Occasional Paper

CHUNG-HUA INSTITUTION FOR ECONOMIC RESEARCH
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Republic of China
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An Exploration on Patterns of Agricultural Cooperation between Mainland China and Taiwan

by
Chyau Tuan and Yi Chou

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An Exploration on Patterns of Agricultural Cooperation between Mainland China and Taiwan*

by

Chyau Tuan**  Yi Chou***

I. Introduction

Since economic exchanges between both sides of the Taiwan Straits began in the late 1980s, agricultural investment has played an important role. According to the authors’ estimate, the amount of investment by Taiwanese businessmen in agriculture (including food and agricultural equipment industries) on the mainland has totalled more than US$100 million. Since the mainland is in need of capital and Taiwan is searching for an overseas production base, such arrangements are mutually beneficial both in economic terms and in solving both parties’ agricultural problems. However, the current political situation existing between China and Taiwan is not conducive to increased investment. From Taiwan’s point of view, future exchange projects or investments need to be approached with caution.

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In order for such arrangements to fulfill the expectations of both parties, we would suggest that the following criteria be applied to any future exchange/investment patterns: 1) the results of such activities should not be detrimental to the Taiwanese agricultural sector, and should be conducive to solving Taiwan’s agricultural problems; 2) such activities should significantly contribute to the mainland Chinese agricultural sector, both in terms of improving productivity levels, and in diminishing the gap between the living standards on either side of the Taiwan Straits; 3) any pattern of activity should be feasible both economically and politically and should help build goodwill between the two parties. Based on the above considerations, we will now evaluate three patterns of agricultural exchange/investment proposed by academics in the past few years.

II. Mono-agricultural enterprises investment: Pattern 1

This pattern was first proposed by Chou Yi in 1991 [3], and deals with mono-item investment from Taiwanese agricultural enterprises to the mainland. This might include a farm’s production process, a downstream processing industry or the upstream manufacture of agricultural inputs. A simple example will serve to illustrate the basic structure and investment decision-making process of this pattern.

For example, a Taiwanese enterprise plans to develop oil crops such as soybeans, corn, and other oilseeds (peanuts, rapeseed, sesame etc.) and to establish oil mills for this purpose on the mainland. The availability of such crop materials has long been critical for Taiwanese oil mill enterprises and as such, the supply of crop materials is the major consideration when selecting the right location for such mills. The Taiwanese enterprise
should choose a location where crop materials are in abundant supply and then sign contracts with farmers in that region through national or regional economic co-operation agents. The agreement should not only ensure provision of quality oilcrops or oilseeds, technical assistance, agricultural inputs, credit and production insurance, but should also guarantee purchase of the oil crops or oilseeds after production. In return, the farmer must proceed with planting in accordance with the manufacturer's production plans, schedules and material specifications.

Besides the capacity of a location to produce crop materials, the technological basis of the oil industry in that area should also be carefully considered to ascertain whether the Taiwanese enterprise can purchase crude oil for refinement from local oil mills, and thus utilize superior Taiwanese oil refinement techniques.

Per capita consumption of edible plant oil on the mainland is currently only 5.68 kgs, far lower than Taiwan's consumption level of 13.4 kgs, which suggests that the potential for expanding the mainland market is considerable. The Taiwanese manufacturer should thus select a location where consumer purchasing levels are high, where retail businesses are operated efficiently and where a transportation infrastructure is already in place to ensure easy access to consumer markets. This will not only enable investors to profit from the business and provide consumers with improved products, but will indirectly highlight the quality of the Taiwanese products and the business itself.

In addition to material supply capacity and market purchasing power, other general factors need to be considered, including regional technological capacity, infrastructure, related industries, water and electricity supply, transportation, labor resources, labor quality and wages, local government administration efficiency, land availability and cost and the degree of "open door" policy in existence. These criteria were adopting by a Taiwanese
investor who then established a factory in Chimoue County (Shandung Province) in 1991, only 20 minutes by car from Ching Dao City.

The advantages of this agricultural enterprise investment pattern are: 1) it is acceptable to the mainland authorities and can be supported by local government; 2) it will not be affected by non-economic considerations in Taiwan as it only concerns business activities; 3) Taiwan investors will be motivated by the opportunity for profit; 4) it can improve the host area's economy through offering employment and a share of the business's profit for development of the community.

