

# **IMPROVING THE AGRICULTURAL FINANCE SYSTEM: THE CHANGING ROLE OF AGRICULTURAL COOPERATIVES IN KOREA**

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## **ABSTRACT**

*This Bulletin illustrates Korea's efforts and initiatives in improving its agricultural finance system, which provides valuable insights and lessons for other Asian countries to emulate. The supply of agricultural credit in the country was described as being monopolized by the agricultural cooperative banking sector, which has a two-tiered federal system with multipurpose functions. Among the factors contributing to the high growth of deposit mobilization of agricultural cooperative system in the country include: productivity improvement and increase in farmer's income due to favorable price policy; and a high interest rate policy especially for deposit and institutional efforts to tap saving's potential. Under the changing economic environment, and with the opening of the Korean market, including the rural financial market, the country has adopted enhanced competitiveness as its main agricultural development policy by: promoting production of high-quality and high-safety farm products; modernizing agricultural cooperative marketing system; and establishing effective supervised credit system especially for agricultural credit supply. In the context of market liberalization and globalization, the cooperative approach is one of the best means to protect small-scale farmers from adverse economic impacts due to its self-help and participatory concepts. To achieve overall improvement of the agricultural finance system, every country must address the following development issues: 1) enhancing capital market flexibility through the continuous improvement of banking services and techniques, and adopting reforms toward a universal banking system catering to both farm and nonfarm credit; 2) improving management efficiency through effective monitoring and evaluation system and development of cost-effective financial innovation; and 3) strengthening supervised credit system.*

## **INTRODUCTION**

The Korean economy has experienced a rapid growth during the last three decades, showing an average annual growth rate of 8.3 percent during the period 1970-2002, mainly due to the industry-first and export-oriented economic development strategies. The overall rapid growth of the Korean economy has been largely attributed to the remarkable growth in

both secondary and tertiary sectors. The agriculture sector has relatively lagged behind in its growth compared to the other sectors. Output from the manufacturing sector has grown during the same period at an average annual rate of 14.7 percent, while the agricultural sector has shown an annual average growth rate of only 2.9 percent. As a result, the contribution of the agricultural sector to Gross National Product (GNP) has

Key words: agricultural cooperative credit, technical change, savings mobilization, management efficiency, capital market flexibility.

dropped down from 26.8 percent in 1970 to only 4.0 percent in 2002 in view of the rapid population migration to urban areas.

## **AGRICULTURAL DEVELOPMENT IN KOREA**

Agriculture in Korea is characterized by small farm holdings mainly devoted rice farming. Average size of farm holding per farm household is only 1.3 ha. Almost two-thirds of total farms has less than 1 ha of arable land. Approximately one-third of total farms has less than 0.5 ha of farmland. This represents marginal farmer, though it is difficult to find landless farmers among them mainly due to the land-to-tiller principle implemented as a drastic land reform program in the early 1950s. Crop production accounts for 69.7 percent of total value of agricultural production and the rest, 30.3 percent, comes from animal and other products in 2002. Among the different crops grown, rice is the most important crop both in terms of its acreage and production. Rice occupies approximately 61.1 percent of total cropped area in 2002.

The principal objective of the Korean government's economic development policy is to achieve rapid industrialization. Agriculture assumed priority only when its performance appeared to complement this goal. A number of development programs have been launched to increase agricultural production. Achievement of agricultural production during the last decades should not be underrated. Though the agricultural growth rate is far behind that of nonagricultural sector during the same period, it is much more than the population growth rate. Accordingly, the per capita agricultural production has been increasing by 1.8 percent annually during the period 1970-2002. Rice yield per hectare also increased significantly from 3.3 metric tons in 1970 to 4.7 metric tons in 2002. Accordingly, the farm household income increased during the same period, from US\$ 808 in 1970 to US\$ 19,561 in 2002. In fact, the per capita income of rural farmers was only US\$ 139 in 1970, which increased to US\$ 6,985 in 2002, although there was a large disparity gap of per capita income between rural farmers and their urban counterparts.

