Challenges and Various Developmental Strategies in the Korean Urban/Peri-Urban Agriculture

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ABSTRACT

During the second half of the 20th century, Korea has made significant developments in the area of Urban/Peri-urban Agriculture (UPA) using available resources in various socio-economic environments, and consequently in converting traditional development strategies into new approaches to address emerging challenges in UPA, specifically in terms of agricultural economics, environmental concerns, and rural development. This paper describes the historical development and current situation of UPA in Korea, as well as recent challenges and various strategies being adopted in the country. It focuses on some critical factors influencing Korea’s UPA, such as the rising farmland price, declining price competitiveness, and the waning farmers’ interest in agricultural production. In the course of overcoming these challenges, new strategies and approaches in the promotion and development of UPA are also discussed. Lastly, this paper looks into successful cases related to the development of UPA in Korea, which are initiated by agricultural cooperatives and implemented in collaboration with member-farmers, municipal and central government, and civilian affirmation movements.

Keywords: Urban/Peri-urban Agriculture (UPA), socio-economic strategies, agricultural cooperatives
INTRODUCTION

Korea has accomplished high growth of economy from 1970s, and urbanization has been enlarging at a high speed with economic growth. The rate of urbanization in Korea is almost 80%, and moreover half of the total population lives in peri-urban area of Seoul, the capital of Korea.

At the beginning of early urbanization, Korean UPA could have been developed in favorable conditions. Agricultural products cultivated in peri-urban area could be delivered promptly to big city. And it was easy to find workers who live in city or peri-urban area. Peri-urban area was also much more favorable for farmers to find out consumer preference change and connect it speedily to agricultural production.

But recently, the development of transportation and communication system has weakened various advantages of peri-urban farming. For example, the development of transportation and communication system has reduced geographical advantage of UPA. And the great rising of land price caused by rapid urbanization has increased product cost, and it resulted in decline of price competitiveness of agricultural products cultivated in peri-urban area. Furthermore, city dwellers have owned much of the peri-urban land, and they didn’t have little interest about farming. They bought the farmland just expecting rise of land price.

Nowadays central government, local government and agricultural cooperatives as well as farmers are trying to re-develop UPA. But the strategies are different to those of the past. What is most peculiar thing is that environmentally friendly farming, green tourism and information technology are being connected to UPA. This phenomenon is creating re-conceptualization about UPA. And these endeavors are expected to supply new momentum for the development of UPA.

The purpose of this paper is to review the present situation and the developmental strategy of Korean UPA. After a brief sketch of history of Korean UPA, the first section explains favorable and necessary factors for the development of UPA. The critical factors to weaken UPA are addressed in the following section. The last objective of this paper is to look into the strategies being processed nowadays to re-develop UPA in Korea.
THE HISTORY OF PERI-URBAN AGRICULTURE IN KOREA

1. The development process of peri-urban agriculture in Korea

Korea has small land space for its population. Moreover, about 70% of the total land space is composed of mountains. Hence farmland is so scarce. Because of the small size of farmland, many kinds of agricultural products are being cultivated intensively in a small scale. This type of farming has been sustained for a long time. The industrialization has processed rapidly from 1970s in Korea. As industrialization promoted, many farmers gave up farming and moved to urban area to get more profitable jobs. In Korea, the amount of export has risen up from 0.8 billion dollar in 1970 to 254 billion in 2005. But the number of farmers has dropt from 15 million to 3.4 million during the same period.

![Figure 1. The trend comparison between number of farmers and export amount in Korea](image)

In the mean time, industrialization made a good impact for the promotion of UPA. UPA had geographical merits close to big city. It gave many favorable conditions for the development of UPA. First of all, there was a big market at the very behind of peri-urban farmland. In the past, transportation and delivery system were not well developed. Railroads and highways were not also well equipped. So it was very difficult to deliver agricultural products promptly to market. Therefore it was impossible to grow agricultural products needed freshness in rural area located far away from market. For that reason, agricultural products needed to keep freshness
were mainly cultivated in peri-urban area. Vegetables and flowers were included in these products. According to statistical data, the number of total Korean farm households cultivated vegetables was 34,000, and almost 14%(4,800 households) lived in peri-urban area of Seoul in 1970s. In terms of cultivated area, the peri-urban area of Seoul occupied 12.1%. Considering the condition that peri-urban area near Seoul had little farmland, the percent ratio was so high.

