GREEN BUSINESS OPTIONS

Resource Book

Eco-forestry and Forest Products
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RESOURCE BOOK

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Acknowledgement

This training package has been adapted from an earlier version produced for the Green Business Options – entrepreneurship training programme organized in partnership with the Ministry of Human Resources and Social Security of China. The upgraded training package is completed by a task force of the International Labour Organization, consisting of:

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Preface

Ecological forestry and forests products, as opposed to traditional forestry where there is excessive exploitation, emphasizes that forest resources should not be harvested at the expense of destroying the forest and the environment. It emphasizes on a balance between ecological equilibrium and forest logging and on the integrative harvesting of forest resources, such as “integrative forestry”. On one hand, we should not lay exclusive emphasis on the protection of forest resources. Local residences, forest owners and managers require profits in the reasonable management of the forest to motivate them to cooperate. On the other hand, as it takes a relatively long period of time to renew forest resources, which, once destroyed, are hard to be restored, we should avoid predatory exploitation, excessive deforestation and ignorance of afforestation.

In recent years, the global ecological environment is deteriorating; water pollution, air pollution and global warming are becoming increasingly worse. In response to this problem, countries around the world are pursuing sustainable development to enhance ecological benefit, economic benefit and social overall benefit of commercial activities, according to the principles of environmental protection, recycling and sustainable development and by means of modern technologies and management patterns. Ecological forestry, which can improve the climate, preserve water resources and renew itself, has become a unique field of resource management and has become one of the most important issues on the agenda of many countries. It has become a new target for investment and has become a cradle of numerous new technologies, new commercial patterns and new market demands.

This handbook intends to review the available policy resources and market opportunities and provide cases of pioneer companies for entrepreneurs who want to do business in the ecological industry and exploration of forest products. By reading this handbook, entrepreneurs will be able to have a general picture of the policy resources, supporting resources and successful experiences of business management in the field of ecological forestry and forests products.
Contents

Chapter 1. Overview .......................................................... 7
   1.1 Status Quo of Ecological Forestry and Climate Change ............... 7
   1.2 Employment in the Development of Ecological Forestry ................ 8
   1.3 Trends in Technologies, Investment and Human Resources ............ 8
   1.4 Related Policies and Fund .............................................. 9

Chapter 2. Market Potential and Business Opportunities .............. 17
   2.1 Trend of the Ecological Forestry Globally and in China .................. 17
   2.2 Market Potential and Capacity ......................................... 19
   2.3 Potential Customers ...................................................... 22
   2.4 Business Opportunities ................................................ 24
   2.5 Risk Analysis ............................................................ 25

Chapter 3. Case Study and Lessons Drawn ............................... 27
   3.1 Case Study 1 ............................................................. 27
   3.2 Case Study 2 ............................................................. 28
   3.3 Case Study 3 ............................................................. 30

Chapter 4. Suggestions concerning the Business Model .......... 33
   4.1 Practical Business Model and Techniques ............................. 33
   4.2 Customer with High Environment Awareness and Their Demand .... 36
   4.3 Marketing Strategies ....................................................... 37
Eco-Forestry and Forests Products

4.4 Demand of Human Resources and Solutions ........................................................ 39
4.5 Effective Cooperative Relationship ..................................................................... 40

Appendix 1: Supporting Organizations ................................................................. 43
Chapter 1. Overview

1.1 Status Quo of Ecological Forestry and Climate Change

In the late 19th century, due to overgrazing and unplanned deforestation, forest resources and grassland decreased greatly; and many countries are hounded by frequent natural disasters. Since the middle 20th century, the global population increased sharply, natural resources were damaged and the ecological crisis has become increasingly worse. Developing countries are facing even a greater severity in problems which greatly undermine their economical and social development. Nowadays, global warming becomes another disaster threatening the human race. Greenhouse effect leads to the rising of the sea level and harsh climates have become more and more common. In the year 1997, the Kyoto Protocol at the United Nations Framework Convention on Climate Change (UNFCCC) was reached in Kyoto in Japan, which stipulated that all parties should cut down on emission of carbon dioxide and other five kinds of greenhouse gases by, in the first contracting period, from 2008 to 2012, at least 5% lower than that in the year of 1990.

In order to respond to the ecological problems, many countries started to promote forestry development by implementing ecological programmes, such as the “Roosevelt programme” of America, “Green Plan” of Canada, “Forestry Ecological programme” of France and “Social Forestry Plan” of India. As early as the 1970s and 1980s, China has called on the people to grow trees. In the 21st century, the government makes it clearer that we must ensure national ecological security and promote national conservation culture by ecological environment construction. The State Council has approved six major forestry programmes, that is, the programme of returning farmland to forests, the programme of protecting natural forest resources, the 4th phase of the “three-north” shelterbelt programme, the programme of subsidizing ecological benefits, the programme of protecting wildlife and constructing natural reserves, and the programme of constructing forestry base with fast-growing trees to provide timber. These programmes are launched with the purpose of increasing forest coverage, reform traditional patterns of managing, protecting and exploiting forest resources and promoting forestry comprehensive profits, by means of national investment, government advocacy and nationwide involvement.

In the late 19th century, the concept of ecological forestry was put forward by European countries. Originally, considering the deterioration of the ecological environment, ecological forestry was interpreted and defined as follows: on one hand, forest resources should be protected by stopping excessive deforestation and forestry should play an important role in soil and water conservation. On
the other hand, the forestry can help to reduce the global temperature and mitigate climate change by absorbing carbon dioxide. From this definition, we can see that protecting forestry was seen as a major tool of improving the ecological environment. With social development, reasonable harvesting of forest resources and sustainable development has become the mainstream mentality in ecological forestry and management of forest products. It is advocated that forest resources should be managed and harvested to seek for both economic benefits and ecological benefits. The ecological forestry now is interpreted as a forestry system which develops according to the rules of ecological economics and ecology, by making full use of local natural resources and providing the optimal environment for the survival and development of the human race.

1.2 Employment in the Development of Ecological Forestry

For a long time, agriculture and forestry, the primary industry, constituted the basis of the national economy. However, in China, due to the traditional views, entrepreneurs and individuals in the primary industry are dismissed as low-end and disadvantaged, void of technologies and potentials. The primary industry fails to be recognized and respected by the society. However, as the natural resources are running out and the ecological economy is developing quickly, the traditional ideas are on the verge of being completely changed.

With the introduction and development of ecological forestry, the entrepreneurs and individuals involved in the forestry will have better status in the society and be more respected. The goals of ecological forestry, to protect natural resources and harvest natural resources in a comprehensive and cyclic way, will be recognized by society and will be able to promote the green consumption concept and trend among the mass and the market towards forestry and related products. In terms of this, entrepreneurs and individuals involved in ecological forestry, who shoulder the responsibility of protecting the environment and natural resources, will be more and more valued and respected.

In the meantime, forestry and harvesting of related products are developed mainly by forest farmers in the countryside. They generally live in remote and secluded places and they constitute a major part of the poverty-stricken people in China. By developing ecological forestry, these disadvantaged people will obtain job opportunities and receive more benefits through ecologically friendly forestry harvesting and management, thereby having a higher standard of life and alleviating poverty.

1.3 Trends in Technologies, Investment and Human Resources

Nowadays, the state has made ecological forestry as the strategic way of developing forestry, which
provides robust impetus and great potential for the development of technologies, investment and human resources of the ecological forestry in the future. What follows are some detailed information.

Firstly, there is a great need for ecological forest construction in China. In recent years, forest coverage globally has decreased by 100,000,000 mu (or 6,666,666.6 acres) per year; in the meantime, in China the forest coverage has increased by 60,000,000 mu (or 4,000,000 acres) per year, the highest rate of forest resource growing in the whole world. In September of 2009, at the United Nations Climate Change Summit, President Hu Jintao made solemn commitment to the world that by the year of 2020, the forest coverage in China will be 40 million acres larger and the forest reserves will be 1.3 billion m³ larger than that in the year of 2005. According to the twelfth Five-Year Plan (from 2011 to 2015), the forest reserve will increase by 0.6 billion m³ and the forest coverage rate will reach 21.66%. These goals guaranteed the investment and policies at the national level towards the technologies, investment and human resources of the ecological forestry.

Secondly, the state has introduced reform into the collective forest ownership. The reform of collective forest ownership intends to clarify forest land tenure and tree ownership, give freedom to forest management, specify right of disposal and guarantee usufruct. The reform further liberates and develops the productive force in the countryside, motivates the farmers to devote themselves to forestry in a market-oriented way, and helps farmers, especially forest farmers in the mountainous areas, to have a better-quality life. In response to the reform, productive force and market demand will increase sharply, which in turn gives incentive to the development of the technologies, investment and human resources of the ecological forestry.

Thirdly, the state gives robust support to the development of forestry. It is planned that by the year of 2012 the gross output value of forestry will increase from 1,440 billion yuan in 2008 to 2,260 billion yuan, growing at a rate of about 12%. In particular, the gross output of hardboard will stay at 100 million m³. The volume of international trade on forests products will reach over USD 90 billion and the total export will reach USD 50 billion or even higher. China will continue to top the world in terms of exporting hardboard, wooden floor, wooden furniture and wooden doors. The forestry industry has a vast scope for development. The development of ecological forestry is a major motivation of the advancement of the technologies, investment and human resources in this field.

1.4 Related Policies and Fund

For entrepreneurs, having a close eye on the policies of the government will help them foresee the trend and potential business opportunities in a certain field. For now, the Chinese government has
Eco-Forestry and Forests Products

implemented various kinds of policies, which can categorized into legal (compulsory) regulations, financial or economical measures and government initiatives. Government initiatives refer to government’s guidance for and interferences into industrial restructuring by administrative powers to support and encourage industrial development.

**Related laws, regulations and policies**

For ecological forestry, there are both national laws and regulations, such as Law of Land Contracting and Management in the Rural Area of the People’s Republic of China, Water Law of the People’s Republic of China, Law of the People’s Republic of China on the Protection of Consumer Rights and Interests, Food Law of the People’s Republic of China and Central Committee’s Document No.1, and laws and regulations for the forestry, including Forest Law of the People’s Republic of China, Law of the People’s Republic of China on the Protection of Wildlife, and Regulation of Forest Certification of People’s Republic of China. These laws and regulations involve the project planning of ecological forestry, forest management, biodiversity protection and forest product exploitation.

