

## Summary

1. Project Summary	
Country: The People's Republic of China	Project title: Enhancement of Agricultural Extension System Project
Sector: Agriculture	Cooperation Scheme: Technical Cooperation Project
Division in Charge : Department of Agricultural Development Cooperation	Total cost: JPY490 million
Period of Cooperation	(R/D): 1999.3.1—2004.2.29 (Extension): None (F/U): None
	Partner Country's Implementing Organization: Ministry of Agriculture, Department of Agriculture of Sichuan Province, and Bureau of Agriculture of Zigong City Supporting Organization in Japan: The Ministry of Agriculture, Forestry and Fisheries of Japan
Other Implementing Organizations	The National Agricultural Technology Extension Service Center (NATESC), The Agricultural Technology Extension Service Centers of Sichuan Province and Zigong city, The Chengdu 1 and 2 Agricultural Science Institutes
<p><b>1-1 Background and Summary of the Project</b></p> <p>To address issues encountered in agricultural technology promotion, enhance agricultural technology extension activities, and apply results of agricultural research and practical technologies in agricultural production, the Chinese government and the Japanese government jointly implemented the Enhancement of Agricultural Extension System Project (hereinafter referred to as the "Project").</p> <p>Through five years of implementation, the Project developed the capacity of agricultural technology extension staff and farmer technicians on agricultural technology extension in pilot sites (Jinniu Township of Jinniu District, Tashui Town of Wenjiang County, Zigong Agricultural Science Institute, Longtan Town of Rongxian County, Baimiao Town of Rongxian County, Daisi Town of Fushun County). The Project validated and established new and effective modes of agricultural technology extension through actual cases.</p> <p><b>1-2 Project Overview</b></p> <p>The Project covers four aspects: 1) investigation, analysis and evaluation of agricultural production and management in the Project sites, and preparation of agricultural technology promotion plans based on the results; 2) validation tests and demonstrations in two centers of Sichuan Province and of Zigong City; 3) Joint assessment by Chinese and Japanese experts on the needs of agricultural technology extension staff on training and education, preparation of on-the-job training plans at local levels, compilation of training materials, and implementation of on-the-job training sessions to improve the skills of agricultural technology extension staff; 4) analysis and assessment of the Sichuan Agricultural Technology Extension Service Center, the Zigong Agricultural Technology Extension Service Center and the NATESC on the current methods of processing agricultural technology information, and introduction of improved methods for processing agricultural technology information to facilitate communication of agricultural technology information.</p> <p><b>1) Overall goal</b></p> <p>To enhance establishment of the national agricultural technology extension service system and facilitate extension and application of agricultural technology through dissemination of successful</p>	

experience in the Project sites.

## 2) Project Purpose

To improve the capacity of agricultural technology extension staff on extension and guidance, and build an extension system in which agricultural technology is effectively transferred to farmers.

## 3) Outputs

- 1) Preparation of extension plans on related technical subjects
- 2) Implementation of extension activities based on tests and demonstrations
- 3) Improvement of Capacity of agricultural technology extension staff on guidance
- 4) Utilization of effective agricultural technology information

## 4) Inputs

Japan:

8 long-term experts and 12 short-term experts in 4 themes

29 trainees for training in Japan

Equipments (JPY92.19 million)

Study on farming (JPY40.76 million)

China:

Designation of 34 staff

Costs (CNY64.1 million)

Provision of housing, land, office and demonstration farmlands

## 2. Evaluation Team

Member	Li Wei (Deputy GM, Beijing Wanyang Consulting Co., Ltd.)	
Period of Evaluation	December 25, 2006 – December 29, 2006	Type of Evaluation: Ex-post evaluation

## 3. Results of the Evaluation

### 3-1 Summary of the Evaluation

#### 1) Relevance

After completion of the Project, the Chinese government has enhanced the efforts in establishing the agricultural technology extension system and farmers' needs for agricultural technology have increased. It is recognized that the Project is still relevant to date.

#### 2) Impact

- Facilitation of the realization of the overall goal

In the later stage of the Project, the Ministry of Agriculture started pilots of reform of the agricultural technology extension system in 12 provinces including Sichuan, Shanxi, Liaoning and Shandong. The successful experience and effective methods from the Project provided reference for the reform of agricultural technology extension system at local levels.