The reasons that distribution and processing system were not well equipped also precipitated the development of UPA. For example, in the case of dairy industry, facilities needed to process milk were not well equipped in rural area. Cooling system and storage houses were also scarce in rural area. Under the situation of highways and railroads deficiency, insufficient storage and processing facilities obstructed the development of dairy industry in rural area.

UPA had been continuously developed with the process of urbanization. Especially, vegetables and flowers, fruits mainly were cultivated in peri-urban area. These were value-added products sold at a high price and needed to keep freshness for a while and quick delivery. Therefore vinyl or plastic green house farming, and dairy industry needed a lot of capital investment had been conducted actively in peri-urban area.

2. The necessary conditions for the development of peri-urban agriculture

UPA could have been developed in the beginning of early industrialization. In those times, there were many favorable conditions for the development of UPA. These conditions were as follows.

(1) The favorable conditions of production requisites supply

The three requisites for agricultural production are labor, land and capital. In the beginning of the early industrialization, the production requisite conditions were favorable for UPA.

Firstly, there was abundant of labor force in peri-urban area. Korea had succeeded in industrialization at a high speed from 1970s. As a result, many farmers moved from rural area to urban area to get more profitable jobs. Therefore it was so difficult to find workers in rural area. On the contrary, it was easy to get workers in peri-urban area. The farmers who had left rural area mainly settled in peri-urban area of big cities. Because housing rent cost was so high, the farmers could not live in the
city. Therefore there was much abundant labor force in peri-urban area. And many of the workers in peri-urban area couldn’t get regular jobs. The workers supplied the labor forces to UPA. And there were much more workers who didn’t get the regular jobs, labor cost was not high. These favorable conditions in terms of labor forces became factors for the development of UPA.

Secondly, to get the farmland for farming was not difficult in peri-urban area. At the beginning of industrialization, the urbanization in peri-urban area did not yet process severely. That is, even though urbanization processed day by day, there was still much farmland in peri-urban area. Moreover, much of the land around big city was designated as greenbelt area. The purpose of greenbelt was to prevent enlargement of urban area. The built of factory and house was constrained in greenbelt area. So farmers in greenbelt area could occupy farmland more easily. And land price was not so high in the beginning of early industrialization. So farmers could get large farmland for UPA.

Thirdly, investment for UPA was favorable to farmers. The products cultivated in peri-urban area could be sold at more favorable price than the products cultivated in remote-urban area. And the agricultural products cultivated in peri-urban area could be delivered to market very rapidly. So it was possible to keep products fresh during delivery. It improved quality of agricultural products cultivated in peri-urban area. And because of high product cost, high price agricultural products were mainly cultivated in peri-urban area. Farmers were also growing mainly value-added agricultural products in peri-urban area. As a result, agricultural products cultivated in peri-urban area could be sold more expensively. And this fact permitted farmers to invest much money for farming.

(2) The favorable market conditions

Peri-urban area had large consuming market at the very behind. There were many wholesale and retail markets close to farmland. Because there was a great market near the peri-urban area, it was easy to deliver and sell agricultural products to consumers promptly.

Geographical conditions close to big market could contribute to reduce delivery cost. Because the distance was short to market, UPA was favorable in terms of cost reducing compared to remote-urban agriculture. Consequently it resulted in lowering the price of agricultural products cultivated in peri-urban area, and gave more favorable conditions in terms of price competitiveness.
In the past, the facilities related to agricultural processing, cooling and storing were scarce, and moreover they were mainly aggregated around city. So it was so inconvenient for farmers in rural area, but it was very useful thing for farmers in peri-urban area. Farmers in peri-urban area could use the facilities conveniently. And they also could supply agricultural products to the factories as raw materials. It gave another route of selling agricultural products. Sometimes, some factories invented new processed foods using agricultural products. It gave new market for agricultural products. Farmers could get new chance to enlarge sales of agricultural products connecting with these factories.