It should be emphasized that Views on Promoting Collective Forest Ownership Reform Issued by the CPC Central Committee and the State Council, promulgated on June 8th of 2008, has greatly promoted the development of ecological forestry. It adjusts the relationship between the forest land and forest farmers, and that between the forest farmers and enterprises; it vitalizes the means of production including forestland and upland and liberates the productive forces of the forest farmers. Forest farmers, according to Law of People’s Republic of China on Farmers’ Specialized Cooperative Society, have formed various kinds of special cooperative societies and try to earn profits with the forest land and timber resources.

Realistically speaking, there are no systematic and special laws and regulations in China to vitalize ecological forestry and promote environmentally friendly harvesting of forest products. The current laws, such as Forest Law of People’s Republic of China and Law of People’s Republic of China on Farmers’ Specialized Cooperative Society are not suitable due to the reforms and dramatic changes. Therefore, the state legislature must speed up and make new regulations. On the other hand, entrepreneurs should be fully aware of the current laws and regulations as well as relevant policies so as to receive support for their endeavours.

**Business opportunities**

*Reform measures and policies about collective forest ownership*

Since 2008, the state launched reform on collective forest ownership and this was another major
readjustment of means of production and production relations. The core of the reform was to grant contracted managerial rights of forest land and tree ownership to each household and make farmers the managerial right holders of the forest. In this way, the farmers could possess the managerial right of the forest land, the ownership, right of disposal and usufruct of trees, and the guiding principles that “each mountain has an owner, each owner has his or her right, each right holder has his or her responsibility and each responsible individual was entitled to receive benefits” were fully carried out. By 2010, reform on collective forest ownership had finished in five provinces and relevant reforms continued; in eight other provinces, reform of collective forest ownership was underway. Owners of 101 million acres of forestland and trees were defined, which accounted for 59.4% of total collective forestland; 760 million acres of forestland were licensed, which made up 44.6% of the total collective forestland. During the reform of the collective forest ownership, the government lent vigorous support to forest farms with licensed forestland and other people involved in the forestry to seek employment or become self-employed. (Views on Promoting Collective Forest Ownership Reform Issued by the CPC Central Committee and the State Council, Views on Promoting the Development of Farmers’ Forestry Specialized Cooperative Society and Circular Concerning the Pilot Projects of Encouraging Farmers in the West China to Start a Business by National Development and Reform Commission)

National forestry policies

Ecological forestry is a welfare undertaking and an industry important for the development of the national economy and the society. Nowadays, the government encourages forestry development in 21 aspects: genetic improvement of trees and construction of base for improved varieties; breeding of valuable commercial trees or rare trees; construction of base for famous, unique, high-quality and new commercial forest; storage, preservation, selection, package, deep processing of commercial trees and fruits, comprehensive technologies, and modern distribution; bases for the seeds and seedlings of flowers and trees; production technologies of biological medicines and plant growth stimulator and their industrialization; construction of base for bamboo and rattan and development of new technologies of bamboo and rattan products; eco-tourism; domesticating wild animals and plants, breeding and using them; development of husbandry with fenced grassland; new materials to fix the sand, preservation of water and soil improvement; sand industry; and many others. (Main Points in the Policies towards Chinese Forestry, Plans to Revitalize Forestry, 2010-2012).

The policies to popularize biological energy

Plants that grows fast, is rich in oil and calories and can produce high yield should be bred as specialized sources of biological energy; the vacant mountains and land should be explored in a reasonable way; large-scale base should be promoted to grow energy plants. Pilot production of liquid fuel, whose raw
materials are sweet sorghum, sweet potatoes, Jatropha curcas, Chinese pistache, Swida wilsoniana, shiny-leaved yellowhorn, plant fibre and other non-grain plants; the development of biodiesel, biogas, biological power generation and bio-mass fuels. (Circular of Policies to Promote Biological Industries by the General Office of the State Council and Law of Promoting Circular Economy)

**Financial subsidies and administrative support**

**The subsidy for construction of forestry ecological projects.**

Enterprises that conduct businesses in ecological forestry are qualified to apply for participation in various forestry ecological projects and receive subsidies for setting apart hills (sand area) for tree growing, reforestation, afforestation by aerial seeding (as well as follow-up management), forest fire prevention, protection of wildlife, infrastructure construction of natural reserves, growing plant seedlings, covering management expenses and bidding fee. (Forest Law of the People's Republic of China, Regulations of Capital Management of Forestry Ecological Projects)

**The subsidy to fund forestry technology promotion**

This subsidy is intended for exemplary forestry projects that increase forest coverage, stop soil and water loss, improve the environment, have a good effect on neighbouring areas and other industries, increase the farmers’ income, provide more job opportunities, launch training programmes, circulate technology handouts, and develop feasible technological handbooks, procedures and standards. (Tentative Regulations of Assessment for the Subsidy of Forestry Technology Promotion by the Central Finance)

**The subsidy for encouraging biological energy industry**

Forestry enterprises that are involved in the following fields may get this fund: scaled-up production of biodiesel with wood and fruits as the raw material, scaled-up co-production of biochemical products and biological energy, procedure development or scaled-up production of biological energy with non-grain materials. (Tentative Regulations on the Subsidy for Encouraging Non-Grain Biological Energy and Biochemical Industry)

**The compensatory subsidy of the forest ecological effect**

This fund is open to entities, groups or individuals (such as state-owned tree farms, forest natural reserves, collective tree farms) that are responsible for the protection and management of key public forests at the state level and the provincial level. From 2010, the compensatory subsidy of the forest ecological effect for key public forests increases from 5 yuan per mu to 10 yuan per mu; the subsidy for
reforestation increases from 100 per mu to 200 yuan per mu. (Regulations of Compensatory Subsidy of Forest Ecological Effect)

**Special government fund**

This kind of fund includes wildlife protection special fund, natural reserve special fund, natural forest resource protection project fund, protection forest fund, a special fund for returning farmland to forestry, wild commercial tree species protection special fund by the Ministry of Science and Technology, and subsidy for purchasing agricultural machinery. Any qualified individual or enterprise can apply for the fund.

**Bank credit**

In regions where collective forest ownership has been reformed, the banks can provide security loans with ownership of forest, micro-credit for forest farmers and forest farmers’ joint guarantee loans. The financial discount policy should be made full use of to increase forestry discount loans, poverty alleviation discount loans, and micro-credits. The banks will develop a system of assessment-free and recyclable micro-credit on the basis of farmers’ credit ratings and forest ownership. Bank loans should support forestry management operating at scales; and support forest farmers to intensify the cooperation in various models, such as "family cooperation and farmers cooperatives", "joint-stock partnership", and "enterprises-base-and-forest farmers." It is also encouraged that the credit rating of entities and that of their individuals should be connected. The credit term for forest loans can be as long as ten years. (Regulations on the Reform of Collective Forest Ownership and Financial Support for Forestry Development)
Supplementary readings:
On August 17th, 2011, the first forestry bank branch in the Fujian Province, Agriculture Bank of China Yong’an Forestry Branch, was established. This branch offer loans on forest ownership to forest farmers and forestry enterprises, loans of “guarantee company + farmers” and loans of “enterprises + farmers”; there is a special division, clerks and rules for the management forestry loans. There are five guiding principles: to work closely with corporate champions and cooperate extensively with Yonglin Group; to work closely with tree and bamboo enterprises and ensure that all corporate champions at the municipal level or above are covered; to work closely with the hilly areas and expand loans on forest ownership; to work closely with guarantee companies and enhance cooperation with intermediary institutions; to work on innovation and expand the loans to places other than Yong’an; to exercise control on risk, ensure the sustainable development of forestry loans, provide high-quality financial service for forest farmers and forestry enterprises and offer experiences for Agricultural Bank in the county to serve the countryside, the farmers and the agriculture.

Tax privilege
• The sub-timber (timber which does not meet the required standard, is small in size or is used for firewood) from forest fostering, transformation of low-yield forest or renewing deforestation, with the permission of the people’s government at the provincial level, can be exempt from agricultural special duty. The standard of sub-timer is specified by the agricultural taxation offices in the province, the autonomous region, the municipality directly under the central authority. (Notice on the Policies of Forestry Taxation by the Ministry of Finance and the State Taxation Administration)

• Since January 1st, 2001, enterprises can be exempt from business income tax if they specialize in growing forest tress, seeds and seedlings and other primary processing of forest products. (Notice on the Policies of Forestry Taxation by the Ministry of Finance and the State Taxation Administration)

• From January 1st of 2009 to December 31 of 2010, value added tax can be reimbursed for products that are produced with three kinds of remainders, sub-timber, straw and bagasse as the raw material. In 2009, the reimbursement percentage was 100% and in 2010 the reimbursement percentage was 80%. (Notice of the Policy of Added Value Tax Imbursement for Products by Agriculture or Forestry Remainders by Ministry of Finance and State Tax Administration)
Supplemented readings:
The three kinds of remainders refers to the logging remainders (the branches, tree tops, barks, leaves, roots, vines, bushes), manufacturing remainders (wood butts in manufacturing) and processing remainders (board peel, pieces, wood and bamboo butt, saw dust, broken board, wood core, wood shavings, wood blocks, the inner skin of the bamboo stem and the tailings). The sub-timber refers to the timber that are lower than a certain standard for coniferous forest trees and broad-leaved forest tees (LY/T1 505—1999 standard for the Northeast China and Inner Mongolia and LY/T1369—1999 for the South China and other parts of China), the timber that are smaller than normal (original small wood, pine pole, scaffold, Miscellaneous wood and short log whose length is lower than 2 metres or whose diameter is lower than 8 cm) and firewood.