However, this pattern does have shortcomings: 1) besides profit, individual investors have less ability and motivation to assist rural development; 2) the experience of Taiwanese business on the mainland in past years seem to indicate that individual enterprises lack bargaining power in obtaining full co-operation from local official and farmers, thus posing operational or long-term development problems; 3) following the disintegration of mainland China communes since the early 1980s, the basic co-operative economic system has been dissolved and a replacement not yet established successfully in many rural areas. Under such conditions, guaranteed quantity and quality of materials and prompt supply of agricultural inputs are uncertain, which will lead to high production costs. Thus, Taiwanese enterprises have the choice of only a few suitable locations for such mono-item investment and so the geographical distribution of such exchange patterns becomes limited.

In summary, direct investment from overseas, such as from Taiwan, may be conducive to the improvement of mainland China's agricultural production and may provide employment opportunities, capital and human resources (managers and agricultural development specialists). However, the impact of these activities may be less than expected and the benefits more indirect in nature.
III. Direct agricultural assistance and technology transfer:

Pattern 2

This model was presented by Huang Cheng-hua of the Asia Agriculture Center [3], who proposed that a large-scale integrated agricultural project be launched, covering 100 thousand hectares. This initial proposal was rejected by the mainland as the proposed area was deemed to be too large. Fu Chien Province was then proposed as a suitable site, but the revised project was again halted, this time as a result of internal Taiwanese disagreement. As root, this idea of direct agricultural assistance aims to eliminate the gap between Taiwan and the mainland and to achieve the goal of peaceful reunification through technology and business experience transfer. However, Taiwanese domestic politics are not conducive to the adoption of such a project, as it perceived to be advantageous only to China. Even if the Taiwanese government were to agree to such direct assistance, the scale of any project would be limited. In addition, from a technical point of view, many preconditions would have to be satisfied before China accepted assistance from Taiwan and before success could be guaranteed. Should the results of such co-operation be less than satisfactory, future project work would be jeopardized.

The authors believe that this pattern would help increase mainland agricultural production, modernize rural areas and improve the economic situation of the rural population through economic aid. Indeed, such one-way assistance follows the working model and experience of the Sino-America Joint Commission of Rural Reconstruction (JCRR) in Taiwan during 1950s and 60s. However, not all the conditions are in place to replicate the success of the JCRR, even if mutual trust was established between the two-sides (see notes for details). Even if this pattern was to be implemented in only one province or in a large
part of a province, there would still be certain difficulties to be overcome, as follows:

1) The long-term agricultural problems (in particular population levels and food supply) experienced by mainland China are serious, but mainland government officials are more concerned with the immediate problems they face. Neither central nor local governments have yet reached the consciousness of crisis which would push them into modernizing the agricultural sector at no matter what price, such as was felt by the Taiwanese government in 1950. For this reason, the mainland is reluctant to let Taiwanese experts involve themselves freely in both technological and non-technological aspects of agricultural development, including the reorganization of farmers’ associations and a certain amount of social reform. From the experience of JCRR, it is clear that if agricultural development does not proceed hand in hand with deep and broad rural reform, its effect will not be satisfactory.

2) Whether close mutual trust can be developed between the mainland’s agricultural institutions and Taiwanese experts is also of great significance, as the JCRR experience showed that agricultural assistance and exchange is only effective if both parties are in tune with each other.

3) According to the authors’ limited observations, there seems to be a communication gap between mainland experts and their Taiwanese counterparts due to insufficient understanding and the influence of two different cultures rooted in a central planning economy and a market economy. Generally speaking, the mainland does not seem to like to word "assistance" when used by Taiwan, but yet it seldom reject "assistance" from the World Bank or the United Nations. Whether such a phenomena will jeopardize agricultural assistance activities is another consideration.

In conclusion, direct agricultural assistance and technology transfers may come about
over time. However, the range, means and levels of such projects will be mostly limited and a far cry from what was achieved by the JCRR.

IV. Integrated agricultural investment: Pattern 3

This model was first presented by Tuan Chyau in 1991, and focused on the formation of multi-business and multi-objective syndicates in order to achieve the combined targets of patterns 2 and 3. According to Tuan’s observations, a typical investment environment in most rural areas of China consists of inconsistent government support, inadequate supply of raw materials and inputs and less than satisfactory marketing channels. In order to enhance the effectiveness of business operations, a successful investment should unite several enterprises via vertical integration in order to achieve economies of scale and strengthen its bargaining power. The organization of such a business group should make the most of its members’ talents without prejudice to their profit-making incentives in order to capitalise on their combined resources.

Balancing this, assistance in agricultural development and rural reform should also be part of the business group’s objectives in order to strengthen goodwill. The selection of such non-profit-making programs and their operation will need to be directly or indirectly supported by the Taiwanese government or by a bank-financed fund in order to produce similar results to those achieved by the JCRR in Taiwan in the 1950s and 60s. Such community involvement may avoid political complications and unnecessary obstacles to the success of the syndicate.

