

## **Project Progress Report (No.1)**

**Project Title:** Poverty Reduction and Resource Protection in a Guangxi Province Minority Area

**Project Number:** No KED 20066066

**Report Period:** January – June 2007

Supported by KED/EED, the project titled Vetiver and Agroforestry Technology for Rural Poverty Alleviation and Natural Resource Protection in Minority Mountains of Guangxi Province of China has launched. The project aims at helping local farmers develop economic trees for 48700 seedlings and 40 mini-irrigation systems. Meanwhile, vetiver system and agroforestry technology will be introduced and over 3 million vetiver tillers will be planted in order to conserve nature resources and provide farmers with multiple products and materials. Besides, various training courses will be organized and different publications will be produced and widely distributed to extend the project.

### **1. The organization and mobilization**

On 4 January 2007, a group from China Vetiver Network went to the project site to start the project. They were welcomed by local authorities, communities, and the governments. At first, they visited the Agriculture Environmental Monitoring Station of Guilin City. During the meeting, China Vetiver Network introduced the process of the project application and the approved project components, met the directors of the Agricultural Bureau of Guilin City.

On 6 January 2007 a team consisting of China Vetiver Network and the Agriculture Environmental Monitoring Station went to Longshen County, where they met the directors of Agricultural Bureau of Longshen County. Besides, directors from related technical stations of the county also participated in the meeting. The Director of the Agriculture Bureau Mr. Wei introduced general information on the county and the development plan of the county. He said that the county is situated at the border area covered by mountains. The traffic problem often restricts economy development. In the afternoon all of the participants went to Sishui Township where they investigated present land use patterns, talked to farmers and governmental officials.

Later on 7 January 2007, the team visited a Zaomi pear garden that was established by the local government in 2002 in a nearby Piaoli Township. It covered 1122 Mu (about 74 hectares). It produced high profit for 4000-5000Yuan/Mu/yr (about US\$7692-9615/hactor/yr). Through few years efforts, farmers grasped basic technology and the garden is enlarged from a valley plain to slope land. Now farmers established their own nursery to cultivate tree seedlings.

During the visit scientists, government officials, villager leaders, and farmers discussed the project components. They all expressed high enthusiasm in the implementation of the project.

Originally, farmers there plant rice on the small pieces of valley plain, and soybean or

sweet potato, or corn on the upland. Following economic reform, farmers became interested in economic tree production when they got information from nearby villages. Recently, they planted some trees in small scale, but caused by lack of technology some of them could not grow up or could not produce high profit. For example, some orange trees suffered from disease and have to be cleaned. Some pear trees could not bear fruit caused by wrong variety which was not suitable to local climate. All of these influenced farmer's activity in further development.

On the other hand, farmers realized the importance of technical trainings that forms one of our most essential components of our project. Some officials complained that farmers in some area are difficult to learn and accept new technology. They just wish to get bumper harvest without inputting big labor or technology. It is not easy to teach farmers to grasp technology or to accept new technology, because the farmers have less education, while the technical training has been very weak particularly in the recent years since national economy reform.

Through discussion and field visitations most farmers and village leaders do not hesitate with planting Loquat because Loquat is easy to cultivate and fruit ripens just at the tourism season. On the contrary, some farmers are not interested in planting pear trees because the Fenshui pear trees (one variety of pear trees) planted in their village often has second bloom that influenced production. They wish to plant waxberry because it is easy to cultivate.

At the end of the visit agreement was signed between cooperators. The project got multiple supports from local cooperators, from Guilin City to Longshen County, the Township, and the villages. During one week visit, over 10 leaders from different authorities involved in the field visit and discussions. Many farmers were visited at their families or in the field. The Director of the Longshen County Agricultural Bureau Mr. Wei Zhikai and the Director of Sishui Township Government Mr. Lu Anyang acted as the team leader for the whole visitation.