The most important objective of the Korean agricultural policy during the early stage of

development was to break the so-called vicious circle of poverty prevailing in the country. It was challenged by two broad policy variables: one was the introduction of new technology and the other was improvement of institutional arrangement. Land reform which was implemented in the early 1950s has made Korean farms homogeneous in terms of its farming size. Based on the land reform, the land ceiling of 3 ha per farm and the land-to-tiller principle were introduced.

The establishment of multipurpose agricultural cooperatives throughout the country became a vital institutional arrangement for technical change. It was a kind of merging program of two rural institutions, one was the agricultural bank and the other the agricultural cooperative. In 1961, these two important rural institutions were merged into the so-called multipurpose agricultural cooperative. It may be pointed out that the establishment of the multipurpose agricultural cooperative system throughout the country was marked as a one-agency approach for rural development in Korea.

The important factors for the successful introduction of new technology include, among others:

- 1) high-yielding variety of rice;
- 2) modern inputs;
- 3) price policy; and
- 4) institutional credit.

The introduction of new technology includes, among others, new high-yielding rice variety, efficient supply of chemical fertilizer, and plant protection. It must be also complemented by favorable price policy and adequate supply of institutional credit for farmers.

Almost all the important development programs which include agricultural cooperative activities, supply of modern inputs such as seeds of high-yielding rice variety, chemical fertilizer, plant protection, supply of credit and marketing of farm products, and the government rice procurement program (GRPP) were carried out only by the agricultural cooperative system. In fact, the supply of agricultural credit has been monopolized by agricultural cooperatives in Korea. It is generally understood that successful implementation of new technology including the introduction of new high-yielding rice variety

and other supporting services requires adequate institutional arrangement which guarantees the efficient diffusion of new technology for farmers.

In Korea, new high-yielding rice variety was introduced in 1970 and approximately 76 percent of total paddy areas was under new high-yielding rice variety in 1978. Average use of chemical fertilizer increased from 162 kg per ha in 1970 to 290 kg per ha in 1978. Accordingly, rice yield per hectare significantly increased from merely 2.9 metric tons in 1967 to 4.9 metric tons in 1977. The rice production and consumption in Korea increased by almost 70 percent during the period of 1967-1977 as a result of successful implementation of new technology.

The GRPP, which was also one of the important factors for the satisfactory introduction of new technology, started in the early 1970s with a dual rice price system. Under the GRPP, rice was purchased from farmers at higher price than the market price and released to consumers at lower price. During the period 1969-1978, annual increase in rice price by the GRPP was recorded at 22.1 percent, whereas annual increase in consumer price index was 14.6 during the same period. It should be pointed out that farmers have gained annually 7.5 percent from the rice price policy by the GRPP during the period. The gap between the price paid to farmers and the price paid by urban consumers ranged from 27.0 percent point in 1975 to 52.7 percent point in 1990 and this gap has been entirely supported by the government budget. It must be pointed out that the favorable rice price policy for the high-yielding variety of rice became one of the important factors for the rapid adoption of new technology by farmers.

Another important factor for the successful introduction of new technology was an increasing supply of institutional credit. The agricultural cooperatives have mobilized increasing amount of savings both from farmer members in rural areas and nonmembers such as urban dwellers, and started to provide increasing amount of institutional credit to member farmers to meet the credit needs both for their agricultural production and home consumption. The supply of institutional credit was especially substantial during the same period. On an average, the share of

agricultural cooperative credit to total farmers' debt increased from 31.3 percent in 1970 to 81.5 percent in 1990, and accordingly farmers' dependency on private money market drastically decreased from 62.5 percent in 1970 to 8.7 percent in 1995, and has gone down to 5.5 percent in 2002. The rapid growth of the mutual credit program of agricultural cooperatives has, to a large extent contributed to the drastic decrease in farmers' dependency on private money market during the last two decades. It can be seen from the Korean experience that the one-agency approach for rural development had an advantage of minimizing the leakage effect on various development programs especially in small farm agriculture.