Catalogue of comprehensive products that can enjoy added value tax reimbursement

<table>
<thead>
<tr>
<th>No.</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>wood (bamboo), straw fiberboard</td>
</tr>
<tr>
<td>2</td>
<td>wood (bamboo), straw, bagasse staw dust board</td>
</tr>
<tr>
<td>3</td>
<td>core-board</td>
</tr>
<tr>
<td>4</td>
<td>active carbon</td>
</tr>
<tr>
<td>5</td>
<td>tannin extract</td>
</tr>
<tr>
<td>6</td>
<td>hydrolysis of alcohol, carbon rod</td>
</tr>
<tr>
<td>7</td>
<td>salix cardboard box</td>
</tr>
<tr>
<td>8</td>
<td>paper made from bagasse</td>
</tr>
</tbody>
</table>

- Enterprises that are engaged in agriculture or forestry projects will be exempt or partly exempt from taxation. Imported seeds (seedlings), breeding stock (poultry), fingerling (young fish) and domesticated wild animals and plants can be exempt from import added value tax. The companies responsible for protecting natural forest resources are exempt from building tax and urban land holding tax. The imported equipment encouraged by the state (except those listed on the Catalogue of Non-Tax-Free Import Commodities) can be exempt from tariff and import added value tax.

- Biological enterprises can enjoy tax preferences. The expense of research and development of biological enterprises for developing new technologies, procedures and products should be further deducted by 50% after being deducted according to regulations, if the research effort fails to produce intangible assets; if it succeeds in producing intangible assets, the expense will be shared by 150% of the intangible assets cost. Biological enterprises that have been recognized as high-tech enterprises will get a 15% discount on enterprise income tax. (Circular of Promoting the Development of Biological Industry by the General Office of the State Council)
Chapter 2. Market Potential and Business Opportunities

2.1 Trend of the Ecological Forestry Globally and in China

Global trends in ecological forestry
In recent years, global warming and deterioration of the ecological environment have become indisputable. The governments and social organizations of various countries have taken action and advocate energy saving and emission reduction to improve the ecological environment. In the United Nations Climate Change Conference held at Durban in the early December of 2011, the media even put forward the slogan of “the last chance of saving the earth”! In the meantime, both experts and common people have realized that we must implement ecological forestry, increase forest coverage and combat global warming by reducing the carbon dioxide on earth. All around the world, natural forests have become managed forests and ecological forestry has entered into a period of rapid development. The governments of various countries attach great importance to ecological forestry and lend much support to promote its development.

The development of ecological forestry, in the meantime, is closely related to people’s awareness of its function to improve the ecological environment; its development is also dependent on the general development of each country. The development of ecological forestry is unbalanced worldwide. In European countries and America where the economy is highly developed and there is keen awareness of environment protection, great achievements have been made in terms of research and practice; product development and management have been become systematic and standardized. For example, the Forest Stewardship Council (FSC) protects legal forest resources, supervises the production and marketing processes and ensures fair labour, by means of forest certification of sustainable management.

Trend of the ecological forestry in China

Policy support from the government
Among all the industries of national economy, eco-forestry is a unique one that contributes to the national welfare as a primary industry, combining the socio-economic and ecological benefits together. In China, the government attaches great importance to construction of ecological forestry projects
and the development of ecological forestry. In the Central Committee’s Document No.1, issued in 2010, there are as many as 26 polices concerning forestry. The national public finance vigorously supports the ecological construction and livelihood improvement in forest areas. For example, forestry machines are subsided; investment in afforestation, nurturing, protection and management are subsided; pilot subsides are offered for the cultivation of seedlings and forest nurturing. It is said that the forest ecological benefit compensation fund by the central finance in 2009 increased to 5.247 billion yuan, 1.762 billion yuan more than the precious year; the covered area increased from 69.9 million mu to 104.9 million mu. The subsidies from the central finance are welcome by the people involved in forestry.

In the meantime, the government combines forestry ecological construction with rural development, creating of job opportunities and encouraging self-employment. It also encourages forestland transfer, assessment, and financial aid and loans from banks. Views on collective forest ownership reform and financial service for forestry development, Views on Promoting the Development of Farmers’ Forestry Specialized Cooperative Society and Circular Concerning the Pilot Projects of Encouraging Farmers in the West China to Start a Business are issued to encourage forest farmers to become self-employment and earn a higher pay with available resources.

### Expansion of market for forestry products

Environmental pollution has a direct effect on the security of food and drinkable water resources. Some enterprises disregard moral standards and lack effective supervision, thus leading to serious problems in food security. During 2009 to 2011, there were various incidences concerning food security such as “dyed steamed bread” and “illegal cooking oil”, which increases the need for green and unpolluted food. Consumers have a higher awareness and consumption capacity for ecological forest products.

As the Chinese people are enjoying increasingly higher standards of living, the consumption modes have become varied. Forest eco-tourism has become more and more popular; “forest oxygen bar” and “forest adventure tour” have become popular means for tourists to go back to the nature and relieve themselves of stress. For example, “forest household”, a new commercial model around China, responds exactly to this demand. In this way, protection of public ecological forest can be combined with effective exploration of forest resources.

### Attention from various social organizations to the development of ecological forestry

Social organizations constitute a force promoting the development of ecological forestry. NGOs concerning environmental protection, ecological nurturing and community development are taking various actions. Some international organizations are supporting ecological forestry by providing funding for programmes. For example, World Wide Fund for Nature (WWF) is funding and supporting
the protection and research of pandas in China; some organizations, including China Wildlife Conservation Association (CWCA) is conducting research and academic communication on protection of wildlife, and is providing technical consultative services about the management of wildlife resources; some organizations support ecological support by providing loans; in response to the problem of climate change, China Green Carbon Foundation provides a platform for afforestation, forest management and forest protection to cut down on emission.

2.2 Market Potential and Capacity

The market potential of the development of ecological forestry lies in the following three aspects. The first is at the government level. As the state needs to develop ecological forestry, in the future, a huge fund will be put into various fields concerning ecological forestry. The capital includes direct investment from the government on forest construction, the supporting fund from the government and favorable credit. The second is at the entrepreneur level. As the state has sped up the collective forest ownership reform, in the future, more and more forest farmers will be able to obtain forestland management right and tree ownership; also, they will be able to circulate the rights. By mortgaging and circulation, forest farmers will be able to vitalize forestland and forest tress. This will motivate forest farmers and other people engaged in forestry to devote themselves to this field by working on their own, cooperating with others or starting a new business. Therefore, there will be an even larger market for ecological forestry. The third is at the market level. According to the market trend and the consumption mentality, in the future, there will be a sharp increase in the demand for environmentally friendly and pollution-free forest products. The environmental effect and social effect of the research, development, manufacturing, packaging, circulation, harvesting and recycling of forest products will be assessed more closely.

Eco-forestry programmes

Eco-forestry programmes are mainly shouldered by the government. Nevertheless, entrepreneurs and venturing businesses can participate by means of contracting, labour dispatch, and providing related service and products. According to the statistics released by State Forestry Administration, the afforested forest area within the year of 2010 reached 79.4 million mu (5.3 million acres). By 2010, 2035 natural reserves of forest ecosystem, wetland ecosystem and desert ecosystem and wildlife & wild plant ecosystem have been established, covering an area of 1.853 billion mu.
Eco-Forestry and Forest Products

**Economic forestry (fruit) industry**

Economic construction and the growing, manufacturing, storage, packaging, processing and modern circulation of commercial trees and fruits have become important fields for current entrepreneurs and venturing enterprises. Nowadays, the economics make up 17.2% of total forests and more than half of the man-managed forests. Growing and processing of oil plants, bamboo (rattan and bamboo shoot) are the most important. It is estimated that in China there are 450 million mu suitable for growing oil plants. For example, according to the statistics released by the State Forestry Administration, new forests of oil-tea camellia 2.13 million mu are constructed and low-quality forests of 1.77 million mu are improved; the yield reached 1.07 million tons. In addition, China ranks first in the world in the area of mao bamboo; there is a large-scale and all-around manufacturing and processing of bamboo products and rattan products in China. So far, there are edible bamboo shoots, bamboo and rattan raw material and tens of thousands of bamboo and rattan products, including ice preserved fresh bamboo shoot, salt preserved bamboo shoots, bamboo and rattan furniture and floors, bamboo and rattan art works, bamboo charcoal, and bamboo fibre, whose annual output value reaches billions of yuan. In recent years, ecotourism based on bamboo natural or cultural landscape has developed greatly. The Bamboo Garden in Anji of Zhejiang has become a tourist attraction known near and far.

**Supplementary readings:**

**Fengxin of Jiangxi: Growing mao bamboo industry**

The Fengxin County of the Jiangxi Province takes advantage its mao bamboo resources and encourage the development of mao bamboo processing enterprises. The mao bamboo industry is steadily growing larger. The first half 2011, the mao bamboo industry developed quickly; the processing output value reached 250 million yuan; the mao bamboo industry delivered tax of 12 million yuan and earned foreign exchanges of $2 million by exports. The mao bamboo processing industry has become a pillar industry in Fengxin which promotes local economic development and raise local farmers’ income.

Fengxin County has a rich resource of mao bamboo; and is one of the nine counties in China with the largest yield of mao bamboo. In developing mao bamboo industry, the county follows the principle that people who invest receive the benefits and encourages the mao bamboo enterprises to build raw material base. Subsidies and loans with interest discounts are offered to encourage more capital and human resources into the mao bamboo industry. The mao bamboo forest is growing in area and stock volume year by year.
In order to transform resource advantage into ecological advantage and economic advantage, Fengxin County puts forward the principle of “developing high-quality mao bamboo industry with high technologies” and, with the guiding principle of scientific outlook on development, seizes the opportunities to grow the mao bamboo processing industry. Great effort has been made to set up a brand and successfully transform the resource advantage into economic advantage, thus benefitting the forestry industry, the local economy and forest farmers at the same time. Now Fengxin County has a pattern with bamboo floors and bamboo glue formwork as the major products and bamboo mats as supplements. Nowadays, there are 53 mao bamboo processing companies, an area of 4.80 million m² for producing bamboo floors, 12 famous brands and a marketing network covering 28 provinces, municipalities or autonomous regions.