Farmers who did farming in peri-urban area could get information about market more easily. Because UPA was located at the place close to markets, it was easy for farmers could find information related consumers. Farmers got information about new consuming trend, production skill, etc. They adapted the information to agricultural production and raised quality competitiveness of agricultural products by using it.

(3) The situation of early economic development

The fact that transportation system had not yet developed in the beginning of industrialization had become favorable condition for development of UPA. In the past, transportation and communication system were not well equipped. Railroads and highways were scarce and telecommunication systems were also insufficient. Therefore it was so inconvenient to deliver agricultural products from rural area to urban area. Moreover cost of transfer was so high that remote area farming had many difficulties than peri-urban farming. Especially products needed freshness had many handicaps for remote area farming. Because of the scarce of transfer system, it was difficult to sustain freshness of agricultural products for a long time. So vegetables and fruits needed freshness had to be cultivated in close area to big cities.

In the meantime, economic growth made Korean people consume much food. Especially, many Koreans could consume expensive agricultural products like fresh vegetables, fruits and meats as a result of economic growth. Before industrialization, these agricultural products were not consumed so much. But as income level increased with success of industrialization, many people could buy more high price agricultural products. And these agricultural products were mainly cultivated in UPA. Therefore as industrialization successfully developed, UPA also could develop at the same time.
THE PRESENT SITUATION OF PERI-URBAN AGRICULTURE IN KOREA

1. The urbanization and peri-urban agriculture

As a result of industrialization, the urbanization has enlarged rapidly. And the process of urbanization has resulted in rise of land price in peri-urban area. And land price rise has made many effects on UPA. These are as follows.

(1) The effects of land price rise to peri-urban agriculture

The most important thing that urbanization made effects to UPA was land price rise in peri-urban area. The rise of land price was apparently enjoyable thing to farmers who hold farmland in peri-urban area, but it also brought about many problems in terms of farming. The rise of land price in peri-urban area was caused not by expecting of agricultural income rising but by expecting of possibility that the usage of farmlands would be transferred to factory or house sites. If farmland would be changed to factory or house site then owners could get a great of marginal profits. Therefore the bigger of gap between the farmland value and factory or house site price, the bigger of possibility that farmland usage would transfer to factory or house site.

The effects of UPA caused by land price rise can be classified as follows. Firstly, because of high land price, the pattern of farming is changed gradually to capital-intensive agriculture. That is, much more capital is invested to agriculture and it strengthens commercial agriculture. Secondly, farmers just sustain traditional farming without additional investment, expecting rising of land price in the near future. In this case farmers have more interest about land price rise than improving agricultural productivity. Thirdly, farmers sell some parts or all lands to get marginal profits after rising of land price. Farmers who sold all farmlands quit farming and moved to cities for new jobs. And some farmers stay continuously at peri-urban area getting a side job in city.

Urbanization can affect UPA positively or negatively at the same time. That is, enlargement of urbanization can precipitate capital-intensive commercial agriculture, and it makes good effects to improve agricultural competitiveness. But some farmers sell farmlands to get marginal profits, or just hold farmland expecting rising of farmland price. And it will weaken the foundation of UPA.
(2) Capital-intensive peri-urban agriculture

Agriculture can be classified as two types. One needed wide farmland, and the other is that transportation, capital and skill are more important than size of land area. The agriculture needed wide farmland is not apt to UPA because of the high land price. On the contrary, capital-intensive agriculture needed much capital investment is more suitable. For example, compared to grain agriculture, capital investment and farming skills are more important than size of land to horticulture. Therefore in peri-urban area, vegetables, fruits and flowers are mainly cultivated.

In Korea, rice farming is absolutely important. So paddy field price is generally higher than dry field’s. But in peri-urban area, dry field price is generally higher than paddy field price. In peri-urban area, horticultural agriculture is widely conducted than rice farming. So demand of dry field is higher than that of paddy field. And because dry field can be transferred more easily to factory or house site than paddy area, dry field price is higher than paddy field’s.

