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WITH INTERNATIONAL COMPARISONS

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OPTIMIZING THE ROLES OF GOVERNMENT IN MODERNIZING AGRICULTURE: THE KOREAN EXPERIENCE

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INTRODUCTION

The Korean economy has grown at an average annual rate of 8.4% in terms of real GNP in the past quarter century, whereas the rural sector has grown at an average rate of 3.3% per annum as shown in Table 1. It is generally believed that this economic achievement can be attributed to the export oriented industrialization policy which has been in place since the early 1960s.

Table 1
Annual Growth Rates of GNP of the National Economy and Agricultural Sector

Period	National economy	Sector	
		Agriculture[a]	Non-agriculture
	(%)	(%)	(%)
1st FYP[b] : 1962 – 66	7.8	5.6	9.6
2nd FYP : 1967 – 71	9.7	1.5	14.5
3rd FYP : 1972 – 76	10.0	6.1	10.9
4th FYP : 1977 – 81	5.8	-0.6	7.5
5th FYP : 1982 – 86	8.6	3.7	9.5
1962 – 86	8.4	3.3	10.4

[a] Includes forestry and fisheries.
[b] Five-Year Economic Development Plan
Source: Economic Planning Board (EPB)

Due to its relatively low growth rate, the share of the agricultural sector in GNP decreased from 40% to approximately 13% over the 1961 – 86 period (Table 2). It appears that the main roles of the agricultural sector in the industri-

alization process in Korea were to supply food and labour and to bear the education costs for the accumulation of the quality of human capital needed for industrial development.

Throughout the process of economic transformation since the early 1960s, the Korean government has played a significant role in planning and implementing various development efforts including that for agricultural growth.

Table 2
Changes in Selected Economic Indicators

Item	Unit	1961	1971	1981	1986
Per capita GNP	US $	82	288	1,719	2,296
Share of agriculture in GNP[a]	%	40.2	26.6	16.5	12.7
Share of agriculture in employment[a]	%	63.1[b]	48.4	32.4	23.6
Farm population	10^3 persons	14,509	14,712	9,999	8,180
(percentage)		(56.3)	(44.7)	(25.8)	(19.7)
Farm household	1,000	2,327	2,482	2,030	1,906
Average farm size	Hectare	0.87	0.92	1.08	1.12
Average farm household income	US $	466	955	5,413	6,813
Engel's coefficient of farm household	%	58.6	47.4	37.7	27.4

[a] Includes forestry and fisheries.

[b] Data for 1963

Source: EPB and MAFF (Ministry of Agriculture, Forestry and Fisheries)

This paper describes how Korean agriculture has been transformed in the last three decades with a focus on the roles of the Government.

OVERVIEW OF RURAL CHANGES

The farm population, which was at its peak in 1967, has decreased by nearly 6 millions over the 1961 – 1986 period. The total population increased by 16 millions over the same period due to rapid industrial growth and urbanization. The number of farm households has decreased by 18% in the past 25 years (Table 2). Because of the massive out-migration of rural youngsters, the average age of the farm labour force has steadily gone up, resulting in a shortage of young workers on farms at peak farming seasons.

The area of farm land, which was at its peak in 1968, has decreased recently at an average rate of 0.4% per annum in spite of the government efforts to conserve the quality crop land. Thus the average size of farm land holding has increased very slowly from 0.9 hectare to 1.1 hectare over the 1961 – 1986 period as shown in Table 2.

In the course of industrialization since the 1960s, the average farm household income has gradually increased with year-to-year fluctuations depending upon the intersectoral terms of trade and crop harvests. Average farm household income

has risen from 466 US dollars in 1961 to 6,813 dollars in 1986 of which one-third was generated from off-farm sources (Table 2). However, the rate of increase in farm household income has been lower than that of urban households, resulting in an income disparity between the two sectors.

