

## Project Progress Report (No.4)

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

**Project Number:** No KED 20066066/NK KED20076042

**Report Period:** July – December 2008

During this period the major work done was to construct small water pond, manage economic trees and vetiver grass, and to continue producing vetiver handicraft. To check, monitor, and promote the project implementation several investigations or meetings were organized on 2 July, 21 July, 7 August, 22 October, 17-21 November, and 9 December 2008 respectively.

### **1. The progress in project implementation**

#### **1.1 The construction of mini-irrigation system**

Starting from the beginning of July 2008, the township government was to design the mini-irrigation system. The size of the ponds was decided according to the scale of tree plantation, i.e. at the places where large quantity of fruit trees were planted bigger ponds would be constructed. It was asked that the ponds should be constructed at the most proper site where could reach enough water source and can irrigate farmland as much as possible. Caused by transportation difficulty, the construction materials (brick, sands, cements, plus water) had to be transported by shoulder and occasionally by animal. It took a long time. It was required that most of the work should be done at the end of September. Nevertheless, caused by natural disaster of icy weather in the spring, that damaged crops and reduced farmers' income, some farmers left their home to find job in the city. As a result, the transportation of material was impacted. To guarantee the accomplishment, the Sishui Township government appointed a technician to monitor and promote the implantation. Now the construction of irrigation systems is finished just before the New Year of 2009.

#### **1.2 The consummation of the irrigation system**

On 18-19 September 2008, a Leading Group investigated all the project components including mini-irrigation systems and found that some input water pipes connecting the ponds had not installed, while some ponds although had pipes installed had no water filled in. Therefore, a technician was appointed to check and consummate all the irrigation systems, including all of the parts necessary for the system, such as input and output pipes and valves. Up to the end of November 2008, all of the water ponds were filled with water which guarantees the use for irrigation and other routine farm management such as insect control.

#### **1.3 The Cultivation of fruit trees**

Observed on 2 July 2008 by a group from Guilin City, Longsheng County, and Sishui Township showed that most of the economic trees planted in 2008 have new shoots. Up to September 2008, almost all of the planted trees grew well with some trees that were planted in 2007 already blooming. However, caused by difference of soil, seedling, and management,

small part of fruit trees did not grow healthily. Hence, training course was organized to teach farmers to strengthen management of the trees before the coming winter (refer 1.5).

Some trees and vetiver grasses grew not well caused by water-logging. It was required that for each tree more soil should be put around the trunks and to make the ground surface around the trunks to be higher than the surround area for drainage purpose.

#### 1.4 The management of vetiver grass

One of the most important project components was to protect agriculture environment with vetiver. The grass planted in 2008 generally forms hedges. However, during inspection, the Leading Group found that vetiver hedges at few places had not cut and therefore became weak. It was required that all of the grass should be cut before winter enabling vetiver hedges to be denser.

In addition it was found that some vetiver grasses were attack by stem borer. However, it was reported that vetiver can attract stem borer from maize to produce egg inside vetiver stem. Results indicated that vetiver grass was highly preferred for oviposition but that larval survival on vetiver grass was extremely low. Thus, vetiver has potential as trap crop component of an overall “push-pull” strategy to concentrate stem borer oviposition away from the maize crop and reduce subsequent population development. This technology may also have application in rice pest management. In general, the insect may not damage vetiver seriously, but it can help food crops reduce insect damage.

#### 1.5 Project evaluation and technical trainings

To enable the project to be more successful, it was decided during a small meeting that final project evaluation should be very important. Later, a group was organized that consisted of directors and technicians from different institutions (table 1). After a discussion on the method, procedurals, and field investigation routes, the Group was divided into 4 small groups to investigate all project sites in the two villages and visit project families. In cooperation with the Village Committees, they observed the growth of the fruit trees and vetiver grasses and talked to farmers on 17-21 November 2008.

**Table 1 Constitutions of the Project Evaluation Group**

Institutions	Fruit Office of Guilin City	Agriculture Bureau of Longsheng County	Agriculture Extension Station of Longsheng County	Soil and Fertilizer Station of Longsheng County	Sishui Township Government
Individuals	Lao Xiao-cun Wei Shu-de Wang Xun-ying Zhang Jian-mei	Liu Shi-chang Jiang De-ming Shi Xian-da	Qing Wu-sheng	Yang Chang-jian	Lu An-yang Huang Ying Shi Yue-zhi Shi Tian-qing Bi Wei-jun

Through the investigation, it was found that most project farmers implemented the project very seriously. However, caused by the difference of farmers’ education background and the natural condition (landform, slope sunshine, soil fertility and moisture) there is difference among the growth condition of fruit trees. For example, in Zhoujia Village there are 8 families who cultivate trees the best. In summer of 2008 the loquat trees there produced fruits for 3.6 kg/per tree in average. The price was 9 Yuan RMB/kg. Therefore each tree generated 32.4 Yuan RMB, i.e. 1782 Yuan RMB/ per Mu (about EU€2670/ha).