Consequently, in peri-urban area, capital-intensive agriculture is mainly conducted than rice farming. That is because of high land price. And the price of dry field that will be expected to transfer more easily to the factory or house site in the near future has risen up more highly than paddy field’s.

2. The recent challenge of peri-urban agriculture

(1) The competitiveness decrease of peri-urban agriculture

The development of transportation and communication system has weakened favorable conditions of UPA. By help of transportation and cooling facilities development, farmers can deliver agricultural products to market very promptly and keep them fresh for a long time. Therefore location close to big city has no more geographical merits. Secondly, farmers who do farming in remote area far from cities can easily get new farming skill and information by help of communication development. As a result technological gap between rural and urban area gradually has disappeared. Therefore remote-urban agriculture has shown up as a competitor of UPA.
For these reasons, the fact that production area is close to big city does not guarantee high agricultural income. So location has become no more sufficient condition for high income to farmers.

On the contrary, UPA has some demerits compared to remote-urban agriculture. Land price is so high in peri-urban area, so it cost too much to buy or get lent of farmland. Because too much money is needed to get farmland, farmers have difficulty to ensure additional money needed for operation of farm business. And some farmers just sustain farming without effort expecting rising of land price. It also shrinks UPA. These factors are weakening merits of UPA.

The development of storage, cooling system also is weakening merits of UPA. In the past, it was very difficult to keep agricultural products fresh for a long time because of insufficient marketing facilities. Therefore UPA that could deliver agricultural products quickly to market had many merits. And because most of marketing facilities were concentrated in the around of the city, UPA had merits to use these facilities. But in nowadays, agricultural marketing facilities rapidly developed. Cooling system and storage facilities have been set up in widespread area. These factors also reduce merits of UPA. Farmers who do farming in farmland located far from city now can easily use these facilities.

High price of peri-urban land and development of transportation, communication and marketing facilities have made remote-urban farming more favorable. Now in terms of productivity and efficiency, remote-area farming has surpassed UPA. And because of these reasons, UPA has shrunk more rapidly.

(2) The rise of farmland price

As urbanization goes on, peri-urban land price is also going up. According to statistical data, the farmland price in peri-urban area has risen up from 36$/3.3m² in 1990 to 73$/ m² in 2004(Figure 2). We can know that farmland price has risen up more than 2 times higher during the same period. Moreover much farmland has diverted to factory or house site. And this fact has become reasons to breakdown foundation of UPA.

There is a law that restricts diversion of farmland to factory or house site. But as urbanization goes on, demand for housing and factory site is also rising. Therefore the law can never stop diversion of farmland to other usage. The diversion of
farmland to other usage means that land price goes up dramatically.

The rise of land price gives many opportunities to farmers. Firstly, some farmers still use farmland for farming. In this case, because land price is so high, capital-intensive farming is suitable for UPA. For example, grain farming is not suitable for UPA. Secondly, farmers just hold farmland not for farming but as a high price asset. In this case, farmers do not take part in farming actively, expecting rising of farmland price. Thirdly, farmers divert farmland to other usage. In this case, farmers sell farmland to other company and investors.

Second and third factors are reasons to obstruct development of UPA. If land price goes up, it is very difficult for farmers to sustain farming because cost for lent or buying farmland is so high. Therefore rise of land price results in shrink of UPA.

Figure 2. The trend of farmland price in peri-urban area of Korea
Source : Ministry of Agricultural & Forestry Republic of Korea

(3) The decrease of farmers’ will to develop farming

As a result of industrialization, opportunity to get a job increases in urban area. So farmers who live in peri-urban area can easily get side jobs. It means that farmers who live in peri-urban area get easily side jobs than those who live in rural area. Especially because Korean farmers are mostly small-income farmers, side jobs are most important to farmers.
Therefore farmers who live in peri-urban area can take choice between two options. The first option is entering capital-intensive commercial farming. Second option is to get side job. These two options can give possibility to get much more income to farmers who live in peri-urban area than other farmers who live in rural area.