### **AGRICULTURAL COOPERATIVE AND CREDIT SUPPLY**

The structure of agricultural cooperative in Korea takes a pyramidal shape with a two-tiered federal system. It is organized at two different levels, consisting of the National Agricultural Cooperative Federation (NACF) at the national level and 1,366 primary cooperatives at the primary level throughout the country. Almost all the farmers are members of agricultural cooperatives throughout the country. All the agricultural cooperatives at different levels are multipurpose in their function. Not only do they operate banking business, but they also deal with other support services such as input supply, marketing, purchasing, and even mutual insurance. However, agricultural credit service is the most important in terms of its business volume and surplus. The agricultural cooperative handles all kinds of credit including short, medium, and long-term credit through a two-tiered organization. Agricultural credit is almost monopolized by the agricultural cooperative in Korea.

The growth of the banking business of both the primary societies and its apex, the NACF, has been remarkable especially during the last two decades. The agricultural cooperatives have mobilized a large amount of deposits both from rural and urban areas and supplied an increasing amount of credit to farmers. Since the capacity of savings mobilization with the mutual credit program was

not enough, it was the NACF which was able to mobilize a large volume of deposit in the urban area and channelled them to member farmers through primary cooperatives especially during the early stages of rural development.

Mutual Credit Programme (MCP) is the banking activity of the primary societies. All the primary societies are dealing with the MCP in Korea. The main purpose of the MCP is to mobilize deposit from member farmers and supply them to member farmers who need credit. Achievement of the MCP at the primary level has been remarkable. Average annual growth rate of the deposit mobilized with the MCP during the period 1975-2000 was 32.2 percent, while it was only 22.5 percent in the case of commercial banks. Accordingly, average annual growth rate of loans outstanding of the primary societies was also much higher than that of commercial banks, showing 32.8 percent for the primary societies and 20.9 percent for the commercial banks during the same period. As a result of rapid expansion of cooperative credit supplied by the primary societies, a farmer's share of borrowings from agricultural cooperative has increased from 31.3 percent in 1970 to 84.2 percent in 2002. There may be many factors which can explain the high growth rate of deposit mobilized by the primary cooperatives in Korea. The important factors affecting the deposit mobilization with the primary cooperatives may include, among others:

- 1) improvement of productivity and farmers' income;
- 2) favorable interest rate policy;
- 3) farmer's positive attitude towards saving; and
- 4) efficient saving-mobilization plan for rural credit institution.

Productivity improvement becomes important in rural savings mobilization because of the assumption that it increases farmer's income gain from technical change and thus increases small farmer's ability to save. Favorable interest rate policy for deposit becomes one of the important ingredients for rural savings mobilization. Higher interest rate in the rural money markets may be attractive both to rural and urban savers. Sometimes interest rate may give an attraction to private money lender in the rural areas. Promotion of savings behavior through various means of advertisement and

education is another important factor in increasing rural savings. Especially various attractive strategies such as beautiful deposit-box scheme and schoolchildren deposit plan were implemented to promote the savings behavior of primary school children in Korea. Provision of savings facilities both in rural and urban areas provides rural credit institutions the ability to acquire more resources for small farm credit. There are various measures for monitoring and supervising the savings mobilization of the MCP. Target management and incentive systems are some of the important means through which the savings mobilization of the MCP are monitored and supervised. A deposit-bonus system was introduced to provide an incentive for the bank employers.

Following are some of the important credit schemes which were introduced for the success of the MCP:

- 1) package program of credit-supply with modern inputs;
- 2) farmer's loan ceiling system;
- 3) credit guarantee scheme; and
- 4) group lending.

Supply of credit was tied up with supply of modern inputs such as high-yielding variety of rice and more use of chemical fertilizer and plant protection. Accordingly, the amount of loan per farm and the amount of modern inputs such as chemical fertilizer and plant protection have been periodically monitored and supervised by the primary societies. The advantage of the credit limit system is that it gives more equal allocation of limited funds especially for small farmers when there is severe shortage of loanable fund with credit institution. The main objective of the credit guarantee scheme is to provide credit to farmers who do not have adequate collateral for medium- and long-term credit. Group lending technique has also been introduced in the MCP since the early 1970s in Korea. In fact, the group lending system was introduced to reduce the loan transaction cost. However, as the size of the loans borrowed by the member farmers increased, the group lending practice has been decreasing very much mainly due to the farmer's fear of other counterpart farmer's bankruptcy.