**Development of under-forest economy**

Developing under-forest economy is important for guaranteeing forest farmers’ benefits and reaping the potential of the forestry industry. In recent years, growing flowers and medicinal herbs and breeding wildlife in the forest have developed greatly. Now the area for flower growing and seedling nurturing has reached 147,000 acres, with an annual volume of 16 billion yuan. In 2010, the under-forest economy in the Guangxi Province reached a value of 5.84 billion yuan and employed over 450,000 people in the forestry sector; over 200,000 households made a living by cultivating in the forest; over a million farmers became employed or self-employed; the farmers earned 11.5 million yuan collectively. In 2011, Zhejiang Province forest ecotourism and farmhouse tourism reached a value of 22.4 million yuan. The Shandong Province plans that by 2020 the new economic figures should reach 5 million mu and 2.5 million jobs are anticipated to be created. The government advocates that “forest farmers can have a quality life without cutting trees” and ecological forestry will bring benefits to forest farmers.

**Supplementary readings:**

**World Horticultural Exposition facilitating flower industry in Xi’an**

With the success of the World Horticultural Exposition in Chanba Ecological Zone of Xi’an, Xi’an has becomes a “flower city” and a focus both at home and abroad. During the 178-day exposition, the exits and entrances to the city, main streets, major relic spots, tourist attractions, traffic hubs, major hotels and restaurants, major shopping halls, major squares and gardens are decoated with flower landscape. In most squares, there are 20 big three-dimensional flower bed, creating a merry atmosphere for the city. Thanks to the World Horticultural Exposition, Xi’an has become an ocean of flowers and a landscape feast of flowers. It is estimated that during the exposition there are 70 million pots of flowers, 5000 pots more than normal. It is said that the flower industry is growing into one of the sunrise industries in
Eco-Forestry and Forests Products

urban agriculture. The flower and seedling enterprises in Xi’an have increased from over 30 to about 1,000 now. Xinchen Flower Company has earned 1.5 million yuan. It can be said that the period after the World Horticultural Exposition is a perfect period for developing the flower industry, which will greatly improve the agricultural tourism industry in Xi’an.

“Flower industry is a unique industry of Xi’an. Nowadays, the area of flower growing has reached over 200,000 mu. There is a flower production base around Chang’an and Yanta and a seedling production base around Zhouzhiyabai. The World Horticultural Exposition provides a perfect opportunity and potential for the development of flower industry. Next we will lend even more support to the flower industry so that it can do more for serving the city and raising farmer’s income,” said the chairman of Xi’an Flower Committee.

Biomass energy industry

The biomass energy exploration can provide market opportunities with high technologies. China lacks enough energy and therefore developing the biomass energy industry is of great practical and strategic significance. According to the part of Twelfth Five-Year Plan on Biomass energy, by the year of 2015 the biomass electric generators will have reached 1.3 million KW; centralized gas supply covers three million households; briquette utilization will reach 1.5 million tons. The central finance will give a subsidy of as much as 4.75 billion yuan for the development of biomass energy.

Wood furniture and man-made board manufacturing

From January to October of 2010, 245 million pieces of wood furniture ($7.75 billion) were exported. From January to October, 5.4624 million tons of paper, hardboard and paper products ($7.725 billion) were exported. From January to October, 6.2545 million m$^3$ of veneer board ($2.805 billion) were exported.

Forestry information service

The promotion of new forestry technologies have spread to forest farmers. There is an online information service platform which provides information about furniture, bamboo and rattan, floors and biological medicine.

2.3 Potential Customers

The potential customers of ecological industry and other related industries are the following four
kinds: government purchase and government investment projects; consumers that advocate using environmentally friendly products; thriving market of forest ecotourism; and new market of forestry carbon sink.

**Government projects**

Nowadays, there are ten major ecological forestry projects going on in China, such as the three-north shelterbelt project, coastal protective forest system project, plain greening project, the upper reaches of the Yangtze River protection forest system project, sand prevention and control project, the middle reaches of the Yellow River protection forest system project. These large-scale ecological forestry projects take quite a long time before they can be completed. Though these projects are shouldered by governmental organizations and large-and-medium-sized state-owned enterprises, these projects will provide considerable market demand for relevant products and will also create many opportunities for related venturing enterprises.

**Consumers demand**

With the rising of living standards, ordinary consumers do not choose goods solely based on price; they care more about quality and the environmental and social factors about goods. For example, in recent years, consumers tend to buy environmentally friendly organic agricultural and forestry products. The high frequency of medical and food security incidences also prompts consumers to choose natural, green ecological forestry products. On the other hand, the government has made favorable policies for green and environmentally friendly products, which compensates for the cost disadvantages of environmentally friendly products and guarantees that there will be consumers for them.

**Consumers of forest ecotourism**

Nowadays ecotourism worldwide is developing quickly at an annual average level of about 20% to 50%, much higher than the growth rate of tourism around the world. The Chinese government has carried the “two hundred, thousand and tens of thousands” project. By 2010, there were 100 ecotourism pilot areas (spot) and poverty alleviation ecotourism pilot areas, 100 ecotourism volunteer organizations; 1,000 ecotourism model enterprises, 10,000 ecotourism model households, 10,000 ecotourism publication ambassadors. According to the survey, eco-tourists usually have a higher income and tend to spend more money on tourism. A challenge facing entrepreneurs engaging in ecotourism and service is how to make use of the resource and find opportunities to find potential customers of ecotourism.
Carbon sink
Carbon sink refers to the process, activity or mechanism of removing carbon dioxide from the atmosphere. Nowadays there are two kinds of carbon sink programmes underway in China: the Clean Development Mechanism (CDM) under the Kyoto Protocol and voluntary emission trading related to the national afforestation programme funded by Chinese Green Carbon Foundation implemented by Climate Office of Afforestation Section of State Forestry Administration. Most of the Chinese CDM programmes in the international carbon trade markets are about energy conversion and exploitation, biomass energy, marsh gas, hydroelectricity and wind electricity. There are only 3 carbon sink programmes in China and only 28 carbon sink programmes around the world. The most likely customers are enterprises that purchases carbon sink credit so as to shoulder social responsibility, practice low-carbon manufacture, participate in the battle against climate change, improve the reputation and image, and enhance the soft power. Before relevant policy is formally issued, enterprises that can foresee the policy will be the first to reap the greatest benefits from carbon sink measures.

2.4 Business Opportunities
For most forest farmers and entrepreneurs engaging in small-scale forestry, it is necessary for us to distinguish various market areas. Entrepreneurs must decide the field and the scale according to the available resources, capital and experiences. Generally speaking, major fields suitable for starting new businesses in the ecological forestry includes forestry ecological construction, economic forest (fruit) industry, under-forest economic development, wooden floor processing and other related forestry industries.

- Forestry ecological construction: such as natural forest protection, shelterbelt forest construction, returning farmland to forest or grassland, wildlife and wild plant protection, and natural reserve protection.

- Economic forest (fruit) industry: such as growing and seedling nurturing of bamboo (rattan), oil-tea camellia, apple, walnut and matrimony vine.

- Under-forest economic development: growing flowers, medicinal herbs and other plants in the forest, breeding wildlife, poultry and other animals in the forest, forest tourism, forest garden, farmhouse tours.

- Wooden floor processing: Processing, transportation and marketing of wooden furniture (floor) and man-made boards with timber and remainders as the raw material.
• Other related forestry industries: such as forestry technology service and information service.

### 2.5 Risk Analysis

The business risks includes both inherent risks in traditional forestry and new risks due to the new business patterns. Here is the detailed analysis of the business risks.

#### Policy risks

The implementation of a policy may meet with various problems in different regions or in different situations. These problems may have a negative effect on entrepreneurs and venturing enterprises and therefore bring some business risks. Though so far the forestry policies are mostly favourable, there is still a possibility that it is generally the state-owned enterprises and large-and-medium-sized enterprises, instead of small entrepreneurs and small-sized enterprises that benefit from the policies. In addition, the policies may change as the ecological forestry is quite a new industry. The change in policy may bring some risks for enterprises.

#### Industry risk

The ecological forestry sector is based on the traditional forestry industry and therefore has the risks inherent in traditional forestry. For example, forestry needs a considerably large investment; it takes a long time before the enterprises can see profits from the investment and it is greatly influenced by natural situations. For example, in 2010, forest pest problems were very serious and in some places it became a natural disaster. The pest-stricken forest reached 17,285 million mu, 2.18 times of afforested area in China, 0.91% higher than the previous year. By November of 2010, there were 7,299 cases forest fires, damaging 422,700 mu (28,179 acres), killing or hurting 108 people.

#### Technology risks

Compared with ecological forestry in other countries, the ecological forestry in China is relatively weak in terms of basic theoretical research; most of the technologies are introduced from other countries and there are few original technologies; the applied research is far from enough and the people are not well aware of the importance of conserving resources and protecting the environment; there were not enough deeply processed and integrated products. Due to these problems, the ecological products are not competitive enough, especially in the international market, and suffer access restrictions. For example, there is no mature “forest certification” system and institution in China yet that affect the export of Chinese forestry products. In terms of new forestry technology development, because of the
information imbalance and backward market mechanism, it is very hard for new technologies to find a place in the market, return profit, and provide follow-up service and research.

**Market risks**

Ecological forestry, like all the other industries, has its own market risks. In 2008, due to the global financial crisis, the forestry industry was faced with several serious problems. Firstly, the export market of forest products decreased considerably. The export volume of man-made boards was 10.05 million m², 18% lower than the previous year. Secondly, the price of raw materials and forest products dropped sharply. For example, the timber used as raw material of man-made board dropped by 20% to 30%; because of this, many forest products overstocked in Shandong Province, Jiangsu Province and Hebei Province, for whom man-man board industry and forest (fruit) industry have always pillar industries. Many enterprises were caught up in a very dangerous situation; as many of 60% enterprises closed up. Thirdly, the timber was overstocked. In the four major state-owned forest areas of Northeast China and Inner Mongolia, only 20% of timber could be sold. A lot of forestry enterprises closed or cut down on scale, leading to the unemployment of a lot of workers. It is estimated that in Zhejiang, Shandong, Jiangsu and Hebei provinces, six counties with a relatively developed forestry industry, 3 million people left the industry.