But increase of farmers who have side jobs has a negative effect on UPA. Especially many young farmers moved to cities to get jobs. And as farmers who get jobs in the city increase, it becomes more difficult to find workers in rural area. It resulted that many farmers gave up labor-intensive farming because of labor scarce. And as farmers who got jobs in the cities earned more salaries, they did not do farming actively. And farmers just were satisfied as owner of land which price is so high.

The increase of farmers who get side jobs contributes to income rising of farmers. But farmers who get side jobs obstruct development of agricultural productivity. Because there are side jobs, farmers did not do farming actively. They do farming just for pleasure and hobby. And young farmers continuously are tempted to get jobs in the city. These factors become reasons to decrease quality of labor for farming.

(4) Small farming structure

Land price and rent cost is generally so high in peri-urban area. Therefore it is difficult for farmers to get large farmland. Especially In Korea, many companies and investors owned much of land in peri-urban area. These investors owned land expecting rising of land price. Therefore they have little interest about improving agricultural productivity. Because investors owned much land in peri-urban area, it is so difficult for farmers to enlarge farmland. Therefore UPA is mostly conducted as a small scale.
Figure 3. The number of farmers by farmland scale
Source: Ministry of Agricultural & Forestry Republic of Korea

It is also so difficult for farmers in peri-urban area to increase size of farmland, because they have little money and land price is so high. And many farmers just are engaged in farming expecting rise of land price. Consequently, small farming structure continuously is sustained, and it obstructs development of UPA.

THE DEVELOPMENTAL STRATEGIES OF PERI-URBAN AGRICULTURE IN KOREA

1. The recent crisis of Korean agriculture

Korean agriculture meets enormous crisis in nowadays. As a result of agricultural imports enlarging, competitiveness of Korean agriculture is sharply declining. Korean rice price is 4~5 times lower than that of other countries. And from 2006, imported rice has started to be sold to consumers directly from the first time. Even though the amount is yet small, many Korean farmers it will shock market enormously. Rice farming is very important to Korean agriculture. Rice farmers occupy 73.7% of all Korean farmers. Rice production value is 32.5% of total agricultural production. Therefore enlargement of rice imports will devastate Korean agriculture enormously. Many Korean farmers are worrying about that very seriously.

Recently, Korean government is pursuing FTA with USA. USA has a strong power in agriculture. Many Korean farmers worry that if FTA with USA would settle down it would have lethally negative effects on Korean agriculture. According to research result of Korean Agricultural Research Institute if FTA would settle down,
then about 30% of total agricultural products would reduce. Korean agriculture has many difficulties in this situation. And Korean agriculture has been trying to overcome these difficulties. In terms of UPA, these endeavors are as follows.

2. The developmental strategies of peri-urban agriculture

(1) Re-conceptualization of peri-urban agriculture

UPA had developed continuously in the beginning of industrialization. But as economic growth processed tremendously, UPA has been shrinking on the contrary. The rise of land price, transportation and agricultural facilities development and decrease of farmers’ will for farming became reasons of the result. Especially increase of agricultural imports became crucial factors to crisis of UPA. Because of high input cost, UPA could not compete with imported agricultural products in terms of price competitiveness.

Therefore, UPA is recently trying to make new strategies for the development. The strategy is being tried as different ways compared to traditional agriculture. With same strategy like traditional agriculture, UPA can’t surpass imported agricultural products and domestic agricultural products cultivated in rural area. So, for survival UPA is trying to find new solution

Briefly speaking, new strategy of UPA is to re-conceptualize the farming in peri-urban area. And re-conceptualization means to connect environment, green tourism, safety and metropolitan government with agriculture. That is, through relationship with these factors UPA can find new chance for development. And this strategy is successfully supplying new hope to the future of UPA. Especially as consumer’s interest for health, agricultural products safety and environment increases, this trial has resulted in good outcome. And this trial is giving farmers new opportunity for income increase. Moreover, it is giving new foundation that city and rural community can cooperate together for mutual benefits. Especially Korean agricultural cooperatives are doing a great role in these areas. More specific strategies are as follows.