Another example is that farmer Mr. YU Ren-xing planted loquat for 4.5 Mu (0.3 ha) in 2007 that produced loquat for 311kg. But the price for his loquat was only 7-8 Yuan RMB/kg because the fruit was in small size. It showed farmers that the flower and fruit thinning is very important. To enable fruit trees to be more productive, series training courses were organized. It includes: pruning technology of fruit trees; management of fruit trees before winter; fertilizer/manure application and watering before winter; land preparation around trees trunks before winter; insect and disease control of fruit trees; flower and fruit thinning; water and fertilizer management in early spring.

Totaling 307 persons attended the trainings in this period. They all felt that the training was extremely useful for them. During the training courses farmer representatives who manage trees the best introduced their successful experience that will benefit other project farmers. During training courses farmers learn each other. For example, Mr. Huang Jia-jun said that my loquat trees produced fruit for only less than 2kg, while Mr. Yu's produced 5-6 kg/per tree, just because I did not apply manure before winter. The lecturer told farmers that only through manure application in winter can trees get enough nutrients in the coming spring and can produce more fruits. On the contrary, if manure application in the spring tree could not get enough nutrients for fruit production and tree growth.

### **1.6 Progress in vetiver handicraft**

Last year after the successful vetiver handicraft training course, woman farmers organized Women's Vetiver Community. Total 27 women participated in the Community and each person contributed 100 Yuan. Since there was no vetiver materials at that time farmers could not continue their work until autumn when vetiver grass that was planted in the spring of 2008 was tall enough to be cut. In July 2008 China Vetiver Network bought totaling 4 dyeing chemicals (red, green, blue, and purple) sent to the project site that can make dozen of different color for vetiver leave dyeing. The Community members started the process of vetiver handicraft production. They cut grass, treated them with boiling water, dry them under air, and dyeing and weaving. This is the first time for them to produce vetiver handicrafts independently. They planned to produce more beautiful handicrafts and sell them on the market. Since the plastic bags were prohibited in the market by authority the vetiver products may have more potential in the market.

Few months later after the handicraft training one problem appeared. Few members did not want to contribute their effort to the public jobs (leaves harvesting, boiling and drying for example), waiting others to do the work. To solve this problem, The Community adjusts their organization: expelled few from the community and at same time accepted some other farmers as new members.

To encourage more visitors and tourists to buy vetiver handicrafts, the sell and exhibition of vetiver handicrafts is combined with science popularization. Numerous photos were prepared and exhibited with necessary explanation. The exhibition shows visitors and tourists the function of vetiver on soil erosion control, farmland protection, and slope stabilization. As a result, vetiver handicraft production could be more closely combined with local tourism, generating more interest among tourists and more profit for farmers.

It was planned that new vetiver handicraft training will be organized at the project site in order that more farmers could grasp vetiver handicraft technology. Totaling 5 days will be needed and 20 participants will be involved. The time will be arranged in winter during

farming-free period just before the Spring Festival.

### **1.7 The continuation after the project finished**

The project is to finish. To reach long time project achievements enabling farmers get long time profit, project farmers were trained to maintain fruit trees and vetiver hedges. It was required that Sishui Township Government will be responsible on the long time monitoring, management and maintenance of all project components, in particular the irrigation system and tools for vetiver handicraft production. In addition, it was required that all partners should keep documents in good condition for at least 5 years after the project finished.

## **2. Impact of the project**

The success of the project implementation led to great impact in not only villages around the project site but also many mountainous regions in other provinces in southern China. When getting our project information from our widely distributed newsletters or through internet they contacted us for more information and sent us project proposals or hope to co-launch similar project under local governmental funding support.

### **2.1 New project to be approved by Guilin City Government**

Based on the great success of our project, the Guilin Agriculture Bureau wishes to extend the experience to Yangsu County in order to use vetiver for the sustainable production of *Cirtus margarita* (a famous kind of small-size orange) production. In the recent years, farmers has high enthusiasm in developing the Cirtus in large scales on the sloping land with a degree over 40°. They cleared forests and planted Cirtus, which caused serious soil erosion and led to the decline of soil fertility and consequently the land lost its productivity. The project will demonstrate farmers how to use vetiver hedges to reduce runoff and sediments and to protect farmland and achieve sustainable agriculture. Totaling 250000 Yuan RMB will be needed for the project. The project will be co-implemented by Guilin Agriculture Environmental Protection Station, Guilin City Agriculture Bureau and Yangsu County Agriculture Bureau.