After completion of the Project, the provincial Department of Agriculture started pilots in areas around Chengdu. 70% of the agricultural technology extension staff accepted related training, 80% of the counties applied validation tests and validation demonstration methods in extension and application of agricultural technology extension; 500 cross-township regional stations have been set up, with their public duties and fee-based services identified and differentiated. The public duties of the regional stations were

defined, and regional stations will be built all over the province in 2007.

Through the Project implementation, the concept of "extension is education" has been deeply recognized by agricultural technology extension agencies and agricultural technology extension staff. The activities of the Project covered study on farming, validation test, validation demonstration, training and education, agricultural technology information service which made agricultural technology extension activities operational. The reports, manuals and wall charts of the Project were delivered and utilized to all counties in the province after the completion of the Project.

- Forward-looking

On the evaluation, local agricultural technology extension staff acknowledged that the Project is not only consistent with national policies but also forward-looking. Building regional stations under the Project coincided with the No. 30 document of the State Council. The education on quality and safety of agricultural products under the Project for farmers covered by the Project was ahead of the Law of the People's Republic of China on Quality and Safety of Agricultural Products, which became effective in November 1, 2006.

- Impact on traditional agricultural practices

Upon completion of the Project, farmers adopted the grafted technology such as "vegetable-rice" continuous cropping and "vegetable - vegetable" continuous cropping recommended under the Project so that they enjoyed benefits of twin high outputs, twin high efficiencies, and twin harvests. Farmers in the Project area have deep awareness of environmentally friendly food and no-hazard vegetables, and they have also accumulated technical experience.

The objective of agricultural production has shifted from mere increase in output to improvement of quality. The area of no-hazard rice plantation in Zigong has increased. from 20,000 mu in 1998 to 130,000 mu, that of premium fruits has increased by 40,000 mu, and that of premium vegetable has increased by 30,000 mu. It is observed that the residual pesticides and contents of heavy metals have dropped significantly, and the quality and safety of agricultural products have been significantly improved.

- Emerging new agricultural cooperative organizations

Agricultural technology extension staff in Longtan Town initiated and founded a vegetable association which attracts vegetable planters in the city. The association has obtained trade mark protection and no-hazard product certification for vegetable production and sale. Now, incomes from vegetables take up 1/3 of annual incomes of farmers. New agricultural cooperative organizations are to demonstrate their vigor and power along with the final release of the Law of Specialized Farmer Cooperatives.

- Impact on farmers

The Project implementation has increased the crop production by 5% and improved crop quality in the Project area. Agricultural products became safer due to reduced use of chemical fertilizers and pesticides, and farmer incomes have increased. The increase rate of farmer incomes in Zigong City is higher than the provincial average. The improvement in production, quality and safety of crops in the Project area is closely associated with the Project implementation.

Though Sichuan Province suffered from a heavy draught in 2006, both the agricultural production and farmer incomes in Longtan covered by the Project were not impaired. Agricultural activities are made less laborious with technologies such as casting of rice seedlings and zero tillage promoted under the Project. Some impoverished farmer households adopted new technologies to plant economic crops and got rid of

poverty within 1-2 years.

The Bureau of Agriculture of Zigong city has improved awareness of the importance of training and education for farmers. The Bureau of Agriculture of Zigong city disseminates agricultural technology to farmers via mobile phone, radio, TV and so on.

- Impact on agricultural technology extension staff

The Project implementation has established respect for farmers and farmer-service concepts among agricultural technology extension staff. Their working principle have shifted from just following the upper organizations to assist, guide and educate farmers in learning and understanding of new technology based on the interests and wishes of farmers. Agricultural technology extension staff became used to preparation of careful and detailed annual plans and long-term plans and strict observation of such plans rather than arbitrary practices in agricultural technology extension. The role of agricultural technology extension staff has been highly recognized through the Project implementation.

- Impact on surrounding areas and other Chinese provinces

The Project execution agency introduced the experience of the Project at two national agricultural technology extension workshops held by the Ministry of Agriculture, and accepted visiting delegations from other provinces/municipalities. The concept of "extension is education" advocated by the Project, and the validation tests, validation demonstrations and practices of planned and leveled training under the Project have been widely recognized and disseminated.

The Project has effectively resolved difficulties in soil disinfection, and realized successful crop rotation of rice and vegetables in paddy fields in winter. This technology has already been applied in Leshan, Yibin, Neijiang and other regions in southern Sichuan and will be promoted across the province.