(2) Mutual contract between metropolitan city and farmers in peri-urban area

Recently, there are some cases that UPA makes developmental opportunities through cooperation with metropolitan city. City dwellers want clean drinking water.
So they want that agricultural farming will be conducted environmentally friendly in peri-urban area where drinking water is inflowing from. That is, city dwellers don’t want that farmers use much agricultural chemicals and fertilizers in this area. That is because these materials will be able to contaminate the drinking water. So citizens willingly intend to support farmers if they change the way of farming to environmentally friendly method. Mutual contract between citizens and farmers is occurring under this background. The typical case is a Paldang project. This project started in 1995 between Seoul Metropolitan Government (SMG) and farmers who did farming in Paldang area, the tap water source of Seoul.

Farmers in Paldang area have been in trouble with strict restriction on farming and property rights since the area was designated as an area for tap water source protection by government. But the quality of city water has been a public concern for SMG as well as tens of millions of residents in Seoul and neighboring area. Agriculture, including livestock husbandry, in the tap water area has been considered one of major sources of tap water pollution. There seems a conflict between farmers and city residents.

In February 1995, a proposal to compromise the conflict was made by National Agricultural Cooperative Federation (NACF) to SMG. The plan was to promote mutual benefits through cooperation between both sides. The government provides economic compensation for sustainable farming for farmers, and environmentally friendly practices then provide environmental benefits for city residents. Finally, an agreement was made in May 1995 between SMG and NACF that mutual cooperation will be made to foster sustainable farming in Paldang tap water source area.

The Paldang project was to foster environmentally friendly farming in Paldang tap water source area. The objectives of project are manifold. First, it was to improve quality of city water in favor of tens of millions of residents in Seoul through protecting tap water source area from farm-originated contamination. Second, it was to encourage local farmers to engage in sustainable farming practices with lower environmental burden through providing economic incentives and education programs. Third, it was to ensure environmental benefits for producers in terms of sustainable farming and consumers in terms of quality farm products.

The Paldang project is composed of three major programs: education, financing and marketing programs. The NACF has been in charge of conducting the
education program in collaboration with specialists from outside. Participants are also encouraged to make and join one of cooperative farming groups that pursuing sustainable farming through adopting new technology, pursuing relevant inputs, and marketing their quality products.

Financial supports in terms of low interest loans are given to participant farmers by agricultural cooperative. The financial subsidy from the SMG makes it possible for agricultural cooperatives to make loans at favorable conditions such that a maximum of 40 million won (about 42 thousand dollars) is credited to farmers at an interest rate of 5 percent annum for a period of 7 years with a grace period of 2 years. The difference in market rate and loan rate, amounted 7.5 percent in 1995, are compensated by the financial subsidy from SMG. Such a financial program played an important role in encouraging farmers to join the project at least in the beginning stage. Financial incentives also help farmers invest relevant capital equipment for sustainable farming. It is also noted that the financial costs are paid by taxpayers/residents in Seoul who are beneficiaries for quality city water as well as quality farm products.

The marketing program is considered to be crucial for success of the project. The agreement between SMG and NACF specify a common condition towards market promotion. Special grocery stores are to operate for marketing quality farm products in Seoul area, where store site are provided by SMG and store operation are in charge of NACF. NACF is more committed to provide market outlets for participant farmers through wholesale market, retail market, and direct marketing.

During the last 10 years or more, the project has shown quite a successful performance in terms of farmer participation, environmental benefits, and marketing and farm income. The overall statistics shows the project began with 638 farmers in 1995, the first year of the project. In 1999, the fifth year of the project, participants increased to 1,145 farmers. According to interview survey with the farmers, about 50 percent of participating farmers is selling their products at a premium on their quality. As for rice, 29 percent of respondents are reporting that more than 20 percent price premium is realized for their quality products. As for vegetables, 32 percent of farmers are enjoying price premium of 20 percent or higher for their quality products. Others are marketing their products ordinary market prices.
(3) Connecting green tourism to agriculture

The most important merit of UPA is that it is close to big city. Recently many farmers introduce green tourism vigorously using this merit. The representative examples are Farmstay and Weekend Farm.