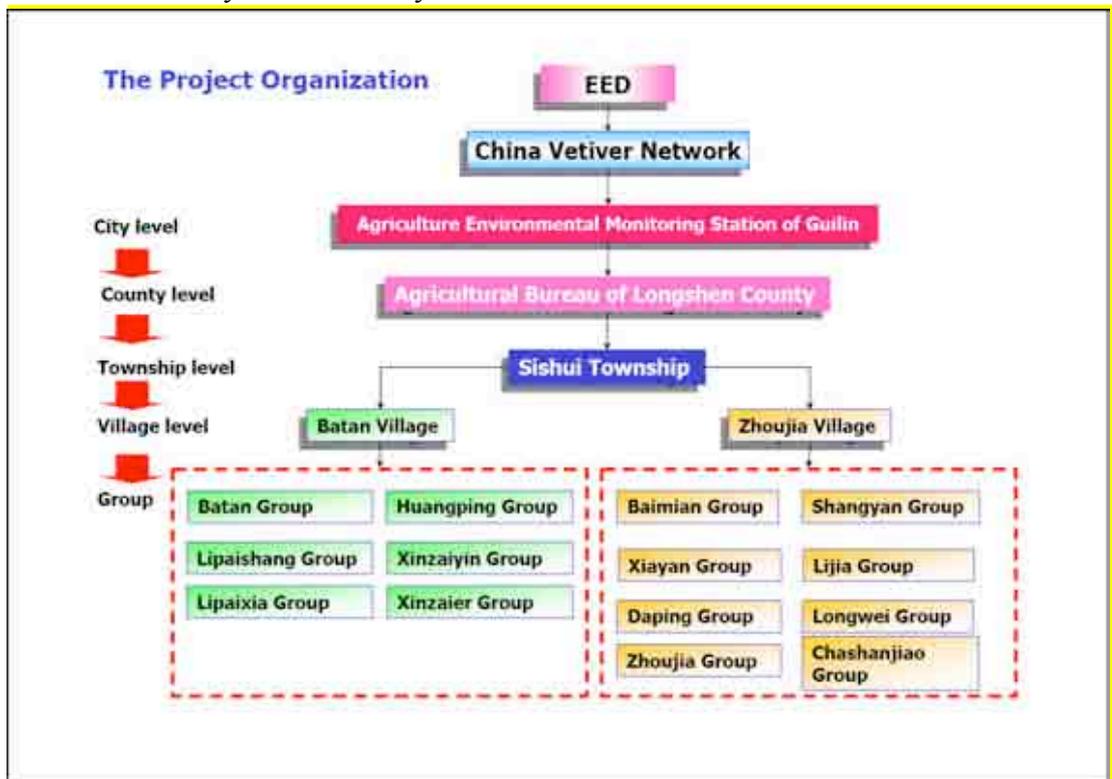
For best organization, mobilization and implementation, it was decided that Prof. Mo Shihua from Agriculture Environmental Monitoring Station of Guilin City and Mr. Zhang Xinsheng, Deputy Director of the station, would be responsible for the project implementation and monitoring. They would frequently go the project site to deal with the routine work, in cooperation with county, township government, and two villages officials.

A little later the following work were finished:

- A) The township Government prepared an official Red Head Document to announce the project and to request all related leaders to actively participate in the project. A Project Leading Group was organized (see attachment No.1).
- B) The Implementation Group responsible for the village organization, implementation, and monitoring was established in the two villages respectively (see attachment No. 2 and No.3). All of the Groups contained women members.
- C) Mr. Jiang Deming from County Agriculture Bureau was responsible for the project, including tree seedling allocation and management.
- D) Mr. Ying Qiyou from Township Government People's Congress was responsible for routine guidance.
- E) Mr. Biweijun from Township Agriculture Extension Center was appointed for technology service.

- F) Mr. Qing Wusheng from County Agriculture Bureau was responsible for Zhou Jia Village project management.
- G) Mr. Shi Xianda from County Agriculture Carder School was responsible for Ba Tai Village project management.

Prof. Mo Sihua from Guilin Agriculture Environment Monitoring Station will be specially responsible to the project implementation. Mr. Mo participated in the World Bank project in 1989 titled Red Soil Development Project that involved in 5 provinces in southern China and lasted over 10 years and firstly introduced vetiver to China.