In the meantime, Korean agriculture has diversified in response to changes in demand for farm products, in farm technologies and in other economic factors such as input markets, and government policy induced economic incentives. The production of staple food crops including grains and potatoes has fluctuated year by year, ranging from six to seven million metric tons in the past two decades. But the trends in production for individual crops have varied. For example, rice production has steadily increased at a rate of 2.2% per annum since 1960. By contrast, the production of barley, wheat and potatoes increased notably in the 1960s, but has tended to decrease recently.

Consequently, per capita production of grains, pulses and potatoes has decreased at an annual rate of 1.7% since 1970, despite rapid increases in the demand for these products. Thus, the level of self-sufficiency of grains and pulses has declined from 80% in 1970 to 44% in 1986. By contrast, the production of vegetables, fruits and livestock products has substantially increased in recent years. For example, the Korean cattle, which used to serve as draft animals, began to be raised for fattening on most farms because of farm mechanization. The dairy industry has maintained the highest growth rate since the early 1960s, i.e. 51% in the 1960s and 23% in the 1970s. As a result, the share of livestock industry in agricultural output in terms of value added went up from 4.3% in 1965 to 11.9% in 1986. The subsector of vegetables and fruits has also contributed significantly to the growth of the farm sector. As Table 3 indicates, application of both land-saving and labour-saving technical inputs such as chemical fertilizer, pesticides and farm machinery has notably increased, whereas the input of labour has decreased since the mid 1960s.

Table 3
Changes in Technical Inputs and Labour Input per Crop Hectare

Year	Chemical fertilizer (N,P,K)	Pesticides and insecticides	Farm machinery	Labour input[a]
1965	(kg)	(kg)	(hp)	(hr)
1970	110	NA	0.11	1,412
1975	162	NA	0.25	1,284
1980	282	6.68	0.51	1,176
1985	299	11.96	1.39	928
	311	16.34	2.67	855

[a] For rice production

Source: MAFF and Korea Agricultural Machinery Manufacturers Association

ROLES OF THE GOVERNMENT IN MODERNIZING AGRICULTURE

Nature and instruments of government policy for agricultural development

The modernization of agriculture appears to be conditioned by government policy as well as the stage of economic development. In a developing country like Korea where the government has consistently strived for rapid industrialization, the role of the government in agriculture appears to have been highly significant in terms of resource allocation and institutional framework.

The Korean government has pursued steady growth in food production and farmers' income as the two prime goals in agricultural policy. Theoretically, whether these goals can be attained simultaneously depends upon the improvement of technology in food production and the government policies related to food import and food prices. It has also been observed that the practical instruments or measures for implementing agricultural policy differ between countries at different stages of development. In Korea, for example, the strengthening of research and extension services for technological breakthroughs and a dual pricing scheme for rice and barley, two staple foodgrains, have been given a high priority as a strategy for attaining the two major policy goals in the past two decades.

The instruments of agricultural policy may be classified into the following categories: (1) institutional reform, (2) control and regulations, (3) public finance, (4) money and credit supply, and (5) public enterprises. The modernization of agriculture appears to call for a mix of policy instruments properly selected in accordance with the changing needs and the socioeconomic conditions in the rural sector. In Korea where a so-called mixed economic system has prevailed for a long time, four of the instrument types mentioned above (except for public enterprises) have been extensively employed in agriculture and rather frequently they have been modified when the need arose.

The act of planning and implementing economic policy and programs in Korea has generally been characterized by its speed and flexibility, pragmatism and centralization. The case of agricultural policy, of course, is not an exception to this characterization.

Accelerating technological breakthrough

Agricultural research and extension service

The first agricultural experiment station was established in Suwon in 1906 by the government, and extended its work all over the country through a nationwide network. A modern type of agricultural extension service was initiated with the establishment of the Institute of Agriculture in 1957 based on the Agricultural Extension Law. The fundamental philosophy of this Institute was twofold: agricultural research agencies in various fields were integrated under one administrative leadership together with extension programs for the sake of managerial efficiency; and the agricultural extension service should provide an out-of-school education for all segments of rural society.

