

# Trends In Chinese Extension

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## ABSTRACT

This paper examines the agricultural extension system in China which is in transition due to the change from a centrally planned economy to a market economy. The roles of agricultural extension are changing along with the changes of the overall political and economic situation in the country. The model of agricultural extension before the economic reform was administration oriented. During the reform period, this changed to income generation oriented. The objectives of rural development in China can be better achieved if a farmer oriented extension concept is integrated into the extension system.

## Introduction : the Farmer and Farming Before and After 1978

### *The farmer and farming before 1978*

For a long period of time, a centralized planned economic system was functioning in China. In a rural community, the Commune was an administrative unit which covered several villages. The village was sub-divided into different brigades consisting of several production teams. Each production team consisted of 20-30 neighboring households. All its resources were allocated under the unified management of a team leader, except for small plots reserved for a household's own use. Income from team production was the most important source of household income, and individual farmer decision-making was minimal.

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*The farmer and farming after 1978*

Under this planned economic system, agriculture produced the resources and raised the investment needed for national industrialization. The government intervened strongly in order to obtain enough raw materials for industrial development from agriculture. The major means of the intervention was a low price of agricultural products with a set of fixed collective organization systems in rural areas. Like several other developing countries, the Chinese government adopted a model of "sacrificing agricultural development for the sake of rapid industrial development" in spite of infrastructure constraints, lack of capital and technology, and a relatively weak economic base.

The commune system was relatively inefficient due to inadequate farmer incentives, and after the cultural revolution the government began considering its rural policies. In 1978, the first changes were recommended. From then on the pace of reforms accelerated, radically changing the organization of farm production, the rules governing land tenure and the marketing system for agriculture products.

Beginning in 1979, the government initiated market reforms in the rural areas by diminishing the control of the central government in economic planning. The Household Responsibility System (HRS) was worked out by farmers, initially without the knowledge of the central government. By late 1981, the HRS was officially recognized, and by the end of 1983 almost all rural households in China had adopted it. Collectively owned land is leased to individual households on an entirely equitable basis, according to household size. Each household in a given village is allocated the same relative proportion of land according to the land quality. Implementation of the household responsibility system has resulted in improvement of the living standard for many households, although it has brought its own set of long-range problems with it such as land fragmentation.

Agriculture marketing in China has long been dominated by central planning. Until the time of the reforms, free market

exchange was only permitted for non-essential commodities. Urban residents obtained basic supplies of grain, cooking oil and cotton cloth at highly subsidized prices through state controlled rationing system. The government tried to stimulate farmers' initiatives by raising farm purchase prices. Since 1985, policy-makers have articulated the view that the state regulates markets and markets guide enterprises. The success of the approach encouraged debate on further market oriented initiatives. A sector of private wholesale traders appeared which stimulated the economic activity of villages and the expansion of small cities. Many of these enterprises were not owned by private entrepreneurs, but by local governments.

Rural enterprises have also developed very quickly and have become an important element in China's rapid economic development. The price reform of agricultural production has achieved some success. Since May 1993, the grain price has been determined by the market and the grain quota system for the food supply of urban residents, which had been in effect for more than 40 years, has been abolished.

Farmers now enjoy better incomes but there is evidence that they feel at risk without the secure market in which the government purchases their products.

So called "high-yield, high quality and high efficiency" agriculture was encouraged by the government recently, through the introduction of a market economy concept. This means the agricultural policy of the government changed from quantity oriented to quality oriented farming. To make the change, farmers need access to information regarding market forecasts. The questions, who should provide this assistance and how to establish a suitable mechanism, are still under discussion.

In the transition from a central planned economy to a market oriented economy, the role of the farmer is changing. Farmers concentrate on how to increase their income, but they are also more and more involved in the process of decision making concerning production and optimal use of labor. They not only need advice in the field of crop technology, but also in cost/benefit analysis,

information on input prices, marketing and transportation. At the same time, farmers are looking for other opportunities to earn money and are increasingly involved in non-farming activities.

During the 10 years since introduction of the household responsibility system in the rural areas, farmers have been affected by market reforms. However, they feel increasingly confused about what to do and how to plan in the transition. According to a survey of 1290 farm households located in 41 counties in Henan Province conducted by the Ministry of Agriculture in 1993, 29% grew crops according to the profit they expected to gain from the market price; 28% followed the plan of the previous year; 20% followed the plan as they used to do; 19.1% followed the plans of other farmers and 2.3% made decisions according to contracts signed with other organizations (Farmers Daily, 1993).

Farmers in Hubei, Henan and Yunnan Provinces cultivated tobacco, but could not obtain the necessary market information with the result that more tobacco was planted than the market could absorb. At the end, some farmers could not even recover the cost of their inputs (Farmers Daily, 1993).

It could be interpreted from these results that farmers need extension services under the changed situation, but agricultural extension agents could not provide the information farmers required. More importantly, these initial findings call for more definitive studies on the role of extension under changing structural conditions in China.