Due to the risks discussed above, entrepreneurs and venturing enterprises should first of all find business opportunities that require smaller capital investment, shorter start-up time and available mature technologies. In the meantime, entrepreneurs should first of all find solutions to some managerial and technological issues, so as to ensure that they can provide products in a stable quantity and quality and that they have reliable channel to get resources.
Chapter 3. Case Study and Lessons Drawn

3.1 Case Study 1

Wang Lei Korean Pine Cultivation Specialized Cooperative Society of Benxi County of Liaoning Province

Wang Lei, a shrewd and capable 42-year-old woman in the countryside, lived in the mountainous area of Benxi County of the Liaoning Province. After she got married, the couple started their own business and Wang Lei was known near and far as a very capable woman. Most people thought that she would choose to enjoy her wealth and stop for a rest. However, she wanted to realize her dream to help other people in the county to have a better life.

With the implementation of the collective forestry reform, farmers got forestland and hoped to make use of the land to improve their life. The government issued favourable polices to promote the forestry industry and help the forest farmers. Wang Lei saw the opportunities to realize her dreams. She noticed that there was a rich resource of Korean pines and their promising economic value and market potential. In 2010, Wang Lei made a brave decision. She sold part of her property and, with eight other forest farmers in her neighbourhood, raised over 1 million yuan and established the Wang Lei Korean Pine Cultivation Specialized Cooperative Society of Benxi County of Liaoning Province. The cooperative society, by means of contraction or forestland circulation, obtained the management right of over 500 mu of forestland and dozens of plain land for Korean pine grafting and seedling. At the beginning, Wang Lei tried to persuade other forest farmers living around the cooperative society to join them. However, unexpectedly, Wang Lei found that even though many people were interested in her ideas, few agreed to join her. What is the problem? Why do they show no enthusiasm in joining her? Is there anything wrong with the way I approach them? Or are they not satirized with the cooperation terms? Wang Lei was wondering. She couldn’t find the answer. Finally an old man told her where the problem was. The problem was that most of the farmers knew that, though Korean pines are famous for their economic value, it takes quite a long time for them to grow. Farmers might have to wait for ten years, or even dozens of years, to get benefits. This was why farmers were reluctant to join Wang Lei’s Korean pine cooperative society.

Knowing where the problem was, Wang Lei asked experts from local forestry technology sections. They proposed that she could grow some fast-growing and high-value economic plants under the Korean pines or between the pines. In this way, she could not only get the long-term benefit of the Korean
Eco-Forestry and Forests Products

pines but also get benefit in the short term. On hearing this, Wang Lei decided to make a change on the management pattern of the cooperative society. While growing Korean pines, she developed the under-forest and glade cultivation. They first grew medicinal and edible plants (such as aralia data and acanthopanax) and economic plants. In the first year, they earned more than ten thousand yuan. Later they made use of the glade to grow slack season potherb and also obtain considerable profit. Seeing her success, dozens of forest farmers nearby asked to join her cooperative society.

After several years’ effort, Wang Lei’s cooperative society involved over 130 country households and covered more than 1,000 mu. Farmers in the cooperative society can earn 20,000 yuan and the enterprises got a profit of over 50,000 yuan. In the busy season, there were more than 200 temporary workers. The cooperative society was supported by the local government, who granted the society 30,000 yuan to support the establishment of the cooperative society and later help Wang Lei get a low-interest loan of 50,000 yuan from Rural Credit Cooperatives. Wang Lei attached great importance to technology. She applied for a “special technology expert” from government forestry section; there were free technology and management training for the cooperative society; there were also three technicians for the managing the forest trees and the economic plants and providing technological guidance for the farmers. Wang Lei made it a goal that in the next three years she would enlarge the cooperative society to a Korean pine cultivation base of 1,000 mu so as to obtain benefits from both the Korean pines and other forest trees.

Lessons drawn:

• Entrepreneurs should make constant changes and innovations, and when necessary change the original business plan.

• Promotion and application of practical technologies is an effective means of increasing the benefit of ecological forestry enterprises.

• Specialized cooperative society is important for agricultural and forestry enterprises to integrate resources, enlarge scale and reduce the cost.

3.2 Case Study 2

Yong’an Lvyi Bamboo and Bamboo Shoot Processing Factory, Fujian Province

Yong’an of Fujian Province is rich in bamboo and is known as “a county of bamboo”. Many local forest farmers earned a living by making bamboo products and succeeded. 47-year-old Xu Ailan was among them.
Xu Ailan was a lively woman farmer in the mountainous region of Yong’an of Fujian Province. She, her husband and two children made a living in the city by casual labour. They had several mu of field and grew some mao bamboo. They sold some grown bamboo and fresh bamboo shoot for a living. In 1999, seeing that many other farmers sold bamboo products in the city and earned some money, Xu Ailan became interested. The Yong’an District is mostly mountainous and has relatively fewer rivers and farming fields. The traffic was extremely inconvenient. As her husband often went to other places for work, she thought they might buy bamboo products and bamboo shoots from others and sell them in the urban areas. They could also sell their own bamboo products and bamboo shoots. Therefore, they stopped casual labour and put in 20,000 yuan to sell bamboo shoots and bamboo products. She bought things from other farmers and her husband sold these goods to shops or restaurants in the city. They were good at dealing with others and were always well-informed. Therefore, their business was going very well.

In 2002, they earned some money and rented a workshop in the suburb of the city. They invested in 10,000 yuan and established the “Lvyi Bamboo and Bamboo Shoot Processing Factory”. They hired some experienced farmers and bought fresh bamboo shoots from farmers in the neighouring areas. Then they made them into bamboo shoot pieces, dried bamboo shoots and bagged bamboo shoots, and sold them to supermarkets, big hotels and peddlers from other places. However, after two years, as there were more competitors entered the market, the couple found that though they worked for 15 or 16 hours every day, their business was going down. They were very worried. Xu decided to find a solution. In 2004 he took part in the Guangdong Trade Fair and learnt that bamboo products were very popular with European traders, who favoured colored, high quality and environmentally friendly bamboo products. Start foreign trade? Xu was very reluctant about this, since she didn’t have suitable technologies and market channels. On a second thought, she figured out since nobody had tried in this field, this might well be a good business opportunity. Anyway, there was the market. She made a decision and began to collect information about bamboo products. She learnt that in Anji of Zhejiang there were factories specialized in bamboo products. So she hired an experienced technician spending half a year training workers, and was also responsible for the quality control of the products. She contacted a trade company in Xiamen to deal with European traders. Finally 2006, Xu Ailan succeeded in exporting coloured bamboo curtains to Germany and got over 400,000 yuan. This opened the market. The bamboo curtain was environmentally friendly and practical that could be used in the office, household, hotels and restaurants. There was a growing market demand for bamboo curtain. In a few years, the Lvyi Bamboo and Bamboo Shoot Processing Factory developed into a modern enterprise with independent export and import businesses specialized in natural bamboo shoots and coloured bamboo products. Its capital reached over 5 million yuan and became one of the leading enterprises of bamboo and bamboo shoot processing.
Around the year of 2004, in Yong’an, the collective forest ownership reform was launched. Since then, the state-owned forest was shared by forest farmers. This became a good opportunity for Xu’s business. In 2006, she set up the “New Hope Bamboo Shoot and Bamboo Farmers’ Specialized Cooperative” and attracted over thirty farmers to join them. By means of contraction and sub-contraction, she established a bamboo and bamboo shoot based covering over 500 mu; and transformed and expanded the workshop to 3,000 m², thus forming a business model of “linking enterprises with production base and forest farmers.” This business model helped the Ailan’s business grow fast and more specialized. Bamboo shoot & bamboo processing and bamboo curtain manufacturing were divided. With the improvement of technologies, manufacturing of the colored bamboo curtained applied digital painting technique that made the products more competitive in the market and generated over three million yuan for the cooperative.

Xu Ailan now has become the chairperson of the Yong’an “Woman Entrepreneurs’ Association”. Though she is already in her fourties, she is always in a rush and full of energy. She often takes part in various expositions at home and abroad to get more information about the market. She introduces her experience to others so that they may also improve their life. Her town fellows often say that she is “a phoenix from a humble place.”

**Lessons drawn:**

• It is very important for entrepreneurs to make use of local resources to choose suitable projects for their business.

• How can one have a competitive edge over the other players in the market? The key is to find new markets and remain updated with new information. One must venture into new markets and create new products.

• The dynamics of keeping products in an advantageous position and promoting the development of the company comes from constant technological innovations.

### 3.3 Case Study 3

**Lao Zhang’s Farmhouse tour in Jingyuan County of Ningxia Autonomous Region**

Zhang Qiang was a new college graduate who majored in marketing. His hometown was in the Liupanshan Mountain. This was a quite remote place with inconvenient transport that was quite
Zhang Qiang’s family was quite poor and he would not be able to finish college without student loans and part-time jobs. After graduation, he was employed by a local company. He cherished the job very much and worked very hard, trying to learn as much as possible. After two years, he became the best and highest paid salesman in the company.

During the Spring Festival of 2008, Zhang Qiang went home and he found that great changes had taken place in his hometown. The government encouraged the development of local ecotourism and the Laolongtan Forest Area near his village become a famous tourist spot of Ningxia. In Laolongtan, the local community became better off because some people took advantage of their own hilly land and forestland to offer farmhouse tours for tourists. They sold local food and provided farmhouse accommodation, which turned out to be very popular. The change in the hometown inspired Zhang Qiang. He thought: “Indeed, I have earned some money in these years by working for my company, but this cannot completely change the life of myself and my family. Why don’t I start my own farmhouse with the money I have earned over the two years and the sales skills I have got? Starting my own business promises a brighter future than working for others.” He told his idea to his family and received much support. After the Spring Festival, he decorated his old farmhouse and invested over 10,000 yuan to purchase furniture and other necessary articles for his business. After a month’s preparation, his business started. He called his business “Lao Zhang’s” and put up a notice beside the highway near the entrance of the village.

Unexpectedly, his business was quite bleak and he had very few customers. Other farmhouses had been in business for quite a long time and had many stable customers. These customers preferred to go to familiar farmhouses, and other visitors saw his bleak situation and were reluctant to go into his farmhouse. He didn’t expect this and got very anxious. He was afraid to lose his savings and let his family down. After some time of anxiety and confusion, he calmed down and thought over why his business failed so far. He found out that there were two reasons. Firstly, he had no stable customers. Secondly, his business was not diversified enough and had no unique features. Having found out the problems, he took immediate actions and called at the tour agencies in the city, trying to persuade them to make his farmhouse a destination on their package tours. In the meantime, he bred chicken and rabbits in the hill of his family. Tourists could choose one from them to eat. In addition, Zhang Qiang bought wild herbs and mushroom from farmers, packaged them and sold them at a relatively higher price. With these efforts, Lao Zhang’s Farmhouse became more and more popular and many customers arrived. They spoke highly of Zhang’s business that was finally established.

