, which took place from May 10th -13th, 2011 as part of the third Global Platform for Disaster Risk Reduction, was organized by the World Bank, the Global Facility for Disaster Reduction and Recovery (GFDRR) and the United Nations Strategy for Disaster Reduction (UNISDR). More than 2000 people, a major gathering of leaders, policy makers and scientists learned about how the project works and how bamboo helps to rebuild Sichuan, China.

4.5.2 The visit of European Council President Herman van Rompuy

On 15 May, 2011, European Council President Herman van Rompuy visited one of the programme's sites, Dujiangyan City, as part of his official trip to China from 15th to 19th May.

Dr van Rumpuy spent 1.5 hours with the project and visited a bamboo production forest in Hongguang Village, had meeting with local business men and farmers, and visited the bamboo training and demonstration center at the Dujiangyan Campus of Sichuan Agricultural University. Ms. Wang Li, former Head of Citizenship, Citi China, made a presentation at this event.



"The project in Sichuan is an excellent example of realising sustainable production and consumption in communities that can directly benefit from it," said Johan Cauwenbergh, Minister Councillor and Head of Operations at the EU Delegation in China. "Not only is bamboo a more renewable and sustainable resource than timber or concrete, it has the added benefit that, due to the speed with which it grows, it can provide a steady source of income for local farmers, factory workers, artisans, builders and entrepreneurs. In their post-disaster recovery this counts double".

The event was reported in nineteen news outlets including major media such as Xinhua News Agency, Sichuan Daily, China Daily, ifeng, Sina.com and the People's Daily.

4.5.3 The visit of Ms. Pamela Flaherty, President and Chief Executive Officer of the Citi Foundation



On 10 September 2010, Ms. Pamela Flaherty, the President and CEO of Citi Foundation arrived in Dujiangyan City, Sichuan Province, to visit the "Sichuan Sustainable Bamboo Enterprise Programme". Together with Dr. Coosje Hoogendoorn, the former Director-General of the International Network for Bamboo and Rattan, Ms. Flaherty visited the "Bamboo Training Centre" located in Dujiangyan Campus of Sichuan Agricultural University and the "bamboo processing demonstration" in Beichuan Qiang Autonomous County. After the visit, she complimented the programme and remarked that she considers it as one of the best programmes the Citi Foundation has funded.

4.6 Quotations from Programme Beneficiaries

The Sichuan Sustainable Bamboo Enterprise Programme has been warmly received by local communities in Sichuan, and INBAR has built strong relationships with SFD, local governments, scientific research institutes and bamboo enterprises.

"Bamboo not only offers an accessible and affordable option for post-disaster housing, bamboo structures have proven especially resilient to earthquakes because of their strength and flexibility," said Guo Hengxiao, Deputy Director General, Sichuan Forestry Department. "We're working with INBAR and the Citi Foundation to strengthen the bamboo sector in the wake of the 2008 earthquake."

Mr. Zhao Chen, Ex-Director, Science and Technology Division, Sichuan Provincial Forestry Department (SFD), "Decisions made now during the reconstruction period have large effects on future economic and environmental sustainability. This Action builds our capacity to ensure bamboo SMEs are vehicles for growth and poverty reduction over this period."

Liu Xianchang, Deputy Director of Dujiangyan Forestry Bureau, Citi Foundation, INBAR and SFD have always paid close attention to disaster stricken areas, brought technology to local bamboo farmers, and enhanced our confidence in the reconstruction effort. "

Chen Zhong from Dujiangyan Forestry Bureau, "These courses bring technology to farms, helping bamboo farmers learn how to incorporate scientific management techniques in their bamboo forests and increase output. This will increase farmers' income and raise their living standard."

Zhou Dengping, Secretary of the CPC committee, Tongkou Township, Beichuan Qiang Minority Autonomous County, "The Citi funded programme has taken the traditional role of aid and promoted a project that is training people to support themselves. This fits perfectly with post-earthquake reconstruction and ecosystem rebuilding, which for long-term effectiveness must nurture sustainable development of local people."

Kuang Hancui, Daoming Town, Chongzhou, "Daoming is a famous bamboo weaving town in West Sichuan ... We have advantageous conditions in developing the bamboo sector. Our next step is to improve bamboo processing techniques, including processing tools and equipments; secondly, we will improve our techniques and craftsmanship, adding value to our products through better designs."

Mr. Yao Ling, Chongzhou Xiangshi Leilei Bamboo Board Factory, Liaoyuan Town, Chongzhou, "Our factory had developed into a scale of more than 50 mu (3.3 hectare), with 250 full-time workers, connected with more than 3000 farmer households ... We hope to be able to produce higher valued products, and ... we

hope to take a leading role in helping our neighboring farmer households, especially households with women and aged people to get more income.”

Wang Xiangui, Deputy Director, Forest and Gardening Bureau, Qionglai, “I think we have two aspects that need improvement. First, we need to improve our resource management; we should increase the bamboo plantation area, while at the same time increase the productivity ... Secondly, we need to strengthen secondary industries, the processing of bamboo. Currently, our processed products are simple, we only have raw processing.”