## **Changing Roles of Agricultural Extension in China**

### ***The role of agricultural extension before 1978***

Against the background of the socialist system, agricultural extension functioned as an instrument of government policy. The role of agricultural extension system was to transfer new technologies. In effect, the government made the policies and plans and then the farmer was expected to implement those plans. The extension service was the link between the government and farmers. It was a one way communication network and information flow. On the other hand, it was a relatively efficient system,

because the extension structure was reinforced by political campaigns and extension workers and the necessary inputs were relatively sufficient and available.

### *The changed roles of agricultural extension at present*

The transition from a planned economic system to a market economic system has created number of new challenges for the agricultural extension system. Under the market economic system, the government has, to certain extent, lost its centralized planning function and gives more room for decision making to farmers according to their own interests.

In the transition period, extension workers are not sure what their role is in the new system. At present, many extension agents have found another role in selling agricultural inputs, such as agro-chemicals and fertilizers, which they are allowed to sell. At the same time, they provide advice and information to farmers related to the products they sell. However, this raises some problems as is shown in the following two cases:

#### *Case 1. Uncertified seeds sold by extension agents.*

In April 1992, one agricultural technology extension center in Hunan Province bought 12500 kg hybrid rice seeds from a company and sold them to farmers. Later, it was found that 350 kg of the seeds were not the variety which farmers required. Within 20 days after the farmers had sown them, they realized it was the wrong variety. As a result, farmers lost a lot. The agricultural technology station had to pay the loss.

In August 1993, an agricultural extension station in Anhui Province sold uncertified rape seeds. Calculations indicate that these seeds would be sown on more than 8,000 ha of land, and that a yield of 750 Kg/ha would have been lost, if it had not been found out in time that the seeds were not the right variety. This would have meant a loss of more than 8 million yuan for the farmers. Since the uncertified rape seeds were cheaper than high quality seeds, many extension stations were involved in this kind of deception in order to earn more profit. The farmers were very

angry, because they could have been cheated by the extension station.

### *Case 2. Pest management problems*

In the past two years, many farmers decided not to grow cotton because cotton worms could not be effectively controlled. There are several reasons for the prevalence of the pest, such as poor weather conditions, increased production costs and the low quality of uncertified pesticides sold on the market. In addition, many farmers did not know how to use pesticides properly. Farmers have lost control over many similar insect problems.

In the past, agriculture extension agents often went to the cotton field to collect data using pest detecting devices. These data were used to give information about pest control to farmers by means of newsletters, broadcasts or meetings with farmers. But now, only a few extension workers take this work seriously. When a new staff member or a university graduate comes to the center, he does not do the pest forecasting, which is urgently needed, nor teaching farmers to do the forecasting but he becomes involved in commercial business.

## **The role analyses of an agricultural extension agent**

### *The technician's role*

In China, agricultural extension is called agricultural technology extension. The agents are called agricultural technicians. They perform experiments in the field in crop cultivation, application of chemicals and fertilizers, introduce and recommend new crop varieties and pest control packages. Animal production is, to some extent, neglected by extension agents, although many farmers realize that the demand for animal products is rising more rapidly than the demand for crops.

### *The education role*

Agricultural technicians are sometimes involved in training programs related to specific subjects. Training programs are usually organized by agricultural bureau of the country, the agricultural

technology extension agents are invited to give lectures for the participants who come from different townships. In winter time, the extension agents may offer courses for farmers but it is not a regular function.

#### *The role of data collector*

Agricultural technology extension agents collect information on areas planted with different crops, yield assessment and other information of farming activities, the local government needs for planning and supporting agricultural development.

#### *The role of buyer and seller*

Agricultural technology extension agents spend considerable time on commercial input supply activities. They buy chemicals and fertilizers from industrial companies or specialized commercial firms and sell the products to farmers, from which extension services earn some profit. This is the main activity which agricultural extension agents are involved in at present. The government is not yet aware that research has shown that investments in educational extension activities often give a high rate of return (Bikhaeuser, Evenson, 1989).

#### *The role of advisor*

As government extension agents, they also provide advice to farmers when farmers ask for it but very often the advice is related to the product they sell. There is very little market and management information provided by extension.

### **Funding of Agricultural Extension**

In the past, funds for agriculture extension were allocated by the government. Now, local governments are responsible for funding. According to a report of a survey in 100 counties in October 1993, funds were reduced by 33%, despite an inflation of above 10%, compared with the year before. This means that the funds actually released to the extension service were not enough to pay the salaries of the extension agents. Many extension agents complained that they could not go to the villages because of lack of money for transport and daily allowance.

In the transition period from a planned economy to a market economy, there are three approaches by which extension organizations can cover their costs. Firstly, payment of their services by farmers; secondly, government subsidies; thirdly, commercial business, such as selling fertilizers, pesticides and other materials.

Agriculture extension organization in China can not obtain much income through payment of services. Almost all Chinese farmers are small scale farmers with limited land resources (0.13 hac per capita on the average). This results in limited benefits from farming and few incentives to invest in farming. Therefore, commercial business is the most important way through which extension organizations obtain income. When buying inputs, farmers can obtain advice from extension workers. So, extension organizations play two role at the same time—selling inputs and providing farmers with information. Information they provide to the farmers, however, is often biased which decreases the confidence farmers have in their extension agents.