In spite of this, Zhang was not satisfied. In 2009, he used what he earned to build several wooden cottages in the forest of his family and transformed it into a fully-equipped and agreeable guesthouses,
where tourists could enjoy the fresh air in the forest. This service was very popular with tourists and brought Zhang much profit. In 2010 his business got a profit of over 300,000 yuan. He became a star entrepreneur; he was received and praised by local leadership. Now Zhang Qiang has an ambitious plan. He wants to seize the opportunity of collective forest ownership reform and establish an integrated tourism enterprise which can offer services of farmhouse, forest tour and environmentally friendly experience.

**Lessons drawn:**

- Market research is indispensable before starting the business and is the first step to the road of success for an enterprise.
- Entrepreneurs must make constant analysis and judgment on the market changes and come up with new products and services to meet the needs of consumers.
- Entrepreneurs should make full use of their knowledge and experience when managing their business.
Chapter 4. Suggestions concerning the Business Model

4.1 Practical Business Model and Techniques

Business organizational model

In the ecological forestry, there are three kinds of business organizational models suitable for novice entrepreneurs and medium-and-small-scale enterprises.

- The first kind is constructed in the form of a company to deal with ecological forestry businesses. Entrepreneurs register according to the law a limited liability company or a joint business, and manage it according to the modern management style. With the model of “leading enterprises + bases + farmer”, the local forest farmers are organized in economic tree and fruit cultivation, under-forest cultivation, under-forest breeding and forest ecological forest tourism.

- The second type is constructed in the form of forestry specialized cooperative society to deal with ecological forestry businesses. Forestry specialized cooperative society is a business model in which the collective forestland is contracted by the household and forest farmers who are specialized in similar products or services unite according to their own willingness and work together on a democratic basis. The cooperative society has the identity of a juridical person and enjoys decision-making power in participating economic activities. The forestry specialized cooperative society is an important model for forest farmers and other entrepreneurs to work together after the collective forest ownership reform.

Supplemented reading:

Specialized cooperative society brings wealth to farmers

In March of 2010, after the collective forest ownership reform, the ownership of the forest was identified and the forestland was contracted by farmers. Longsheng Castanopsis Hystrix Fungus Limited Company of Pubei County, Qinzhou City, Guangxi Zhuang Autonomous Region, established the Pubei Longsheng Castanopsis Hystrix Fungus Specialized Cooperative Society, with the purpose of helping local farmers live a better life, promoting the development of under-forest cultivation, instructing farmers how to manage the castanopsis hystrix forests in a scientific way and improve the business model of castanopsis hystrix fungus. This model turned out to be very effective in making use of local resources and making profit in an environmentally friendly way.
After the reform, each farmer household has their own forest; however, the increasing market demand could not be met by a single household. Any single household was unable to manage a large-scale business. This problem restricted the development of the forestry industry. Considering the rules of market economy, the government of Pubei County organized the local forest farmers into Longsheng Castanopsis Hystrix Specialized Cooperative Society and lent much support in the form of financial capital and taxation exemption. In the meantime, in order to improve the quality of the society members, experts of forestry and agriculture were invited to the cooperative society to offer technical training on ecological management of the castanopsis hystrix forests and the castanopsis hystrix fungus to improve the yield. In addition, some members of the cooperative society learnt to integrate castanopsis hystrix forest management & protection, castanopsis hystrix fungus collection & processing and marketing & sales; they learnt much from this process and were able to play a leading role in the society, becoming skilled at techniques and management.

The cooperative society proposed the business mentality of “taking good care of the forest, nurturing the fungus and forest firmer to live a well-off life”. By integrating resources and production factors, the processes before, during and after the manufacturing was well connected to form a well-developed rural service system. This system could do what the government, the community, individual farmers and even leading companies could not do, and effectively made use of resources. There were already 328 members in the cooperative society.

In 2010, each member of the society earned 1,800 yuan more than before on average. During the season of harvest for castanopsis hystrix fungus, many businessmen came to Pubei County from all parts of the country. In 2010, the yield of castanopsis hystrix fungus reached 250,000 kg and a value of 120 million yuan. Thanks to the castanopsis hystrix fungus, over 1,300 households in the county earned over 10,000 yuan per year.

Under the leadership of the Pubei Longsheng Castanopsis Hystrix Fungus Specialized Cooperative Society, the under-forest Castanopsis Hystrix cultivation transformed from cultivation of produce to management of brand products. The cooperative society played an important role for farmers to develop production, increase the income and achieve industrialization.

• The third kind is constructed in the form of individuals or households. This kind of model can be represented by “farmer (household) + enterprise” or “farmer + base + enterprise”. In this way, farmers can cooperate with related companies or specialized cooperative society for economic
Suggestions concerning the Business Model
tree (fruit), under-forest cultivation, under-forest breeding and forest farmhouse tours with their contracted forestland and forest trees. They can learn techniques and managing experience from the company or the specialized cooperative society, and sell products to them according to the contracts.

Entrepreneurial experience and techniques

The management of ecological forestry enterprises has distinctive features of the industry. The survey and analysis of the manufacturing and management of enterprises in this field reveal the following experiences that might be useful for enterprises in this field.

Cooperative and centralized management

The ecological forestry enterprises are based on the effective exploitation of forestland and forest tree resources and most of them are specialized in forestry and agriculture. This kind of enterprise is usually characterized by heavy dependence on resources, low unit output and large investment. Forest farmers lack enough management skills. The forestland they get by contracting is only several mu or dozens of mu. Enterprises must integrate the forestland, trees and other resources, organize farmers and develop large-scale business. The cooperative and large-scale approach, in the form of “united households”, “joint stock association” and “company + base + farmer”, can increase the benefit.

A combination of short and long industrial cycle

The ecological forestry, due to its inherent attributes, usually demands large investment and takes a long time to get profit from cultivation and breeding. For example, the oil-tea camellia takes three years to bear fruits and seven years to produce benefit. Growers of ginseng of the Northeast China have to wait for as long as 15 to 20 years. Entrepreneurs are confronted with the problems of how to recover their capital and how to achieve short-term benefits to maintain normal operation of the company. One of the possible solutions is to develop under-forest economy and exploit multiple businesses so as to achieve short-term benefits. For example, in Fujian Province, solomon's seal, a kind of medicinal herb, was grown under the bamboo forest, which brought 500 to 1,000 yuan per mu every year. In this case, small investment led to quick return. Things of different growing speed can be cultivated together; the forestland should be utilized in an all-round and three-dimensional way so as to make full use of resources to increase the benefit of the enterprise.

Being technology-intensive instead of labour-intensive

Currently, the ecological forestry is still labour-intensive and needs to invest a lot of human resources. What’s more, as the industry needs different amounts of labour during different time of the year, most
workers are temporary. This seriously affects the economic benefit of the forestry company, as the cost of labour increases year by year. To solve this problem, we should keep an eye on the sources of human resources; in the meantime, we need to promote the application of new technologies and new equipment. Increasing production efficiency and unit output while reducing the cost will make the company more competitive.

4.2 Customer with High Environment Awareness and Their Demand

With the changes in environmental protection awareness and consumption mentality, in the future, there will a large group of consumers with keen environmental awareness and they will the major target consumers of the ecological forestry enterprises. Paying close attention to and developing this group of consumers is indispensable and vital to all entrepreneurs and enterprises in the ecological forestry industry.

Young consumers who pay close attention to and develop green and low-carbon consumption mentality

In the 21st century, with the changes in mentality, income and consumption orientation, green and pollution-free products, forest certified products and green travel are popular among young consumers and have become more and more recognized. Young consumers will play an increasingly important role in the market. Optimizing consumption structure, improving consumption environment and enhancing consumption quality are sure to promote market growth. It can be said that this consumption growth is a process in which people’s demand for low-carbon consumption promotes the growth of low-carbon economy and facilitate the transformation of the mode of economic growth.

Biodiversity and animal protection

As people have an increasingly keen awareness of environmental protection, now in China more and more people have joined various organizations for biodiversity and animal protection; environmental protection organizations, governmental or nongovernmental, formal or informal organizations have increased significantly. The members of these organizations are loyal consumers of green, environmentally friendly products from ecological forestry. What’s more, these people can have an effect on others and the consumers of ecological forestry products grow even larger.
**Biological medicine and health products**

Biological medicine and health products manufacturing are branches of ecological industry; in the meantime, these two branches are buyers of ecological forestry products. The consumers of biological medicine and health products, for entrepreneurs and enterprises in the ecological forestry, include not only the manufacturers and other relevant enterprises of biological medicine and health products, but also the final consumers of biological medicine and health products. Our biological medicine industry is on the threshold of large-scale industrialization. During January and May of 2009, the biological medicine achieved an avenue of 30.874 billion yuan, 2.138 million yuan more than the previous year; the export value reached 4.104 billion yuan, 39.69% higher than the counterpart period in the year of 2008. The biological medicine accounted for 11.5 of the medicine industry. With the develop of biological medicine, there emerged a lot of large-scale bases for cultivating and processing Chinese herb medicine, such as the isatis root cultivation base in Yong’an of Fujian Province and the construction of “the capital of medicine” of Benxi of Liaoning Province. We can see that the development of biological medicine helps the forest farmers to live a richer life.

**Environmental protection and sustainable development**

Since the society is increasingly aware of the importance of environmental protection and relevant laws have been established, more and more enterprises attach importance to environmental protection and sustainable development in the enterprise management. They regard environmental protection not only as a social responsibility, but also as a way to achieve sustainable development for the enterprises. For example, some enterprises adopt new technologies to improve their benefit and obtain subsidy and support from the government and to win a better reputation for the enterprises. It can be predicted that in the future more and more companies will attach importance to environmental protection and sustainable development not only during internal enterprise management but also on the supply chain and value chain.