In 1962, the Office of Rural Development (ORD) was born by consolidating all types of government functionaries and programs related to rural extension work. Since then, the subsidiary offices of ORD have been better able to coordi-

nate with the provincial and local governments in carrying out rural development programs.

The professional manpower for agricultural research and extension service has steadily increased from 3,530 persons in 1962 to 8,983 persons in 1984, of which 11% is research workers.

With respect to programs, the improvement of foodgrain farming has been given top priority in research and extension activities. Rice farming had traditionally received special emphasis. However, recently the emphasis has tended to shift toward horticulture and animal husbandry in response to changes in market demand.

Integrated strategy for 'Green Revolution' in rice farming

The Korean farmers have experienced heavy fertilization and labour intensive practices for rice farming in the past half century. For centuries, the Japonica type rice varieties dominated the rice culture of Korea. This changed in 1971 when IR – 667, or Tongil, which was a crossbred Japonica-Indica variety, was introduced to many Korean farmers.

The Korean government demonstrated a quick response by inaugurating a nationwide campaign to disseminate this high yielding variety (HYV) among rice farmers in 1972. As a result, the acreage of Tongil dramatically increased from 2,750 hectares in 1971 to 929,000 hectares in 1978, which was 75% of the total area planted to rice in that year. In spite of the high yield potential, some farmers were hesitant to adopt Tongil because of its inherent deficiencies such as inferior quality in terms of consumer tastes, susceptibility to low temperature, the tendency to shatter easily during harvesting and the low price in the free market. Nevertheless, the government persistently encouraged the farmers to accept Tongil for increased food production by providing them with technical guidance and economic incentives such as favorable purchase price, nationwide yield contests and guaranteed income arrangements. Rice production increased to an unprecedented record of six million metric tons in terms of polished rice from an area of 1,230,000 hectares in 1977.

However, a new disease severely damaged the new varieties of rice in 1978 when they occupied 75% of the rice acreage. In 1980, the HYV rice varieties were again much more damaged than Japonica varieties by cold weather in the late growing season. Since then the acreage of HYV rice has gradually decreased to 272,000 hectares in 1986. Thus, the case of HYV rice in Korea appears to tell us two contradictory stories of success and failure brought about by the integrated strategy for a green revolution led by strong government interventions without careful scientific examination of all the relevant factors.

Intensification of capital inputs

Factor substitutions have gradually taken place in agriculture in the course of industrialization. The most important reason for this seems to have been the changes in relative prices of farm inputs in favour of higher capital intensity of farm organizations. For example, the prices of farm land and labour rose 51 times and 34 times, respectively, during the period of 1966 to 1983 while the wholesale price index moved upward by a factor of only 9. By contrast, the prices of power tillers and urea went up 5 times and 9 times, respectively, over

the same period. The price of rice rose by 17 times which was almost double that of the general price level. The decrease in the prices of manufactured inputs (including fertilizer) relative to the rice price, together with the improvement of varieties and irrigation facilities, accelerated a yield take off in rice farming.

The government has subsidized some of the important manufactured inputs such as chemical fertilizer and farm machinery. The Fertilizer Management Account (FMA) operated by the government has accumulated a financial deficit totalling 892 billion won in 1986 due to the subsidization of fertilizer prices paid by the farmer. Similarly the government has subsidized high priced farm machinery and provided soft loans to the farmers who purchased either for joint use or for individual utilization.

Development of farm land institutions

After World War II, the majority of Korean farmers were share croppers living at subsistence levels. Therefore, the government placed top priority on agrarian reform in order to remove social and political instability and economic inefficiency in the rural sector.