Farmstay means that city dwellers visit and stay at farm during the holiday. Many parents of students who live in city are worrying that their children are far from nature. The parents are worrying also that their children are being indulged in computer games too much. As this social recognition has become widespread, interest about green tourism is also becoming widespread.

Farmstay is different to other tourism. It connects tourism with traditional culture, experience of farming or rural communities’ life style, and rest at the same time (Figure 4). Children who visit Farmstay experience rural community’s traditional culture and playing. They are close to soil. They also experience to harvest some fruits and vegetables. They experience the natural playing provided by mountain and brook. They are awake of the value of agricultural products and full of emotional happiness experiencing these processes. The parents enjoy that their children take these experiences.

Farmstay business is providing various income opportunities to farmers. Firstly, farmers earn money from lodging charge, and sell meals to visitors. Farmers also sell agricultural products they have grown to visitors. So Farmstay gives new market to farmers for agricultural products. In Farmstay, various exercises are conducted. Farmers also take charge from participants.

The number of Farmstay is increasing day by day. There were 13 Farmstays in 1999. And they increased to 124 in 2003. Agricultural cooperatives are doing great role in developing Farmstay. Primary cooperatives are crediting to farmers who want to participate newly in Farmstay business. And they are giving information to farmers related to green tourism. They also give chance to farmers to take field trips.
In the mean time, Weekend Farm is that city dwellers visit farm and grow some agricultural products for themselves during the weekend. Weekend Farms also have been increasing rapidly. Especially in Korea, 40 hours work system introduced in 2004. Therefore workers can now enjoy 2 holidays in a week. And many workers visit Weekend Farm with their children. Parents and children simultaneously experience in growing and harvesting some agricultural products. Parents believe that their children can learn much from experiencing these processes.

Korean highway always is full of so many cars. So traffic jams are to be happened usually. Therefore it takes too much time to get out of city. On these reasons, it is so difficult to make Weekend Farm in remote area from city. So peri-urban area is favorable for Weekend Farm. Actually, many Weekend Farms exist in peri-urban area as well as Farmstay. We can know that many of Farmstays exist in peri-urban area in Figure 5. And it proves that green tourism has becoming new opportunity for development of UPA.
Figure 5. The distribution diagram of Farmstay

(4) The role of agricultural cooperatives for the development of UPA

In Korea, there are about 1,300 primary agricultural cooperatives. Cooperatives supply agricultural materials, credit and marketing service for agricultural products. So cooperative is essential organization to farmers. Recently as agricultural crisis increases because of the enlargement of imported agricultural products, the role of agricultural cooperative is becoming more important.

Cooperatives in peri-urban area are also trying various efforts to develop competitiveness of agricultural products cultivated in their area. The most general method is to improve quality of agricultural products. For it, cooperatives are now focusing on development of brand. Cooperatives develop brand for themselves and manage the quality of agricultural products strictly to sustain brand value. They differentiate incentives according to quality level of agricultural products supplied by
farmers. They also try to strengthen safety and healthful function of agricultural products. These efforts contribute to increase of agricultural products value.

Cooperatives are also trying to enlarge direct transaction between farmers and consumers. Direct transaction is favorable for marketing route enlargement and guaranteeing high price of agricultural products. Especially, NACF is conducting movement of interchange between city and rural area. The most representative item is the movement of One Company One Rural Village (OCOR). OCOR means that one company and one rural village tie together and establish sisterhood relationship. This movement started several years ago for the support to rural area by company and city dwellers. The workers of company established sisterhood relationship with rural village sometimes visit village to help farming, harvesting and etc. The workers also buy agricultural products from the village. It is certainly helpful to enlarge marketing route for farmers. 9,000 OCOR sisterhood relationships have been established by March in 2006. And agricultural cooperatives did a key role in enlargement of OCOR movement.