### 4.3 Marketing Strategies

**Orient products according to market demands**

The ecological forestry involves various kinds of products and services. For novice, small enterprises, some projects in the industry are not accessible. It is very important to find the right niche for the products and services in the market and approach the right target consumer group for marketing.

*In terms of the types of ecological products*
The fields that are suitable for novice enterprises include economic forest (fruit) cultivation, under-forest cultivation and breeding, bamboo and rattan processing, and processing of some types of timber and board. Economic forest (fruit) cultivation, bamboo and rattan processing and timber & board processing are relatively mature sectors in the ecological forestry industry and therefore there is fierce competition among them. Under-forest cultivation and breeding are newly emerging fields and are vigorously supported by the government. Cultivating ginseng, Chinese herbs and breeding ecological chicken are good protects of easy access, few risks and bright market outlook.

In terms of the ecological forestry services

Nowadays, information and technology greatly promote the development of ecological service and products. Network technology brings the service to the forest. Practical information about the market and the industry as well the application of new technologies have become indispensable for the manufacturing and management of forest farmers and others involved in the industry. Technology service, training and information platform of forestry are suitable for entrepreneurs.

In terms of the trend of the ecological forestry products

With the development of the market, consumers have an increasingly higher demand for forest ecological tourism, flowers and seedlings. The development of biological medicine also gives under-forest cultivation a brighter outlook. Domestication and reproduction of wildlife provide unique advantages of resources for the ecological forestry. Entrepreneurs should make use of the trend to develop the enterprises.

Effective marketing strategies of ecological forestry products

By means of the Internet

Promoting forestry products with the Internet is efficient and money-saving. For example, blogs can be established (in sina.com or weibo. com) to provide constant information and pictures about products; electronic commerce services should be provided in the form of an online shop at taobao.com; also, information can be displayed on renren. com and QQ to reach more people.

By means of expositions

Specialized expositions are one of the most effective means to display and promote agriculture and forestry products. Attending various expositions, such as China Forestry Product Exposition, China Import and Export Commodities Fair in Guangzhou and some international ecological forestry product exposition, will play an important role in finding new markets.
Suggestions concerning the Business Model

**By means of forestry associations**

Forestry associations are effective for obtaining information about forestry product and finding new markets. For now, there are plenty of forestry associations, such as “Forestry Industry Association”, “Forestry Product Industry Association” and “Bamboo and Rattan Association”. What’s more, there are some local associations and entrepreneurial supporting associations (such as the Woman Entrepreneurial Association). The associations organize regular activities for the members so that they can communicate with each other and establish win-win relationships.

**By means of sales fields**

Lately, exclusive shops have become a means to market high-end agricultural and forestry brands. This can directly increase the added value of products. Admittedly, this can also increase of the cost of the enterprise. For example, the Lycium chinense “Bairuiyuan”, put forward the concepts of health cultivation by Lycium chinense and cultural plaza. In a short period of five years, its annual output rose from millions of yuan to over 100 million yuan.

**4.4 Demand of Human Resources and Solutions**

The development of ecological forestry is impossible without the support of human resources. As a recently emergent industry, ecological forestry is still labour-intensive and in the meantime depends heavily on the development and application of new technologies. Entrepreneurs are supposed to consider the need of manufacturing and processing of forestry products for human resources and meet the need with the following means.

**Enterprises should have surplus labour in the countryside which should be made full use of**

Some fields of ecological forestry, such as tree growing, under-forest cultivation and breeding, processing of forest products, are generally labour-intensive and need lots of labour. According to the survey, the workers needed for every mu in the field of economic fruit cultivation reach 67. Entrepreneurs should make full use of the surplus labour in the countryside after the reform of collective forestry ownership and the labour returning from the city, and organize them in the form of cooperative society, short-time employment or technological training.

**Enterprises can train their employees so that they play a leading role in forestry technology.**

Technology lends plenty of support to the development of the ecological industry. Entrepreneurs must make the application of new technologies the core of forestry product development. In China, there is an established system of special forestry technological expert at the provincial, municipal
(district) and county level. Some forest farmers should be trained to acquire both new technologies and latest concepts so that they can play a leading role in the enterprise. In 2010, 2,278 special forestry technical experts were sent to work among 570,000 farmers. In 2011, the State Forestry Administration introduced the training technologies of International Labour Organization to support the “forest farmers entrepreneurial training” for collective forest ownership reform in Yong’an and Benxi of Fujian Province. Forest farmers and others involved in the forestry should acquire technologies, apply them into practice, be equipped with management skills and know how to run an enterprise. Learning technologies and management skills are the quick approach to improve the core competitiveness of the venturing entrepreneurs in the ecological forestry.

Enterprises can find young talents among forestry university graduates and secondary technical school graduates.

Now in China there are over 700 universities, colleges and vocational colleges, including Beijing Forestry University, Northeast Forestry University, Northwest Agriculture and Forestry University, Zhejiang Agriculture and Forestry University, Nanjing Forestry University, Liaoning Forestry Vocational College, involving over 300,000 students. They are the backup labour force for ecological forestry. Helping them to become employed or start their career in the countryside will not only solve the current employment problems for college graduates but also introduce the latest technologies and concepts into the grass-root level, thus resulting in a win-win effect for personal development of forestry college graduates and for of technology improvement of ecological forestry.

Also, enterprises can seek cooperation with research institutions, universities and social organizations, by various means such as experimental bases and job training bases.

This talent co-nurturing mechanism is a long-term strategy for enterprises for nurturing talents with forestry resources. For example, around the Yangling National Agricultural High-Tech Demonstration Park in Shanxi Province, there are some forestry farmers who adopt this kind of strategy.

### 4.5 Effective Cooperative Relationship

As the saying goes, an able person needs the help of three other men. For venturing entrepreneurs in the ecological forestry, finding partners and setting up resource networks are crucial. Entrepreneurs must have a smooth, effective network with production chain, neighbouring areas, communities, government, and other organizations to share information and obtain resources. In the meantime, enterprises should forge long-lasting and effective partnership according to a win-win principle in the following fields.
• Supporting institutions for support, capital and technologies: government administrative organs, administrative organs for the forestry, credit section of the bank, administrative section of the special fund for ecological forestry, relevant supporting organs for venturing enterprise, organs of forestry technologies and forest fire prevention;

• Partners of production chain: enterprises involved in cultivation of forest tree seedlings, enterprises involved in forest tree cultivation and animal breeding, and deep processing of forest products, community autonomous organizations (including villagers committees) and residents in the neighbouring areas;

• Human resources and technologies development: relevant universities, colleges and secondary technical school, research institutions, agriculture machinery popularization station, agriculture and forestry technology training organization, social associations;

• Various groups with the potential of cooperation: wildlife protection organization, environment protection group and tourism agencies.
Appendix 1: Supporting Organizations

Nowadays the major driving force of the development of ecological development is the forestry administration organs of the government at various levels; they play an important role in the implementation of relevant laws, regulations and policies. Besides, relevant industry associations play an important role in developing ecological forestry. On one hand, they vigorously urge the government to issue policies and standards that can promote the development of ecological forestry. On the other hand, they provide information, technology consultation and training services. Some technology supporting organizations also provide enterprises with technology and consultation services. Some financial organizations provide forestry enterprises with financial services. In addition, various NGOs also organize various activities to promote the development of ecological forestry.

<table>
<thead>
<tr>
<th>Name of the institution</th>
<th>Scope of business</th>
<th>Relevant programmes</th>
<th>Website</th>
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</table>
| China Forestry Industry Association | 1. The association conducts research and collects information about the development of forestry. It communicates the demands of its members to the government and conveys the will of the government to its members.  
2. The association implements and supervises relevant industry rules, establishes self-regulating rules within the industry, coordinates in price arguments within the industry and promotes fair play between forestry enterprises.  
3. The association, with the permission and authorization of the government, collects, compiles statistics, analyzes and issues information about forestry and takes advantage of its wide contact to provide information about economy and market at home and abroad.  
4. The association offer suggestions to the government about industry plans, economic policies and relevant laws & regulations.  
5. The association coordinates within the forestry and between forestry and other industries for economic and technological cooperation, promotes horizontal economic partnership between enterprises, facilitates technological advancement, and helps enterprises to improve management.  
6. The association unites relevant enterprises, units and NGOs at home and abroad for economic and technological communication and cooperation.  
7. The association organizes various charity activities to promote the development of forestry.  
8. The association conducts various businesses authorized by the government. | 1. The association issues the journal China Forestry.  
| **China Society of Forestry** | 1. The society organizes various academic exchange activities to vitalize academic research and to promote the development of forestry research.  
2. The society makes use of the think tank and offers suggestions for developing forestry.  
3. The society issues journals and publishes books of forestry technologies.  
4. The society popularizes forestry knowledge and transmits scientific skills.  
5. The society promotes communication between China and other countries.  
6. The society awards excellent people working on forestry research and technology and recommends talented people.  
8. The association organizes further education to help link the government with forestry technicians and to develop forestry technologies. |
| China Green Carbon Foundation | The foundation is a platform for enterprises and the public of store carbon credit and display the social responsible image of donors by means of forestry measures. The platform do not only help enterprise to cut down on carbon dioxide emission voluntarily to improve their social image and to facilitate their long-term development but also increase the forest area, slow global warming and ensure the national ecological security. |

| **China Society of Forestry** | 1. The association organizes forestry academic exchange programmes.  
2. The association implements technology popularization activities.  
3. The association organizes international forestry exchange programmes.  
4. The association implements education and training programmes of forestry technologies. |
| **China Green Carbon Foundation** | 1. The foundation organizes charity activities concerning climate change.  
2. The foundation afforests, manages and protects forests to cut down on carbon dioxide emission.  
3. The foundation promotes the protection of forest, wetland and biodiversity.  
4. The foundation improves the life for farmers within its scope.  
5. The foundation popularizes knowledge about climate change.  
7. The foundation supports academic research and training on decreasing carbon dioxide emission.  
8. The foundation formulates standards about carbon sink production, calculation, supervision, assessment and ecological benefit compensation.  
9. The foundation promotes international exchange and cooperation of carbon sink. |

| **http://www.csf.org.cn/** | **http://www.thjj.org/about.html** |
### Supporting Organizations