The Land Reform Law was promulgated in June 1949 and was to be implemented on July 1, 1950. The implementation of this law, however, was interrupted by the Korean War which broke out on June 25, 1950. However, this reform was vigorously pursued by the government even during the conflict. As a result, 577,000 hectares or 30% of cultivated land area were redistributed to 1.6 million farm families (two-thirds of the total farm households) which had previously been mostly small sized tenant farmers or landless farm laborers. Since the enactment of this law, three hectares were set as the ceiling of farmland ownership except for land newly developed after enforcement of the land reform.

In the meantime, the percentage of crop land under tenancy was drastically reduced. The land reform seemed to play a significant role not only in improving equity among farmers but also in upgrading agricultural productivity. However, the proportion of tenant farms in terms of household and land area has tended to increase in the course of rapid economic growth since the mid 1960s when a massive rural-urban migration took place. This trend has been accelerated in the 1980s. That is, by 1985, 65% of farmers were either part tenants or full tenants, while 30% of farmland were rented out.

In 1980, the Constitution was amended to allow tenancy arrangements, thus adapting the legal land institutions to changing socioeconomic conditions. Consequently, new legislation was enacted in 1986 to legalize various types of existing farm land rental arrangements and to protect the interests of tenant farmers.

Legal institutions related to farm land development and conservation

Because the rate of conversion of farmland into non-farm uses had increased to a serious level in the early 1970s, two policy measures have been employed since 1973 to protect quality farm land. The Farmland Conservation Law has been implemented since 1973 in order to minimize the conversion of farmland into non-farm uses by a centralization of the authorizing power for conversion of farm land uses. Also, all farm land has been classified into two categories since 1974: permanent (non-convertible farm land) and convertible (with the approval

by the central government). The government has collected a levy from the firms or agencies which requested and obtained approval to convert certain areas of farm land into other uses. This money is maintained in a special account, Farmland Development Fund, which is exclusively earmarked to subsidize the development of new farm land.

As regard to farm land and irrigation development, three laws have been effective since the 1960s. The Farm Land Development and Expansion Law has been implemented since 1975 to facilitate sloped land reclamation by means of administrative and financial assistance and an enforcement of reclaiming certain sloped land designated as 'area to be developed' with a deadline set by the government. The Grassland Development Law has been enacted since 1969 to expand the area of grassland to develop beef cattle and the dairy industry. The government has provided the participating farms with financial incentive in terms of subsidy, soft loans, tax exemption and lease of publicly owned forest land. The Agricultural Modernization Law was promulgated in 1970 to update the legal foundation for farm land and water resource development and to establish the Agricultural Development Corporation and the Farm Land Improvement Associations as legal implementing agencies.

Investment for farm land and water resource development

Since rice has been the most important staple food crop in Korea, paddy land development with an emphasis on improved irrigation facilities dominated the government investment activities until recently. In recent decades, about 60% of the budget allocated to the Ministry of Agriculture has been earmarked for farm land development. The area of farm land covered by these investment projects has averaged about 120,000 hectares annually during the period of 1967 to 1984. As a result, the percentage of irrigated paddy area increased from 43% to 72% over this period and that of rearranged paddy fields went up from 12% to 63% during the same period.

Commodity programs and integrated rural development

Rural Saemaul Undong (New community movement)

The Saemaul Undong emerged in the early 1970s as a means of fulfilling a variety of political, socioeconomic, and cultural needs related to nation building and development under the strong leadership of the late Park Chung Hee's government. In terms of economic and sociocultural functions, Saemaul Undong started as an environmental improvement campaign at the village level, and then expanded its scope of work to the construction of productive infrastructure for improved farming by cost sharing between the government and the villagers. In doing so, the participants were expected to learn the merit of cooperative hard work and intragroup democracy. This movement was widely accepted by the rural masses by the mid 1970s in accordance with the guideline which had been mostly laid out at the national level.

This movement contributed significantly to improving the rural infrastructure and the farmers' morale in the 1970s while it had top priority in the political and economic policies of the Park Government. Despite its remarkable material achievements (even if concerned primarily with demonstratable effects rather than

long lived effects), Saemaul Undong fail to nourish the budding self-government and participatory democracy among rural people beyond the village level. This was because the political leaders and bureaucrats alike were afraid that the movement could bring increased democratic pressures to bear upon the authoritarian government.