## **CHANGES IN AGRICULTURAL ENVIRONMENT**

The productivity of the agricultural sector has shown a remarkable achievement during the period 1970-1980 mainly due to the successful introduction of new technology in Korea. In particular, self-sufficiency in rice production was attained because of the successful introduction of new high-yielding rice variety. Total rice production increased significantly that the domestic supply of rice was enough to meet total consumption. Ratio of rice self-sufficiency was recorded at more than 100 percent since 1985 and 107.0 percent in 2002.

However, the economic environment of Korean agriculture has drastically changed during the last decade. There are two indicative factors by which the total agricultural environment was enforced to change:

- 1) Establishment of WTO system in 1995; and
- 2) Foreign exchange crisis in 1997.

The new world trade order under the WTO has forced the Korean agriculture, which has been undergoing some agricultural adjustments, to open the market, henceforth all farm products except rice were opened by the year of 2000. It should be noted that the open market economy has depressed the Korean agriculture, which experienced depression both in terms of agricultural productivity and farm household economy.

The structural adjustment program has been implemented by the government in order to improve the competitiveness of Korean agriculture under the WTO. Approximately US\$ 48 billion has been invested in the agricultural sector for the agricultural adjustment program during the last decade. Production infrastructure such as irrigation facilities, readjustment of farm land, marketing facilities and development of new technology were the main strategic areas. Most of the government investment was channelled to these production infrastructure with the help of the agricultural cooperative system. The important role of agricultural cooperative to enhance the competitiveness of Korean agriculture includes, among others:

- 1) production of quality and safe farm products;
- 2) modernization of agricultural cooperative marketing system; and

- 3) providing support services including supply of institutional credit.

One of the important objectives to increase the competitiveness of Korean small farm agriculture is to improve the quality of farm products and food safety. The government program loan for this purpose has been supplied through the agricultural cooperatives with a concessional interest rate. All government policy loan is characterized by low interest rate to induce farmer's investment. Another important strategy for the improvement of competitiveness of Korean agriculture is the modernization of the marketing system with emphasis on agricultural cooperative marketing. Marketing share of important farm products by the agricultural cooperatives should be increased to supply quality and safe farm products to urban consumers through the agricultural cooperative system.

## **IMPROVING THE AGRICULTURAL FINANCING SYSTEM**

Agricultural cooperatives amid changes in the agricultural environment needs to strengthen cooperative credit, improve the efficiency of agricultural credit supply, and enhance the capital market flexibility to offset the weakness of the banking business in Korea. In the context of trade liberalization and globalization of the Korean rural economy under the WTO, the cooperative approach is one of the best means of self-protection for small farmers. The important role of the agricultural cooperative is influencing agricultural market. The cooperative approach is important under the liberalized market economy and can improve sustainability under the environment of keen competition, liberalization, and globalization.

The important merit of the cooperative approach is that it is an association of small farmers for their common need with members' participation. This and the practical operation of cooperative principles will strengthen the sustainability of cooperatives. Nonobservance of cooperative principles may cause its distortion. In particular, the principle of member's participation should be emphasized since it is the most powerful single factor for the success of agricultural cooperative development.

The efficient management of cooperative credit is very complicated. Continuous

improvement of cooperative management efficiency is one of the important conditions by which sustainability of cooperative development can be secured in the keen competitive market. Especially in the context of supplying agricultural credit, it is necessary to establish the so-called supervised credit system.

One of the important purposes of supplying credit to farmers by the agricultural cooperative is to improve agricultural competitiveness in the open economy. Medium- and long-term credit supply for farmers are selective and heavily supported by cheap government loans. Unless cheap credit policy for core farmers are efficiently supervised, the defects of low interest policy such as excess demand and inefficient use of limited resources can not be properly checked and will accordingly lead to inefficient management of agricultural cooperatives.

Since the 1997 foreign exchange crises, economic as well as financial reforms are under implementation in Korea. The agricultural sector has been badly affected by the financial crisis. There is a widening gap between prices received and paid by farmers. As a result, the farm household income has not been improving. Especially, the large or core farmers who have borrowed their investment fund from agricultural cooperatives are not able to repay back their debt and are mostly suffering from heavy debt-burden. It must be pointed out that the increasing supply of government concessional loan to farmers creates dual interest market system. One is credit supplied by agricultural cooperatives from their own resources at market interest rate, and another is, government policy loan also supplied through the agricultural cooperative system at lower interest rate. One remedy for the defects of the dual interest rate policy is the emphasis on effective supervised credit system. What is so far not being systematically addressed in the debate on how to improve supervised agricultural cooperative credit is poor information among diverse clients. It is necessary to have an effective supervised credit supply system which can eliminate these shortcomings of the agricultural credit program.