**Fig. 1 The project organization**

## 2. The planting of economic trees

Through the organization, most of the officials and villagers understood the project goals and main components. After the organization was finished comprehensive mobilization was carried out. Two Leading Group meetings were held to discuss the details of project mobilization and implementation. Then through field or family visitation and the organization of small meetings all farmers were encouraged to participate in the project. Almost all of the families wish to participate in the project. By discussion and selection totaling 157 families were selected.

During visitation and discussion, farmers suggested to adjust tree species from original 4 species to 5 species, i.e. one species of waxberry was selected. The planting area of peach and plum has decreased. The main reason for the adjustment was that waxberry has little disease and is easy to cultivate, while farmers suffered from the orange trees in the recent years, which was completely damaged caused by disease.

At the same time Tree Planting Regulation was prepared by Longshen County Agriculture Bureau and distributed to all of the project farmers.

On 5-6 February 2007, 7 groups consisting of 32 officials from the city, county, township, and the villages went to the field to investigate the land preparation and the holes to see if the size of planting hole met with the regulation of 1m x 1m square with 80 cm deep. It was required that totaling 66 Mu of land to be re-prepared.

On 8-9 February 2007, the fruit tree expert Mr. Liu Shichang presented lectures on Tree Planting in two villages respectively accompanied by field demonstration. Totaling 62 families with 98 persons in Batan Village and 108 families with 143 persons in Zhoujia Village attended the training courses respectively.

On 9-11 February 2007, all of the tree seedlings were distributed to farmers. Up to 15 February 2007 the whole tree planting was finished. Altogether 26552 economic trees were planted (Table 1).

**Table 1. Comparisons of original plan and the actual completed tasks**

Species	Original plan			Completed		
	Area (Mu)	Sedlings per Mu	Total seedlings	Area (Mu)	Seedlings per Mu	Total seedlings
Peach & plum	100	50	5000	7.4	50	368
Pear	160	76	12160	103.7	80	8296
Loquat	180	53	9540	272.5	55	14988
Waxberry	0		0	58	50	2900
Total	440		26700	441.6		26552

15 Mu = 1 ha

To ensue the planting quality, a group investigated the two villages on 6-7 March and found that some problems existed:

- Some roots of tree seedlings were covered by soil too thin led to some roots explored to the air.
- Some seedling should be further pruned against water evaporation.

The group required related farmers to solve this problem immediately to guarantee the tree survival. Up to mid March 95% of the tree seedlings started to grow. Later, routine field management including fertilizer and insecticides application was followed.

### 3. Vetive grass planting

During the first visit in January 2007, scientists from China Vetiver Network briefly introduced the characteristics and application of vetiver grass. The government officials, village leaders and master farmers felt quite fresh because they never heard of vetiver. It generates great interests among them. For example, they said that some farmers raise fish around their family houses and the grass can be used as fish food. Besides, there are certain numbers of cattle and goat in the project villages, while vetiver can be used as green fodder.

When we introduced the application of vetiver for infrastructure protection, local officials

have high interests. They told us that the road construction has been carried out almost every year and several village roads are in construction that usually caused serious erosion problem, because there are no any conservation measures caused by lacking of funds. About 80% of roads were constructed by stone and sands suffering from erosion. They hope to use vetiver to protect these road slopes. In addition, vetiver technology can be used in many nearby area and has great potential.

In this area, the lowest temperature was  $-4.8^{\circ}\text{C}$ , the accumulated temperature of  $\geq 10^{\circ}\text{C}$  is 5650.5, the average altitude is 700 m above sea level, and the mean annual rainfall is 1546 mm ranging from 1500 to 2400 caused by different altitude and landform. Most of the rainfall accumulated in from April to July. In September there is usually Autumn Drought that influences crop production. All of these background factors are suitable for vetiver grass growth, while vetiver grass can play important role in water erosion control and helping ground water recharge to protect drought.

About 90% of the land in the project area covered by mountains, while  $>15^{\circ}$  slope accounts for 87.2%. Many of them  $>30^{\circ}$ . As a result once the soil was disturbed erosion should be very serious. Vetiver can play an important role in erosion control.