### **2.2 Project proposal from Anhui Province**

When the project information sent to Anhui Province, the hinterland of the Dabie Mountains, The Chanpu Township Government expressed great enthusiasm in seeking similar project in there area. The main content is to plant 300 000 tea tree, 7 500 chestnut trees and 12 000 bamboo. Meantime, 2 200 000 vetiver seedlings be established as hedges. In addition, 35 cattle will be raised by 35 families in every 3 years. Besides, a series of technical trainings will be conducted, 600 farmers will receive directive training. Many training materials will be produced in large quantities and widely distributed for extension purpose. The Government is very eagerly waiting approval from EED.

At the same time the Zhonggan Township government of Yuexi County proposed a similar project.

### **2.3 Project proposal from Hunan Province**

When our colleagues in Hunan Province got information they sent us project proposal in order to relief poverty and control water and soil erosion in the Wuling mountainous minority

area in Cili County, Hunan Province. The project includes 18 000 orange trees, 7 500 chestnut trees and 7 500 plum trees to be planted, 2 400 000 vetiver seedlings be established as hedges; 6 water pool be constructed and a series of technical trainings be conducted, 600 farmers will receive directive training.

#### **2.4 Project proposal from Fujian province**

In addition to the project proposal prepared from Wuyi City of Fujian Province, the Water and Soil Conservation Office of Fujian Province prepared project proposal, aiming at preventing disasters, controlling soil erosion, and helping farmers reduce poverty through wasted plum and tea tree reclamation, vetiver hedge establishment, goat raising, reforestation, closed forests, and technical training and extension.

#### **2.5 Project proposals from Guangxi province**

Our project generates great impact in Guangxi province where there are still many farmers suffering from the shortage of food and cloth.

2.5.1 The Soil and Fertilizer Station of Bama County sent us project proposal which proposed to improve draining condition of rice field in order to improve rice productivity and increase yield, construct mini-dam to protect upland for sugarcane cultivation, to repair and reconstruct ditches for upland irrigation, and to develop high quality economic plants in the poverty area of Sechang Village.

2.5.2 The *Yachang Orchid Family* Plant Reserve District that is situated at Leye County of northeast Guangxi Province prepared project proposal and hope to help farmers develop economic trees (peach, orange, loquat, pear, walnut and Bunge Pricklyash, a spice plant). They hope to help each family establish one Mu of economic trees or crops.

All of the proposals are in amendment process now. Similar proposal is also in preparation in XinAn County which is near Longsheng.

#### **2.6 Vetiver information dissemination through newspaper**

The project information was disseminated through web site of China Vetiver Network, that generated great interest among journalists. They were very interested in vetiver function on soil erosion control, slope stabilization and landslide prevention. On 14 July 2008, reporters from *Nanjing Daily* and *Jiangsu Commercial News* visited China Vetiver Network. Few days later, on 18 July an article titled Scholars called on the application of vetiver for slope stabilization during reconstruction after Sichuan earthquake was published by *Nanjing Daily* and an article titled Great business opportunity hidden inside vetiver was published by *Jiangsu Commercial News*.

Little later on 19 July, the China Jiansu Television visited China Vetiver Network and one day later they introduced the great potential of using vetiver for slope stabilization on TV.

#### **2.7 Impact in the world**

The project information was released through internet of China Vetiver Network and The Vetiver Network International. They played an important role in disseminating the project information. Many people send us email, asking details about our project. They wish to get similar projects or to share experience in project implementation. In particular, they are surprise with our great success of the International Vetiver Handicraft Training Course. In

deed, there are several such trainings organized in Thailand and Venezuela, but the influence and success could not match with our Guangxi training course.

**3. Local contribution**

During the whole project period in 2 years farmers contributed about 384000 Yuan RMB as labor for land preparation, tree planting, material transportation, etc. The Agriculture Bureau of Longsheng County and The Township Government contributed about 45000 Yuan RMB as salary of 3 technicians responsible for the project guidance and monitoring.

In addition, the township government contributed about 11000 Yuan RMB as office, equipment and official consumption materials (Table 2).

**Table 2 Local contributions (Yuan RMB)\***

Farmer contribution as labor		Government contribution	
Economic tree (land preparation, planting)	200000	Salary and allowance of technicians from county (2 persons) and township (1 person)	45000
Basic manure	160000	Office, equipment, and consumption materials	11000
Water pond (transportation of materials)	24000		
Total	384000		56000

\* In addition, China Vetiver Network contributed about 90000 Yuan RMB in 2 years as salary of 2 professors.

**( Attachment: project photos on separate file )**

**Attachment: related photos**



Brick transportation



A new pond finished



Construction materials transported



A pond filled with water



A pond to be finished



Install water pipes



Field investigation to check quality



Trees planted in 2007



The tree starts to produce fruits



Discussion on further development



Newly planted trees and vetiver



Arranging final evaluation



Vetiver grows well



Minority women making handicrafts



Vetiver leaves prepared for handicrafting



Handicrafts produced



Women study handicrafts made in Indian



Project dissemination through internet