The following table indicates the percentage of the time spent by 14 Extension workers who work below the county level in 5 counties of 4 provinces.

Participants (14)	Extension	Commercial Business	Others
Each person on average %	36.8	37.9	25.3

\* Source: Agriculture extension workshop in Beijing, November, 1993.

Perhaps, it is difficult for the extension agents to make a clear distinction between the time spent on extension and on commercial business, but from the responses it is clear that agents spend most of their time on non-extension activities.

Apart from lack of funds, the other factors which cause difficulties are lack of linkage between research and extension, and extension and farmers. On the one hand, extension cannot get support from research and therefore is not well able to educate farmers. Very often, farmers have problems related to market and management in the new situation but extension agents have little



knowledge in these areas. Also extension agents do not think this information should be provided by them. Most agents are not able to provide farmers with the information needed to decide which crops to grow and which animals to raise, now that the government no longer guides them.

Few agricultural extension agents have been trained in extension philosophy, program planning and methods. In addition, many extension services lack support of transport and mass media. It is difficult for them to play the role of human resource development agents.

### **Agricultural Extension in the Future**

Market reforms in China will continue in the coming years. This is an irreversible trend. Administration oriented extension and income generation oriented extension should be replaced by farmer need oriented extension, because a top down approach, which is suitable for centrally planned economies, is not flexible enough in the market economy.

The result of an extension organization which is financed partly by profits generated by selling inputs to farmers is that the government monopolizes the market, and the price of inputs is dominated by a few suppliers. The tendency in the future will be to separate input supply from the supply of agricultural information. The principle of "payment for quality" will be activated in the market system.

Farmers will play an important role in the market system. They will pay for valuable information services which help them market profits. Therefore, farmer oriented extension will be a kind of market strategy rather than a strategy of the government. Farmers will have the right to make decisions about what they want to grow, but also to select the services they need from agricultural extension organizations.

The transition from income generation oriented extension to farmer oriented extension is not a process which will take place automatically. The government should build up diverse extension

services and should supply policy and financial support in order to promote this process. There are some options available to the government to promote these changes.

### ***Strengthen the government extension service***

Agricultural extension services should try to find more opportunities to collect fees for their works, so that they can improve work quality. However, at this time, it is still necessary for the government to provide financial support to maintain the extension system at an adequate level, otherwise extension will be forced to concentrate on commercial activities.

To a certain extent, it is still necessary to provide farmers with inputs and information, especially since resources are limited and China has the difficult task of ensuring food security for its large population. Selling pesticides and determining which pesticides are necessary should be separate activities so that commercial interests do not become the hidden basis of information provided to the farmers on which they choose which inputs to purchase. And again if the farmer will really have countervailing power to extension, the performance must be improved. Research and extension must develop linkages so that they can complement and support each other. In addition, training in extension concepts, communication skills and extension methods must be provided to extension workers.

### ***Initiative of farmer organizations and countervailing power***

Priyatization is a trend of international agricultural extension development. The experiences of New Zealand and the Netherlands demonstrate that it is a good way to realize the objective that farmers have countervailing power, and it encourages extension change from top down to bottom up approach so that extension organizations have more freedom and perform more efficiently.

Agricultural extension agents in China should consider it as one of their main tasks in the future to organize farmers as a group to work together in order to reach their own objectives. Countervailing power development is not something which is

directly related to the payment capability but it is very much reliant on group activities. In this way, the government can be partially relieved of the financial burden of having to run the extension services but it does not mean that government should not pay for extension. The major financial benefit of an extension organization is not for the farmers, but for the consumers through lower food prices. The point is that farmers can design the extension services according to their own needs to some extent if they have countervailing power and they can partially pay for agricultural research and extension.

### **Conclusions**

Agricultural extension in China faces new challenges in the transition from a planned economy to a market oriented economy. The problem of commercially oriented extension is caused by the government policy which diminished investment in the agricultural extension system. Farmer oriented extension should be the direction of the agricultural extension development in the future, to meet the farmer needs. An appropriate extension service will only be developed if the farmers are considered as the target group. To make the transition from commercially oriented extension to a farmer oriented extension system will not be an automatic process, it is a process of organizational change, and it will depend very much on policy support and increased financial resources for its orientation.

Considering the present situation, to meet the farmers needs a diversified extension system which includes government extension organizations, non government extension organizations, and extension services run as business firms should be gradually established. The role of government extension organizations will be to provide service related to the policy and technology development; non - government extension organizations will provide information not only in technology but also in social and economic aspects, promote institution building in rural areas and give feedback of farmers' need to government; the business firms will provide necessary inputs and information related to the products sold to farmers.

Governments at different levels should give support to such a diversified extension system. In order to improve the performance of current extension services and avoid a profit orientation, government should allocate a reasonable amount of funds to maintain the extension team and improve the facilities of the extension system. In formulating and maintaining the preferential agricultural policy, institutional support to agricultural extension should be taken into account. Special funds must be allocated for extension.

In the areas where a diversified extension system has been set up, the government must formulate and implement relevant regulation and policy to manage the conflicts of interest among different organizations. Service specialization of certain organizations is one way to eliminate such conflicts.

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