As mentioned before, agricultural cooperatives have done great role in developing Farmstay business. They are giving credits to farmers who want to start this business, and supply information about green tourism and support propaganda for the village.

Especially agricultural cooperatives take part in special business to provide domestic agricultural products for school meals. This business is to provide agricultural products cultivated in domestic area as materials for school meals. The parents of students want that their children eat good foods. So they prefer agricultural products cultivated environmentally friendly in domestic area. As the interest for food safety increase, the business is being enlarged. Now 198 agricultural cooperatives are participating in this business. They are providing 3,399 schools with rice, vegetables, fruits, meats and other processed agricultural products cultivated in Korea. Many Korean farmers expect this business will contribute to secure domestic market for agricultural products.

(5) Improving value added of agricultural products

Korean farmers are trying to develop quality of agricultural products to compete with imported agricultural products. Because of high land price and high labor cost, Korean agriculture is inferior to imported agricultural products in terms of
price competitiveness. Therefore many Korean farmers think that to raise quality is the best way to strengthen competitiveness of Korean agricultural products.

The general way to raise quality of agricultural products is to induce environmentally friendly farming. Recently, consumer’s interest for health and safety is rapidly going up. So the market for environmentally friendly farming is expected to enlarge gradually. Environmentally friendly farming has been doing in many ways. Firstly farmers reduce the use of agrichemical and fertilizer. Instead of them, they use environmentally friendly materials. For example, farmers grow feed crops on paddy area. Feed crops are used as organic fertilizer. Farmers sometimes scatter environmentaly friendly fertilizers like germanium to paddy field.

Other way to develop quality of agricultural products is to strengthen special functions of agricultural products. That method is to add specific function to agricultural products. The most general way is to inject some functioning materials to crop. For example, rice farmers coat the surface of rice with materials known as healthful to people.

In the mean time, many farmers use information communication system for the method to develop value added of agricultural products. Recently, internet serve is rapidly spreading out in Korea. The number of farmers can use internet service is also increasing rapidly. Especially many farmers growing flowers in peri-urban area are using internet service effectively. They sell flowers through internet and deliver them within a day by using quick delivery service. Many consumers want to take flowers on a memorial day. Peri-urban agriculture is located where can use quick service, and it gives new opportunity to develop value added of agricultural products.

**CONCLUSION**

Although UPA in Korea has faced serious challenges, significant developments have been achieved and new insightful strategies have been formulated to overcome the adverse situation. In summing up the development of UPA in Korea, at least three important points are emphasized. Firstly, UPA in Korea has contributed much to the expansion of the concept of agriculture – from its basic function of food production to its multi-functionality role. This is consistent with the definition of UPA which recognizes the value of agriculture beyond production, and in terms of the externalities it provides such as environmental protection, resource conservation, economic contribution, and promotion of agricultural traditions. This trend will be
much stronger as the need to rearrange resources in a national economy becomes more urgent in the mid of restructuring and urbanization. Secondly, the developmental strategies of UPA can be developed by and in accordance with the interests of the main stakeholders, namely the farmers themselves, the government, civil society, and cooperatives; and by establishing a viable network system between urban and rural communities. For instance, city dwellers and farmers near Seoul in Korea developed UPA along their central river streaming through the metropolitan city by signing a long-term cross-regional contract between the city government and the local farmers with the assistance of agricultural cooperatives. In local areas, local governments and farmers have made other solutions which can stabilize the UPA, promote environmentally friendly farming and improve farmers’ household economies by building tourist attraction belts linking local urban areas to remote rural areas. In this process, the efforts of civil movement associations to maintain the networks between urban and rural areas are as remarkable as securing information technology (IT) networks in virtual space. Last but not the least, in the rapid change of local and global markets, technological requirements of UPA are likely to be concentrated on market-oriented technologies which will enable farmers to separate agricultural markets based on their own specific values. At present, local brands are continuously being developed to cater to value-added marketing behavior. In line with the pace of changes in the national economy, more UPA technologies suitable to maintaining local economies and farmers’ household economies must be developed.

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