In order to illustrate this concept, an organizational chart of a hypothetical company
is shown in Figure 1. A syndicate may have variations in operational and organizational
details according to different needs.

1. Shareholders

This enterprise is a limited liability company whose shareholders can be divided into
three categories. One consists of farmer shareholders (retired farmers who intend to lease
their land in Taiwan), the second of current Taiwanese businesses (such as food, sugar,
agricultural inputs including machinery, pesticides, fertilizers and so on) and the third consist
of shares purchased by a government or semi-government fund, or purchased by a bank-
financed fund or an agricultural development bank formed for this purpose. The relative
weight of these categories will depend on actual needs, but the operational principle for such
a company should be that it is run by professional managers and technicians with the sole
criterion of efficiency.

The participation of farmer-shareholders enables: 1) the transfer of various subsidies
paid to them by Taiwanese government during future agricultural development periods (such
as creating free agricultural trade) into business capital; 2) the conversion of farmers into
entrepreneurs; 3) the transformation of farmers' land capital into business investment during
the period of second land reform, when farmland can be leased for a longer term. In
addition, farmers who wish to continue as such can still be employed in planting or
cultivation work by the company.

In addition to providing capital, agricultural enterprise shareholders can use their
profit incentive and professional experience to select investment projects with the highest
potential and can be of use in helping the syndicate maintain its effectiveness and financial
soundness. Of course, such shareholders might consider running their own business rather
than participating in such a group enterprise. However, if the syndicate's profit center system works well, there is no impediment to making or distributing profit and thus the advantages of economies of scale and increased bargaining power become obvious. It should certainly be possible to attract shareholders.

The use of a banking fund or semi-official shares not only provides money and maintains running effectiveness, but also ensures that the syndicate will try to reach the long-term goal of assisting rural development on the mainland, such as the training and development of local labor and resources, some research and development and community service. The profit that semi-official shares achieve should be used for the above activities, so that the syndicate's direct profit-making departments will not be affected, and can maintain their appeal for private shareholders.

2. Organization and Businesses

The organization of the syndicate can be revised according to requirements, but in principle it should be a multi-businesses, multi-profit center company. A hypothetical example is shown in Figure 1:
Figure 1. Organization Chart of the Hypothetical Company

Company

Board of Directors
- Farmers
- Agricultural business
- Agricultural assistant fund

General Manager

Personnel Affairs, Finance, Administrations

Department of Inputs Manufacturing
- Forage/Feedstuffs
- Pesticide
- Agricultural Machine
- Fertilizer

Department of Agricultural Processing
- Sugar Refinery
- Edible Oil and Grease
- Milk/Meat Processing
- Vegetable & fruit

Department of Cultivation and Animal Husbandry
- Company Farm
- Contract Farmers

Marketing Department
- Domestic
- International
- Sell to Taiwan
- Counter Purchases

Research and Development
- Domestic
- International
- Sell to Taiwan
- Counter Purchases

Training, Extension and Community Services
A) Department of Inputs Manufacturing, including production of feedstuffs, fertilizer, pesticides, and light agricultural machinery. Products are not only supplied to the syndicate itself, other companies or sold in the mainland market, but are also sold back to Taiwan or exported.

B) Department of Agricultural Processing, including sugar refining, production of oil and grease, milk, meat, or vegetable and fruit processing factories that increase the value added element of agricultural and husbandry products and solve difficulties of products cost and storage. In theory, these can be sold both in the mainland market or elsewhere.

C) Department of Cultivation and Animal Husbandry, which develops plantations or ranches within the company's land, or uses contracted farmers to grow products for supply to other departments or for sale to the domestic market or Taiwan. The variety of products should thus not only conform to the natural or economic environment, but should comply with agricultural policies in Taiwan in terms of items permitted for import and quantities allowed.

D) Marketing Department, whose major responsibility is marketing to the mainland market, Taiwan and export markets. Owing to the multi-business nature of the syndicate, the marketing department should have a number of sales teams to carry out market research, promotional and selling activities, particularly in terms of the mainland's marketing environment. This department is not merely responsible for developing a selling network but also for educating consumers. In addition, through counter purchases both within and outside this network, they can freely arrange the importation or exportation of items inorder to overcome difficulties caused by a shortage of foreign exchange currency on the mainland or to respond to radical changes in market demands.

E) Research and Development Department, whose function is to support other businesses and to transfer production, manufacturing and management techniques developed by agricultural research institutes in Taiwan and the mainland to local farmers and producers. Thus, this
department should maintain close relationships with research units on both sides of the Taiwan Straits and eventually establish a readily available local research network for the company. Part of the department's work might be of no immediate commercial value and should be supported by the profit generated from semi-official shares.