One of the important features of the agricultural cooperative system in Korea is its

potential to mobilize a huge amount of deposit both from urban and rural areas. The total amount of outstanding deposit mobilized by agricultural cooperatives by the end of 2003 was approximately 189 trillion Won or US\$151 billion. Approximately 46 percent of the total deposit was mobilized by the NACF, mostly from urban areas, whereas 54 percent was mobilized by primary societies. There still exists a large potential of mobilizing a huge amount of resources by agricultural cooperatives.

This means that the banking sector of agricultural cooperatives enjoy abundance of resources, to the extent that total amount of credit supplied to member farmers by the agricultural cooperative system is much more than the member farmers' credit requirement. There is no shortage of credit supply to farmers mainly because of the huge amount of deposit mobilized by agricultural cooperatives.

It is contended that unless agricultural cooperatives find credit demand from nonfarm sectors, there will certainly be a limit to the growth of agricultural cooperatives. Under this situation, agricultural cooperatives at different levels will have to take measures at their own instance to reform themselves and to provide not only agricultural credit but also nonfarm credit. It is necessary for agricultural cooperatives develop various banking techniques, as well as skilled labor as a kind of universal banking system.

To conclude, the agricultural cooperative system has played an important role in breaking the vicious circle of poverty during the early stages of development in Korea. Especially when institutional credit in the rural money market was severely limited, the increasing supply of agricultural cooperative credit had to a large extent contributed to the decrease in farmers' dependency on the exorbitant private money market.

There is a vast scope for agricultural cooperatives to expand under the liberalized economy. Agricultural cooperatives have potentials to successfully challenge the competitive market since the cooperative approach has its own advantages in the market economy.

It is proposed that the banking sector of the agricultural cooperative system must be specialized and developed in the future as a

universal banking system with much emphasis on the agricultural credit sector under recent trends in trade liberalization and globalization.

## SUMMARY AND CONCLUSION

Korea's agricultural cooperative, which has a two-tiered federal system with multipurpose function, has played a substantial role in breaking vicious cycle of poverty by increasing supply of agricultural cooperative credit during the early stages of development. Important factors for the successful introduction of new technology include, among others, high-yielding rice variety, efficient supply system of modern inputs such as chemical fertilizer and plant protection, favorable price policy, and increasing supply of agricultural cooperative credit. The increasing supply of credit by the agricultural cooperative system is based on its high capacity to mobilize deposit both by the NACF and primary societies.

Many factors might have contributed for the high growth of deposit mobilization. These are, among others, an increase in farmers' income due to favorable price policy, a high interest rate policy especially for deposit, and institutional efforts to tap savings' potentials. However, the economic environment of agriculture in Korea has drastically changed during the last decade mainly due to two factors, namely, the WTO in 1995 and the foreign exchange crisis in 1997. The former has enforced the opening of the Korean agricultural market and latter the liberalization of capital market including rural capital market. The main objective of the Korean agricultural development policy under these changing environment is enhanced competitiveness. Strategic targets to improve its competitiveness include promotion of the production of high-quality and high-safety farm products, modernizing agricultural cooperative marketing system, and establishment of effective supervised credit system especially for the agricultural credit supply.

In the context of trade liberalization and globalization, the cooperative approach is one of the best means of self-protection for small farmers mainly due to its self-help concept and member's participation. It is therefore vital for agricultural cooperatives to strengthen cooperative credit, improve the efficiency of

agricultural credit supply, and enhance capital market flexibility to overcome the weakness of the banking business of agricultural cooperatives. Especially, members' participation in the agricultural cooperative approach and effective supervised credit system must be emphasized for the improvement of the agricultural financing system. It is also urged that the banking sector of agricultural cooperatives must take measures to reform themselves into a universal banking system by which both farm credit as well as nonfarm credit will be efficiently supplied.

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