“Our bamboo demonstration enterprise builds on Chongzhou, Daoming’s township’s local natural bamboo resources and a long tradition of weaving with bamboo. The Programme’s support has been considerable, deeply appreciated, and widely recognized. But we need further assistance to improve our techniques and add value to our products” said Kuang Hancai, Community Leader, Chongzhou Demonstration Enterprise.

“The bamboo sector is very important for Beichuan because we are located near large and mid-size cities, with large potential market opportunities. The Programme has provided invaluable technical support and helped us access new and more reliable markets. Furthermore, the Programme is helping to consolidate our farmer initiatives and adoption of better processing technology, management of resources. It is serving as a pioneer for the development of the bamboo sector-in an area deeply affected by the 2008 earthquake, said “Weng Hanbao, Secretary, Communist Party, Xiangquan township (Beichuan).

“The generous supporting in technical and financial from Citi Foundation programme has really helped us timely to get through the hard period we bared. It has made us to applied new technical practices, such as covering for early shooting practice to achieve 5 times more income from bamboo shoots. It makes a possible way for the poorest to fight against poverty”, said Luo Defa, Chairmen of Lin’an Hengfan bamboo shoot cooperative (Zhejiang)



5. Conclusions and Recommendations

5.1 Helping Local Bamboo Business Overcome Obstacles to Growth by Supporting Community-based SMEs

Small and medium sized bamboo enterprises (SMEs) and farmer cooperatives have become an important driver of economic growth and job creation in Sichuan province. The programme supports the growth of these enterprises by providing access to technical assistance and business development services. In particular, the programme is working with 241 bamboo demonstration enterprises and 28 bamboo farmer cooperatives located in Sichuan and Zhejiang provinces.

As well as providing technical and development assistance, these enterprises are pioneering the use of bamboo as an environmentally sustainable, earthquake-resistant building material of the future.

5.2 Generating Job Opportunities and Income Sources for Local Communities

The growth of community-based bamboo SMEs has leveraged a whole production chain, from bamboo forest resource cultivation, to harvesting, and primary processing, semi processing, end-products processing and marketing. The development of bamboo production chain brings great job opportunities for local communities. Such as the 241 demonstrating bamboo enterprises and 28 farmer cooperatives have benefited about 21,957 people through technical upgrading and production capacity buildings.

5.3 Increasing Income for Local Communities

Outputs of bamboo forest-bamboo culms and bamboo shoots- have been increased in quantity and quality through the sustainable management practices the programme promoted and demonstrated. This not only laid a solid foundation for the quality improvements of bamboo products production and production scale up, but also brings income increase for the local communities. An additional 7,500 yuan of farmers' income (per farmer) has derived through applied improved sustainable bamboo forest management, such as bamboo shoot early shoot incubation technology, for example, which has increased farmers' annual income by 80% in Lin'an Hengfan Bamboo Farmers Cooperative in Zhejiang in 2013.

In average, the annual income of the participants involved has increased by over 30%.

5.4 Enhancing Capacity Building of Local Communities on Running Bamboo Businesses

The programme has helped the trainees master basic knowledge and technologies of bamboo species introduction, high-yielding cultivation technologies, disease and pest control, as well as bamboo processing technologies. The training courses have helped 21957 local farmers. These training activities have raised awareness and built capacity at local level.

5.5 Bamboo Training Center will Serve as a Permanent Technology dissemination Platform

The Bamboo SME Training Center in Dujiangyan and Changning, Sichuan province and in Lin'an, Zhejiang province will serve the local communities for bamboo processing technology dissemination, products designing/innovation and bamboo business management/development in the long term.



6. Future Actions: Building on the Results of the Programme

6.1 Encourage More Youth Leadership in Community-based Bamboo Business Development

Many of the young generation go to the cities to seek their fortunes, and are reluctant to return to the rural areas from whence they came. As a result, most of the people involved in the bamboo sector are of the older generation - it is important to encourage more young people to become involved in bamboo businesses in rural areas.

6.2 Promote Public Education for Marketing Exploring

Bamboo grows mainly in tropical and sub-tropical areas. The main domestic market for bamboo products is southern China. Most people living in Northern China are not familiar with bamboo, and do not consume bamboo products. Even in southern China, such as in Sichuan, many people do not aware of the multiple usages of bamboo and bamboo products, such as bamboo textile, bamboo charcoal. The programme has successfully promoted public awareness on of products through several kinds of activities. However, efforts are still needed to encourage people to know bamboo, to use bamboo and to love bamboo in their daily lives.

6.3 Enhance Capacity Building of Cooperatives

The programme has helped establish bamboo farmer cooperatives to better serve the community for the development of bamboo business. However, there is still a need to further efforts to enhance their capacity building on cooperative management, project development and management, financing and products innovations.

6.4 Online-business and Branding

E-business and B2C models are very popular now, and more and more traditional super markets and shopping malls have started their own online selling systems. Sales have been largely expanded through the B2C business model. The community based bamboo SMEs need to learn more about this to sell their products. Basic operational skills and knowledge should be provided to the SMEs managers to support their marketing. Branding through social media is another way of enhancing the marketing of bamboo products and the public recongition of SMEs.



7. Acknowledgements

INBAR would like take this opportunity to express its gratitude to Citi Foundation and Citi China for their generous support, to show our respect to all partners both at home and abroad for their close cooperation, and to convey our highest appreciation to all those who have supported the programme.