### **3) Sustainability**

- Support by governmental policies

The Project coincides with the current policies of the Chinese government, and has been highly recognized and supported by the central government and local governments at levels of province, city, and county. Local governments are disseminating the results of the Projects.

- Stability of organizations

*The Opinions of the State Council on Further Reform and Enhancement of Agricultural Technology Extension System at Local Levels* clearly defines the role and function of the local agricultural technology extension system, and emphasizes rational layout of local agricultural technology extension agencies around the country to make the best use of their guiding and driving role. Local agricultural technology extension centers (stations) at the county and township levels are stable in terms of organization.

- Secured fund sources

*The Opinions of the State Council on Further Reform and Enhancement of Agricultural Technology Extension System at Local Levels* secures fund sources for the agricultural technology extension system. The agricultural technology extension system is now included in the national government budgets guarantees the stable fund sources.

- Agricultural technology extension activities

Development and extension of new technology and varieties have never ceased through the agricultural technology extension system after completion of the Project. The integration of research and

production, as realized by the Project, shortens the lead time for extension of new technology and varieties from years to less than one year. All counterparts in the Project still work in the same organizations, except one who was retired.

All equipment provided under the Project still work properly except some renewed office equipment. However, maintenance record is not complete because a plan on regular procurement of supplementary equipments is not available due to lack of financial support.

Zigong City hosts an agricultural information web portal which has 279022 visits, and revised the Agricultural Extension Information Utilization Manual for three times, released 32,000 booklets, and held experience lectures for 13 times.

### **3-2 Factors that Promoted the Realization of Effects**

Establishment of the agricultural technology extension system largely depends on available policies and is significantly affected by external factors. During the later phase of the Project implementation, when the pilot program of reform of the agricultural technology extension system started, the employment and pay and benefits of some agricultural technology extension staff were changed. However, the issue of *The Opinions of the State Council on Further Reform and Enhancement of Agricultural Technology Extension System at Local Levels* has resolved the corresponding problems.

The government has included agricultural technology extension system in the national government budget which provides stable fund sources for the agricultural technology extension system at local levels, facilitating the improvement of agricultural technology extension systems, agricultural extension stations and agricultural technology extension staff.

### **3-3 Factors that Impeded the Realization of Effects**

There is a large gap between the required number and agricultural technology extension staff available, which fall short of the actual needs. For example, the ratio of agricultural technology extension staff to farmer households is 1:0000 in Longtan Town, so the teams of agricultural technology extension staff should be effectively developed and sufficiently staffed.

Though the fund source is secured for local agricultural technology extension systems, it still falls short of the actual needs. Especially, along with the enhanced awareness of service, further fund support is required for providing satisfactory service to farmers.

No other adverse impact has been identified in the evaluation.

### **3-4 Conclusion**

Implementation of the Project is well taken by local governments, agricultural technology extension agencies, and farmers. The concepts and methodology have been understood and recognized agricultural technology extension agencies at three levels. The experience accumulated in the Project offered beneficial lessons for the reform of the agricultural technology extension system at the national level and demonstrated a model for the establishment of agricultural technology extension system in the Sichuan Province.

The Project settings are consistent with policies and are expected to receive long-term support in terms of policies, organization, finance, staff and technology.

### **3-5 Lessons and recommendations**

Projects tend to be affected by related policies and external conditions. The setup of regional stations, qualifications of agricultural technology extension staff, regulation and operation of agricultural cooperatives are subject to support with policies. A model project sometimes faces difficulty in dissemination of its experience. For example, the setup of regional stations has not been widely activated after completion of the Project. The existing system was one of the impeding factors though *The Opinions of the State Council on Further Reform and Enhancement of Agricultural Technology Extension System at Local Levels* improved the situation. Therefore, it is necessary to consider the possible systematic impedance during the design and implementation of the Project.

The Project implementation agencies covering four-tier government levels, i.e. the central government (the National Agricultural Technology Extension Center of the Ministry of Agriculture), province, city, and town/township, which increased the difficulties of management and costs. It is recommended to reduce the levels of administration for future similar projects.

It is noted that the Sichuan Province commences provincial agricultural technology extension plan in 2007. As local agricultural technology extension staffs have relatively little experience on new type agricultural cooperatives, they are very interested in getting information on operation of the agricultural cooperatives in Japan. It is recommended to enhance communication between agricultural cooperatives in China and Japan and promote non-governmental exchange in agricultural sector.