Special programs for Increasing Farmers' and Fishermen's Income

The first program for Increasing Farmers' and Fishermen's Income (IFFI) was implemented for 4 years from 1968 to 1971. The emphasis was placed on expanding the production of cash crops and exportable commodities such as silk, mushroom, apple, grape, mandarin, chestnut, off-season vegetables, beef, milk, oyster, etc. The government had provided 410,000 farms in 90 pilot areas with over 30 billion won in the form of credit and subsidies during these four years. In 1967, the Agriculture and Fisheries Development Corporation was created as a government subsidiary agency to assist the emerging agricultural processing industry financially and technically.

The second program for IFFI started in 1972 and was integrated with the Saemaul Undong Programs in 1974. The number of pilot areas increased to 137 with 564,000 farmers and fishermen participating. At this time, the livestock sector including beef cattle and dairy enterprises was given the top priority in funding and allocated 45% of the total funds available. Cash crops received the next highest priority. In terms of cost sharing, the government provided 65% of the funding for the pilot projects which amounted to 75 billion won over the period of 1968 to 1973, while the farmers and fishermen provided only 27%.

Cooperative integrated rural development programs

In 1977, the primary agricultural cooperatives at township levels were assigned the responsibility for the planning and execution of integrated area development projects, which covered 321 pilot areas by 1981. For three years after implementation, the government and agricultural cooperatives jointly rendered financial support, but the cooperatives were fully responsible for the remaining two years. The scope of the program covered five areas such as improvement of productive infrastructure, production facilities, marketing facilities, farm mechanization and dissemination of improved seeds and stock.

Pilot programs for cash crops

In 1982, the government strengthened its commodity programs for increasing the farmers' income and supply of cash crops and livestock products. A total of 98,000 farms in 5740 pilot villages had participated during the 1983 – 86 period. Soft loans and government subsidies were provided for the participating farms. In addition, access to markets and guaranteed prices were provided for selected products such as sesame, peanut and rapeseed. In the case of malting barley, a contract arrangement has been made between the brewery firms and the producers.

Overall, the goal of improved productivity has been attained rather easily, but the attainment of increased farm income has been far from satisfactory primarily

due to lower prices received by the farmers as exemplified by a drastic decline in the price of beef cattle since 1985.

Agricultural price policy

Foodgrain price policy

During the 1950s, the Korean government tried to maintain foodgrain prices as low as possible in order to alleviate inflation and thereby to rehabilitate the war ravaged economy. This policy was supported by the PL480 shipments of grains from USA. However, the low grain price policy caused income disparity between the farm and non-farm sectors as well as discouraging grain production. Thus, the policy makers were obliged to give serious consideration to the situation. Eventually the Government was forced to shift to a fairer grain price policy in 1968 by raising the government purchase price of rice by 17% over that in the previous year. The real purchase price of rice paid by the government moved steadily upward until 1975 but the trend reversed thereafter. For a long time, there were two types of marketing outlets for rice in Korea: free markets and government channels. The government has set up a special account, Grain Management Account (GMA), to handle the purchase and release of rice and barley.

Because rice and barley were the major items of food expenditure for the general consumers, the government has tried to maintain the consumer prices of these grains at a level lower than the producer support prices. The deficit in GMA has been accumulating since 1972 to reach 2.7 trillion won in 1986. This deficit is financed mainly through long term overdrafts from the central bank. Consequently, there have been arguments about the inflationary effects of the GMA deficit. At the same time, the producer price support has stimulated the production of these grains, and this has further contributed to the stabilization of grain prices and saved considerable amounts of foreign exchange.