F) Training, Extension and Community Service, which aims to train employees and contracted farmers in the professional and management skills of the farming and processing business. The direct effects of its activities will be to ensure the consistency of product and material quality, new product development and productivity upgrading. The derived effects will be technology transfers (including management skills) and their extension to the region in order to assist the agricultural modernization of the area. If the mainland can fully accept the necessity of these activities, the department can extend its role to non-economic functions such as those carried out by the JCRR in Taiwan. In the long term, such activities could include the reform of farmers' organizations and rural reconstruction in the area around the syndicate's location and community assistance in terms of elementary education and agricultural education in order to improve the quality of agricultural production and manpower resource. Although these tasks are meaningful, they may lack commercial value in the short-term and should be supported by the profits generated from semi-official shares or through government funding.

In order to provide an incentive for businesses to participate in the syndicate and to create a favorable environment in which it can operate, government policy should be sympathetic to the syndicates objectives and fiscal support offered.

In generally terms, such integrated multi-businesses agricultural investments can be expected to have the following benefits:

1) Taiwan can assist mainland China in agriculture projects and make future relations between
both sides more stable. As this assistance is provided by private enterprises, this is more acceptable to the mainland, and can avoid disputes caused by offering direct agricultural assistance. The capital needed for such projects will be no greater than for other assistance plans - the amount of money proposed for allocation to direct agricultural assistance, for example, might be enough to provide semi-official shares for several companies. As the company is run by professional managers and technologists in accordance with private enterprise principles, its use of allocated money could increase the effectiveness of that funding.

2) If this pattern can be well implemented and co-ordinated, Taiwanese agriculture policy-makers can use it to facilitate the transformation of Taiwanese agricultural in the foreseeable future. For instance, planned emigration of farmers and rural capital could minimize the possible damage to farmers (including unemployment or job changes) of adopting a more flexible agricultural import policy.

3) If integrated agricultural investment companies can be established in a number of mainland areas, many Taiwanese specialists in agricultural administration, research, education, production and extension can have the opportunity to contribute their expertise and develop a second career, despite the declining agriculture trend in Taiwan.

4) Multi-businesses operation with a profit center system can capitalise on economies of scale and increased bargaining power, which can ensure the safety and stability of the investment and operation on the mainland. A diversified and vertically-integrated business can solve some of the problems of inputs supply and increase the value-added element of the company. Although the syndicate has multi-objectives, the profit-making incentive and productivity of its profit-generating departments will not be greatly affected due to this profit center mechanism.
5) Most importantly of all, large-scale private enterprises such as this can develop a positive image and reputation for "Taiwanese experience" through its quality products, commercialized technology for processing, production, management, and marketing as well as the non-profit-making activities such as research and development, extension and community services. Furthermore, companies will be able to form relationships at every level of rural society - from officials to farmers - in a way that no other co-operation pattern or investment plan can compare.

However, there also exist several possible obstacles to such a pattern:

1) If the scale or scope of the investment is large, participation plans may become very complicated and transaction costs very high.

2) The existence of many different businesses within the syndicate may cause problems in reaching agreement on fundamental issues such as its location.

3) Although the level of political implications inherent in such an operation is low, a high degree of local government co-operation will still be necessary.

4) It may not be possible to achieve multi-targets at the same time due to the organizational complexity of the syndicate, nor will such complexities assist the syndicate's chances of existing for any sustained length of time.

5) Sale of syndicate products to Taiwan may face opposition from Taiwanese farmers who have not participated in the investment project.
V. Conclusion

It is of critical importance that relationships between China and Taiwan be stabilized. Both sides should be prepared to contribute to this process through projects such as agricultural co-operation even if they pose complicated problems. However, although the concept of such co-operation has been agreed upon in Taiwan, operational patterns to achieve this have yet to be agreed. This paper has assessed three representative co-operation patterns, but as this study is not empirical, it does not seek to draw definite conclusions as to the most suitable one.