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<tr>
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<th>Website</th>
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<tr>
<td><strong>China Wildlife Conservation Association (CWCA)</strong></td>
<td>The association promotes the development of wildlife protection in China and conserves rare and endangered animals. Its major tasks are urging its members to implement the national guidelines and laws of animal protection, organizing advocacy and education programmes to save and protect endangered wildlife, organizing scientific research and academic exchange, providing technological consultation concerning managing wildlife resources, collecting funds for protecting wildlife and in the meantime keeping contact with wildlife protection groups in other countries to take part in relevant international cooperation and exchange.</td>
<td><a href="http://www.cwca.org.cn/">http://www.cwca.org.cn/</a></td>
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| **China Flower Industry Association**              | 1. The association organizes surveys of the flower industry; it proposes suggestions concerning industry development strategy, plan and policies and lends support in their implementation.  
2. The association researches the trend of the flower industry at home and abroad, collects, analyzes and issues information about flowers.  
3. The association takes part in the formulation of national laws, policies and standards concerning flowers.  
4. The association, on behalf of the state, takes part in international flower industry association, organizes international flower expositions and academic exchanges, and organizes national flower expositions and fairs, information conferences and seminars.  
5. The association helps the government and other institutions in flower resource survey and research programmes.  
6. The association organizes trainings on flowers.  
7. The association popularizes knowledge about flower and offers guidance on flower consumption. | [http://hhxh.forestry.gov.cn](http://hhxh.forestry.gov.cn) |
| **China Green Foundation**                         | The foundation promotes afforestation, keeps ecological equilibrium, promotes harmonious development of human beings and the nature, collects, manages and uses green fund, meet the reasonable demands of donors, mobilizes the society to take part in forest ecological protection and construction and enhance international exchange and cooperation.  
| **International Bamboo and Rattan Network Centre** | 1. The centre establishes national key laboratories about bamboo & rattan biological technology and their features and application, and sets up gene bank for the bamboo and rattan in the world.  
2. The centre organizes international cooperation and exchange on bamboo & rattan resource protection, their features, exploitation and protection, and establishes an open international bamboo & rattan research system.  
3. The centre organizes a post-graduate institution with China Academy of Forestry Sciences to nurture talents in the forestry industry.  
4. The centre issues and implements international bamboo & rattan research strategies for all the members of International Centre for Bamboo And Rattan Association (ICBAR), and develops efficient technologies for comprehensive exploitation of bamboo and rattan.  
5. The centre establish modern information networks for international bamboo and rattan to provide relevant consultation, research and assessment services.  
6. The centre provides international training, academic research and advocacy. | www.forestry.gov.cn |
| **China Wildlife Conservation Association (CWCA)** | The association promotes the development of wildlife protection in China and conserves rare and endangered animals. Its major tasks are urging its members to implement the national guidelines and laws of animal protection, organizing advocacy and education programmes to save and protect endangered wildlife, organizing scientific research and academic exchange, providing technological consultation concerning managing wildlife resources, collecting funds for protecting wildlife and in the meantime keeping contact with wildlife protection groups in other countries to take part in relevant international cooperation and exchange. | www.cwca.org.cn |
| **World Wide Fund For Nature (Beijing Agency)** | The Wildlife Fund for Nature (WWF) is a world-wide prestigious and one of the biggest non-governmental environmental protection groups in the world. It attempts to protect biodiversity. It intends to ensure the sustainable use of renewable natural resources; it promotes to decrease pollution and cut down on unnecessary consumption. | The fund has established eight agencies in China. By 2009, the WWF has funded over 100 major programmes in China, involving over 300 billion RMB. These programmes include protection of protection of panda habitats, species protection, protection and sustainable exploitation of river ecosystem and sea ecosystem, forest protection and sustainable exploitation, education of sustainable development, climate change, resource and wildlife trade, scientific development and international policy. | www. wwfchina. org |
| **Forest Stewardship Council (FSC forest certification)** | Forest Stewardship Council (FSC) is a system made up of involved parties with the purpose of promoting responsible forest management in the world. It offers standard formulation, brand guarantee, certification service and market access services for enterprises interested in responsible forest management. It also organizes Forest Management (FM) and Forest Chain of Custody (FCC) certification. Enterprises that are authorized can use the FSC mark. | It is an organization of assessment, authorization and supervision. It provides guidance and service for formulating national or regional standards. It improves national forest certification and forest sustainable development capability, by means of training and model popularization activities. The tasks of FSC are to promote forest business programmes that are environmentally friendly, socially beneficial and economically feasible, by means of market mechanism. The environmentally friendly forest business exploits the timber and other non-timber forest products while preserving biodiversity, productive power and ecological processes. | http:// www. fscchina. org |

**Research institutions**

<p>| Ecological Engineering Consultant Centre of Forestry Industry Planning and Design Institute of State Administration of Forestry | Preliminary planning of forest fire prevention, nature reserves, forestry infrastructure construction, and seedling bases; design of forest park, wetland park and botanical parks; supervision of forestry, ecology, environment, and agricultural products concerning desertification of land, wetland resources and wildlife; survey, inspection and assessment of forest resources; survey and assessment of forest disaster loss; post-assessment of forestry, ecology, environment and agricultural projects; survey and assessment of forestry carbon sink; supervision of projects forestry, ecological, environmental and agricultural projects that concern natural forest protection, returning farming land to forests, construction of forest parks, construction of nature reserves, construction of seedling bases, afforestation in industry parks, environment protection and agriculture industry garden. | The centre is responsible for the survey, plan and design of foreign-funded afforestation projects. The centre is responsible for most large-scale forestry and ecology surveys, plan and design. The centre is responsible for the survey, plan and design of forestry, ecology and agriculture overall projects at the provincial level. The centre takes part in forestry and ecological research projects. | http:// shengtai gongcheng .blog. 163.com/ |</p>
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<th><strong>Financial and service institutes</strong></th>
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<tr>
<td><strong>Website of China forestry information</strong></td>
<td>The website releases forestry literature, books, scientific reports, doctoral dissertation and master thesis, laws and regulations, outcome of forestry technology, underway projects, forestry patents, forestry standards, practical technologies and latest development of forestry science and technologies.</td>
</tr>
<tr>
<td><strong>Website of China Forestry</strong></td>
<td>It is the official website of China Forestry Industry Association. It reports the latest news in the forestry industry, relevant policies, forestry information, forestry certification and quality assessment.</td>
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<tr>
<td><strong>China Agriculture Bank</strong></td>
<td>With its wide-range services, large-scale market network and excellent information technology platform, it provides enterprises and individuals with banking service.</td>
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| **Eco-Forestry and Forests Products** | The institute has three second-level discipline clusters, namely ecology, forestry protection and wildlife protection. It has two national key laboratory of State Administration of Forestry (forestry ecological environment and forest protection), five research stations of forest ecological orientation, a plant specimen repository, animal specimen repository, forest insect specimen repository, forest pest and eelworm specimen repository of China Academy of Forestry. Also, it has nine national research and management centres, including National Bird Banding Centre, National Wildlife Research and Development Centre of State Administration of Forestry, Centre of Long-term Orientation and Management of Land Ecological System, Carbon Sink Calculation and Research Centre of State Administration of Forestry, Environment Impact Assessment Centre. The institute held 73 programmes sponsored by national natural science fund, 8 preliminary undertakings sponsored by Ministry of Science and Technology, 1 key charity research programmes and 11 others programmes sponsored by Ministry of Science and Technology, 2 charity forestry research key projects sponsored the Ministry of Science and Technology. |

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<td><strong>Website of China forestry information</strong></td>
<td>The website formulates the standards and rules of forestry statistics collection and database establishment; it also formulates the classification index system of statistics and sets up databases. It has succeeded in establishing constructing database of different type structure, management of different types of online database and full-text retrieval. It has a forestry science and technology information database of its own intellectual property right.</td>
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<tr>
<td><strong>Website of China Forestry</strong></td>
<td>It issues several annual reports and journals, including China Forestry Industry, China Forestry Industry Policy Guide, China Forestry Development Report.</td>
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<tr>
<td><strong>China Agriculture Bank</strong></td>
<td>RMB businesses: get public deposit; provide short-term, medium-term and long-term loan; settle up accounts at home and abroad; provide bill discount; sell financial bond; serve as agency of issuing, cashing and sales of government bond; buy and sell government bond; do inter-bank borrowing; trade and trade as agency foreign exchange; letter of credit service and guaranteeing service; act as agency for payment and insurance. Other business concerning foreign exchange.</td>
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http://www.ifeep.cn/
http://www.lknet.ac.cn/
http://www.chinalycy.com
http://www.abchina.com.cn/
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<tr>
<th>Supporting Organizations</th>
<th>Description</th>
<th>Additional Information</th>
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<tr>
<td>Small Fund of China Wildlife Protection</td>
<td>It is subordinated to WWF and specializes in the protection of rare and endangered animals that previously received little attention so as to make sure that the fields in the biodiversity get their due attention.</td>
<td>The Fund is mainly open to postgraduate students, scholars, nature reserves and small-scale environmental organization. By June of 2009, the fund has provided fun for 100 projects of at least 65 species in 24 provinces or municipalities.</td>
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<tr>
<td>Southern Forestry Property Right Exchange</td>
<td>The exchange formulates the master plan and the medium-and-long-term plan for the provincial forestry ownership trade market construction and puts the plan into effect; it integrates, constructs, operates and manages the provincial forestry ownership exchange market to market reasonable, normative and unified; it offers services of transferring forest ownership, forestry enterprise stock right, forestry technology outcome (project) and forest products in large quantities. It also provides services of secured loan by forest ownership, forest insurance, forest resource capital assessment, consultation of forest laws, regulations and policies, exchange of forest carbon sink and carbon emission trade. It has a trade platform (similar the one offered by Taobao and Alibaba) on which people can open a store free of charge or trade forest products and relevant services.</td>
<td>It is responsible for the integration, construction, operation and management of provincial forest ownership trade market, regulates and guides services of transferring forest ownership, forestry enterprise share right, forestry technology outcome (project) and forest products in large quantities. It offers services of secured loan of forest ownership, forest insurance, forest resource capital assessment, and consultation service concerning forestry laws, regulations and policies. <a href="http://www.smforestry.com">http://www.smforestry.com</a></td>
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