Since the importance of rice and barley as wage goods has markedly declined recently, a reasonable rise in the government release prices would not affect the consumers' living standards adversely. The government, therefore, has modified the pricing policy toward narrowing the deficit in GMA, and part of the GMA deficit has been financed by the government general budget account from 1984. Furthermore, the government has tried to scale down its share in the foodgrain markets by applying a quota system in the purchase programs of rice and barley from producers.

Farm Price Stabilization Fund (FPSF) and buffer stock operations

The Farm Price Stabilization Fund Law was enacted in 1966 to initiate the programs for smoothing price fluctuations of cash crops and perishables. Thus, buffer stock operations have been adopted as the main tool of price policy in agriculture, especially for cash crops. With respect to perishables, marketing credit programs have been emphasized.

The price stabilization schemes are carried out through government and private channels. The government operates the buffer stocks for selected commodities such as red pepper, garlic, sesame, peanut and beef, while the private sector

(including processing or marketing firms and producers' organizations) is provided with short term credits to facilitate and coordinate marketing activities.

The sources of the FPSF have been diversified since 1978 when the net revenue from buffer stock operations including the commodities imported from abroad was added to the Fund appropriated from the government budget. Furthermore, many efforts have been made to stabilize the prices of livestock and its products in recent years as the livestock industry has grown significantly. Thus, buffer stock operations have been employed for beef, pork, chicken meats and powder milk, based on financial supports from the Livestock Development Fund. With respect to milk, in particular, the farm gate price has been fixed and adjusted by the government since the 1960s.

In the retail food markets, a free market principle has mostly prevailed except for the government controlled foodgrains. But the retail prices of some products such as beef and pork are indirectly regulated by the government through a sliding scheme by which the retail prices are closely tied to the fluctuating prices formed at the auction house in the livestock wholesale markets in large cities.

Agricultural marketing and credit policy

Farm product marketing

The agricultural marketing system in Korea has undergone changes in response to new developments in production and consumption of farm products. Some important trends in agricultural marketing are as follows.

First, there has been a continued trend toward the bypassing of the traditional central markets mainly due to expansion of the highway network. Second, large scale food retailing organizations such as supermarkets and corporate grocery chain systems have been established increasingly in large cities as a new form of mass retailing. Third, the food processing industry has steadily grown recently due to developments in food technology and the increased demand for processed foods which has been accelerated by the growth in consumers' incomes. Fourth, a notable improvement has been made in the physical distribution functions of agricultural marketing. For example, a cold store chain system has been widely introduced for the marketing of perishable foods.

There are 63 legal wholesale markets for farm and fishery products and 126 cooperative marketing centers of the National Agricultural Cooperatives Federation (NACF), National Livestock Cooperatives Federation and National Federation of Fisheries Cooperatives which perform the wholesale functions in large cities. The government constructed a modern, large scale wholesale market in Seoul in 1985. This is the first one financed by the government but others are planned for large cities in the provinces.

The agricultural cooperatives also perform such marketing functions as grading and inspection, packaging, storage, transportation, training and market information services with varied facilities and institutions. The government has set a goal for promoting cooperative marketing as the main strategy for modernization of farm product marketing in the five-year development plan, and provided financial incentives for this purpose.

An agricultural outlook service has been introduced for selected products including red pepper, garlic, onion, chinese cabbage, pork and beef.

Agricultural credit

As Korean agriculture has become more commercialized and developed, credit requirements have increased to meet the increasing demand for investments on the farms. Until recently, however, the public institutional credit agencies provided very limited credit to family farms. Therefore, most Korean farmers were forced to rely on the private financial market for the funds needed for their farm operations. But this situation has been improved. Now the share of farm household debt outstanding to private money lenders has been reduced to a level of 30%. However, the increases in outstanding farm household debt have significantly outpaced household income and assets in the past decade. The intersectoral terms of trade have also been unfavourable for the farm sector in recent years. Furthermore, the farmers have limited opportunities for earning off-farm income, and there is a lack of workable institutions to protect them against financial losses in farming caused by natural hazards or market instability.