Talking about the vetiver handicraft, women have much interests because it can help them grasp a new technology and to generate profit using spare time. However, because there is no vetiver before in the mountains they did not know how to use vetiver to produce handicraft. Through discussion it is proposed that three Thai technicians to be invited to the project site to teach woman farmers, but it needs extra funding, since Thailand did excellent job under the support by the King and the Princess.

Since the comprehensive training has not organized people still know very little about vetiver technology. It needs time for them to understand and accept the technology. In the past, most farmers are accustomed to cleaning weeds while never heard of planting grass.

On 10-11 March trucks with vetiver seedling arrived at the villages. Prof. Wang and Dr. Zhao from China Vetiver Network demonstrated vetiver planting technology to local people hand by hand. After that all of the vetiver planting materials totaling 1500000 tillers were distributed and planted in few days. On 22-24 March the officials investigated the planting quality.

#### **4. Women participation**

During the whole visitation we emphasized the importance of women participation, not only involving in the implementation but also the design. The Vice Director of the Township Government and directors from the villages all participated in the process and expressed their high enthusiasm in implementing the project. Besides, they raised questions concerning project components. The most worry for them was the pear tree planting. Because the *Fenshui Pear* planted few year ago did not produce high profit, the farmers simply think all kinds of pear trees may not suitable in their villages. To solve this problem technician explained that the pear tree has many varieties. They have different characteristics. Some varieties may be suitable to the local climate.

#### **5. The preparation for the systematical training and irrigation system**

The main tasks for the following season will be systematical training and irrigation system establishment. Through visits local information on economic trees were collected from Guilin city, to Longshen County and the township. The multiple training and extension materials are in preparation. Now the booklets *Vetiver Grass: The Hedge against Erosion* was translated from English into Chinese by Prof. Xiong Guoyan in Guangdong province and *Loquat Cultivation* is in edition process by Prof. Lu Shengluan in Jiangxi Province respectively. The first issue of Vetiver Newsletter was produced and distributed in both project area and outside the area. The newsletter introduced the function of vetiver grass, the 4<sup>th</sup> International conference on vetiver, and an announcement of the project.

During the visits the classrooms were selected. Besides, Agriculture Environmental Monitoring Station of Guilin City has nominated local trainers for specific training titles. The time for the systematical training was tentatively arranged in late September 2007.

Regarding to the irrigation system, field investigation will be conducted to select locations for the water ponds. The design will be prepared based on the local landform.

## **6. Conclusion**

Through joint effort from the multiple institutions, the project entered an excellent initiation and obtained a good progress, although we met many difficulties. For example, we got the first fund on 24 Jan. 2007, but it was the Spring Festival on 18 Fe. 2007. We had to finish tree planting in just 20 days, otherwise, the planting had to be delayed for one year. The time was extremely tight. To solve this problem, China Vetiver network traveled to the project site just after the New Year with their own money, while the local institutions also started the work with their fund in order to guarantee tree seedlings could be bought, transported, and planted before Spring Festival. Now both economic trees and vetiver grow well (see pictures below). The following work will certainly be started and completed on time.

(attachments in pdf)



Group discussion at Environmental Station



Observe pear tree at Batai Village



Meeting at the County Agri. Bureau



Visiting farmers family



Investigate arbutus tree



The woman Director discussing with farmers



Investigate pear seedlings



Discussion in the Zhoujia village



Discussion with Village Group



Discussion with farmers



Talking to farmers



Children welcome the project team



Tree seedlings shipped to the township



Women very interested in economic trees



Man also very happy



Women are checking seedling quality and quantity



Tree seedling distribution in the village group



Allocation of tree seedlings in the village



Vetiver seedling shipped to the township



Demonstration how to plant vetiver to village leaders



Vetiver grass to be distributed



The minority woman learns to plant vetiver



Vetiver sent to village group



Newly planted vetiver at the edge of the terrace



Observe vetiver growth



Discussion in the field



Vetiver protected fruit trees in just two months



Using vetiver to protect fish pond



Routine management



Young vetiver stopped slope slides  
(soil below the vetiver hedge was slide)