The authors are fully aware of the current political reality as it applies to Taiwan and mainland China. However, in order to improve relations between the two sides, and to show goodwill on the part of Taiwan, the authors feel that any agricultural co-operation (of whatever pattern) is worth proposing and considering. As long as mutual confidence can be established, any pattern of exchange or investment will become politically feasible, and positive interaction between both Taiwan and the mainland will be further strengthened.
Notes

According to Dr. Chiang Mo-lin, the master plan of Sino-America Joint Commission of Rural Reconstruction (JCRR established on October 1, 1948) contained two key objectives: to increase production and to promote social safety [2, p.38]. Production increases included water utilization, irrigation and conservation improvement, prevention of animal and crop diseases, promotion of fertilizers, planting of new and quality crop varieties and rural health improvement. The style and ways of implementation were carefully designed and the process followed step by step. Technology transfer was co-ordinated with local conditions. In terms of social safety, and in order to stabilize rural society, the JCRR assisted with land reform in Taiwan, aided the reorganization of irrigation, fishermen's and farmers' association, and boosted campaigns for population control in the 1960s.

In February 1950, the JCRR handed in its first report since its establishment. The writer of this report noted that, "Since we started our work, upgrading rural living standards has become the fundamental target ... if such schemes can not solve social problems at the same time, we can never reach our goal ... Social problems are much more difficult and basic than the problems of increase in production. Technical and social problems should be solved at the same time, they can not be separated" [1,pp.20-21]. This quotation shows that if the JCRR wanted its work to be effective, social reform issues had to be dealt with. Mr. Chang Shiann-Chiou also illustrated many facts as examples in his memoirs on the JCRR, where based on his working experience in Taiwan and in the World Bank, he concluded, "The key element of the success for agricultural development depends on whether progress in production and rural reform can be in tune with each other or not" [1,pp.21-24].

Chiang and Chang also attribute the success of the JCRR to the government's absolute
confidence in the project and its unreserved co-operation. The commission was allowed to tackle sensitive issues such as land reform, population control and the reforms of farmers’ organizations without government restraint. In terms of the implementation of such projects, the JCRR could co-ordinate it efforts with any units of central, local or provincial government in order to discuss Agriculture Four-Year Plan, national production goals and agricultural budgets for each region. Even the organization of the Department of Agriculture and Forest, Provincial Government of Taiwan was deliberately co-ordinated with the functions of the JCRR to achieve the maximum degree of co-operation. The sections of the JCRR which had no corresponding units in this Department were: Irrigation and Water Conservancy, Land Administration and Rural Health (Figure 2).

There was great flexibility in the JCRR’s allocation of its funds. The JCRR was allowed to deal directly with any government unit, agricultural, fishery and farmers’ organization, or any agency of the Agriculture and Forest Department including local agricultural experimental stations to implement its projects all over the country. The JCRR was also allowed to assist farmers’ associations in carrying out agricultural projects, or subsidizing them to conduct particular pilot studies.

The decision-making power of the JCRR was particularly respected by the government. For example, when Mr. Yin Chung-rung was Director of Economic Stability Council and Industry Committee in the 1950s, he would always consult with the JCRR prior to making statements about the agricultural sector.

Furthermore, Chang recalls that Mr. Lee Lian-chuan, former Chairman of the Food Bureau (one of the critical government units in the 1950s and 60s), would always consult with the JCRR before making the annual decision as to whether the fertilizer-grain exchange rate should be adjusted[1,p.41].
Figure 2. Organization of JCRR and DAFTPG

<table>
<thead>
<tr>
<th>Sino-America Joint Commission of Rural Reconstruction (JCRR)</th>
<th>Department of Agricultural and Forest, Taiwan Provincial Government (DAFTPG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plants Production Section</td>
<td>Sections of: Crops Production, Special Crops Production, Plants Protection; Institutes of Agricultural Experiments, Experiment Stations of Seeds, Silk and Tea.</td>
</tr>
<tr>
<td>Animal Husbandry Section</td>
<td>Section of Animal Husbandry, Institutes of Animal Sciences, Animal Breeding, Serum Production.</td>
</tr>
<tr>
<td>Fishery (originally in plant production) Section</td>
<td>Fishery Bureau, Institute of Aquacultural Experiment and its branches.</td>
</tr>
<tr>
<td>Agricultural Extension Section</td>
<td>Section of Agricultural Extension, Extension Personnel of Experiment Stations, Extension Section in Farmers' Associations.</td>
</tr>
<tr>
<td>Agricultural Economics Section</td>
<td>Section of Agricultural Statistics (which changed into Section of Agricultural Economics in Chang Shiaon-chiou's term).</td>
</tr>
<tr>
<td>Farmers Organization Section</td>
<td>Section of Farmers Organizations</td>
</tr>
<tr>
<td>Agricultural Credit Section</td>
<td>Marketing Group</td>
</tr>
<tr>
<td>Forestry Section</td>
<td>Forestry Bureau, Institute of Forestry Experiment, Bureau of Slopeland Agriculture and Animal Husbandry, Aerial Survey Group.</td>
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