In order to pump more funds into the farm sector, the government introduced a scheme of interest subsidy into the credit programs by which the fund generated through the banking business of the NACF was loaned out to farmers at below commercial interest rates. This is additional to the mutual financing scheme which was launched by primary cooperatives at the township level in 1969. In 1972, a credit guarantee system was also introduced into the rural credit program for the sake of small farmers and fishermen.

In the meantime, since farm household debts have increased substantially in recent years, the government has implemented remedial measures both to reduce the financial burden on farmers by lowering the interest rates of various types of institutional loan to farmers, and to replace the private debts outstanding on the farms by institutional loans. For this purpose, a total of 500 billion won was appropriated to the newly established Rural Development Fund in April 1987.

THE CURRENT PROBLEMS FACING KOREAN AGRICULTURE AND OPTIMIZING THE ROLES OF GOVERNMENT

Recently, Korean agriculture has experienced a sort of contradiction. There has been a rapid decline in the self-sufficiency level for grains on the one hand, and the overproduction of perishable food crops on the other hand. The pace with which the demand for domestically produced agricultural foods has increased has lagged behind the growth in production, due to improved farm technologies and the transfer of farm resources from grains to cash crops. Thus, there has been a gradual decline in market prices, together with abrupt fluctuations around this trend for many of the cash crops except for those with price stabilization schemes. In other words, Korean agriculture is currently faced with unprecedented challenges generated within and without the country (i.e. lower and unstable prices due to sluggish domestic market growth and pressures toward import liberalization of farm products from overseas suppliers).

Although the average farm household income has risen steadily in recent years, the intersectoral and intrasectoral income disparities have tended to increase as industrial growth and commercialization of farming have occurred at different rates in different regions.

The rural sector is expected to continue to supply labour to the urban-industrial sector. As the educational level of the prospective out-migrants is expected to rise, the agricultural sector has to pay more for training them. This has been a drain on rural Korea for decades.

The quality of ecological environments in rural areas has generally deteriorated in terms of air, water and soil pollution mainly due to misuses of chemicals on the farms and careless disposal of urban-industrial wastes. On the other hand, the demand for environmental amenities by the wealthier population is ever increasing. Consequently, an integrated policy and a nationwide campaign for preserving the quality of the agricultural sector as an environmental amenity have recently been initiated.

Since bureaucratic developmentalism has dominated throughout the modern history of agricultural policy in Korea, most of the formal farmer organizations including cooperatives have been put under bureaucratic control by the government. Accordingly, the process of decision making on agricultural policy and programs has been of a 'top-down' nature. As a result, Korean rural policy has been criticized on the basis that the allocation of farm resources (physical and human) has been distorted, and that the development of the farmers' ability to cope with their economic problems through cooperative action has been retarded. In particular, it has been argued that the evolution of democratic institutions and the move toward a matured free democracy in rural communities has been slowed down.

In summary, the following are suggestions for meeting the emerging challenges to the process of economic growth and rural change in Korea.

First, the government needs to increase investment in productive farm infrastructure including land and water resources and in resource conservation in rural areas. This action would help to upgrade agricultural productivity and also meet the increasing demand for rural amenities by the urban population. Second, an appropriate deregulation is required in the price policies for food products which have often been disadvantageous to farmers. More effective measures are needed to stabilize the price of major farm commodities. Policy instruments should be diversified by adding more sophisticated tools such as deficiency payments and supply management. Third, the government should be more active in facilitating structural improvements in agriculture by the provision of economic incentives and institutional reform. At the same time, a measure for stabilizing the farmers' income against natural hazards (e.g. crop insurance) is required. Fourth, the international trade policy on farm products, which has had a subsidiary position in the context of export policy toward industrial products, needs to be carefully implemented in harmony with domestic farm production and farm income policy. Finally, immediate action is needed to democratize farmer organizations including cooperatives. This is aimed at not only nourishing participatory democracy among the rural masses, but also improving efficiencies in the operation of farmer organizations.

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