Journal of Rural Development 29(4): 53～72

STRUCTURAL CHANGE AND BIPOLARIZATION OF KOREAN AGRICULTURE*

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Key words
Bipolarization phenomenon, Agricultural structure, Agricultural restructuring policy, Social insurance system.

Abstract
In the 1990s, the Korean agriculture has walked the path of bipolarization at a fast speed. While the majority farms are small-scale, a few large-scale farms account for most of the national agricultural production. The plain area agriculture, where the large-scale farming is very active, is growing, but the hilly & mountainous area agriculture, where the large-scale farming is inactive, is waning. The agricultural bipolarization is an inevitable phenomenon, which appears in the course of restructuring. It can improve agricultural structure, but at the same time, it can cause conflicts between classes or regions. Advanced countries have taken various policy measures to resolve conflicts stemming from the bipolar agricultural structure. In particular, European countries pushed ahead with agricultural reshuffling in pursuit of industrial efficiency until the 1970s. Thus, the current agricultural policy issue of the Government is to minimize negative aspects, such as conflicts within the agricultural society, while improving the agricultural structure. It is high time to realize agricultural efficiency by pursuing for industrial policy and social-welfare policy in parallel, and minimize class and regional conflicts within the rural community by coordinating right policies. In particular, it should implement the policies favoring the vulnerable classes and regions, such as the direct payment system.

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* This paper is revised edition, which was presented to the 3rd FANEA (Forum for Agricultural Policy Research in North East Asia) International Symposium in Tokyo, Japan on October 25-26, 2005.

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I. Introduction

Until recently, the agricultural bipolarization has not received academic and policy attention. In the 1980s, the farm households had the structure that the mid-size farms were the norm and were concentrated in the middle (Kim et al., 2003). However, moving into the 1990s, farms became larger and specialized at a fast speed, showing a clear trend of bipolarization among farm households and regions. Lee (1998) notes that small farms in less 0.5ha and large farms in above 2.0ha have increased, while middle-sized farms in the range from 0.5ha to 2.0ha have decreased since 1990s in Korea. Likewise, the concentration on both extremities in the distribution of farmland operated has occurred in Japan and Netherlands since 1970s and 1980s, respectively. Kwon and Kim (2001) examine changes in cultivated acreage and owned acreage of Korea rice farms from 1993 to 1998, using nonparametric density function techniques. Their results reveal that the relative frequencies of both small farms and large farms increase over times in terms of cultivated acreage and owned acreage. Kang (2005) analyze 1998 and 2002 Korean farm size distributions, using nonparametric density estimation techniques and find that Korean farm size distributions have been polarized between the two period.

The agricultural bipolarization materialized as follows: the majority of farm households fell to small-scale farms, while a few large-scale farms dominate most production. Under the bipolarization trend, the plain area farming, where large-scale farms are plenty, has been growing, while the hilly and mountainous area farming, where farming is conducted centered around small farms, has been weakened. In particular, since the mid-1990s, the agricultural trading conditions have deteriorated, further expanding the income gap among farm households. The large-scale farms, which have expanded their farm size, are witnessing their farm income constantly growing. To the contrary, small-scale farms, which are mostly run by aged people, find it difficult to make their living out of farm income. As the agricultural market opening progresses further, the agricultural restructuring will continue. Therefore, it is predicted that the small-scale farms and the hilly and mountainous areas will face bigger economic challenges.

Likewise, on the one hand, the agricultural bipolarization is positive,

since it can improve the agricultural structure. On the other hand, it is negative, since it can cause conflicts between classes or regions. In this situation, the pending issue of the agricultural policy is to minimize negative effects of agricultural bipolarization, such as conflicts within the rural community, while realizing the improvement of agricultural structure.

Under the issues related to agricultural bipolarization, this paper examines the current status and causes of agricultural bipolarization occurring within farm households and rural community, using Korean Agricultural Census and Farm Economy Survey data. Due to the constraints in statistical data, this study explores data descriptions and statistics tables constructed by the data set to investigate the status and causes of bipolarization, not using econometrics methodologies. Future studies may attempt to build on this research by including more quantitative analysis to investigate determinants of polarization in Korean agriculture.

This study provides guidance for understanding polarization phenomenon in recent Korean agriculture, which has been led by structural and political causes. Without a careful examination of the best available evidence on polarization occurred, there is no progress of studies about issues related to polarization. A better sense of the current status of polarization within Korean agriculture has also implications for direction and strategy for Korean agriculture transformation.

Though a serious concern on bipolarization is widely acknowledged, the status and causes of bipolarization within Korean agriculture are studied to an insufficient degree. There has been little empirical work analyzing these issues, particularly at the farm level.

Park et al. (2005) measured farm households' income disparity using an entropy index and comparisons of 5 divided income brackets. They found that farm households' income disparity, defined by the income difference between the top 20% and the bottom 20% of farms, is nearly 2 times higher than that of urban households.

An (2004) compared the degree of income inequality index between farm households and urban workers, using farm economy survey and urban household survey data of the period 1990, 1995, 2000 and found that agricultural income inequality was main source causing farm income inequality among farm households.

This paper is divided into four sections. Section II specifies current status of agricultural bipolarization in terms of class division among farmland size and farm income and regional agriculture and development gap within rural community. Section III presents structural and political causes of the bipolarization and outlook. Section IV lists and discusses political tasks and proposals.

II. Current Status of Agricultural Bipolarization

In order to know the current status of agricultural bipolarization, the study takes a look at the changes surrounding agricultural production and farm household economy, and then summarizes it. With this background knowledge, in the next step, farm household's specialization and regional farming's specialization trends will be analyzed.

1. Change in Agricultural Conditions: Growth and Income Dissociation

The conclusion of the Uruguay Round (UR) negotiations at the end of 1993 and the launch of the WTO in 1995 provided the turning point for the Korean agriculture to open up its agricultural market to the outside world. The Korean Government enacted the Special Act for Rural Development in 1990, heralding the full-fledged improvement of agricultural structure. Under the act, a 10-year plan was set up with a total of KRW 57 trillion earmarked for as budget to implement the agricultural reform project. As a measure to facilitate the agricultural reform, measures to improve the farming land scheme were taken.[1]

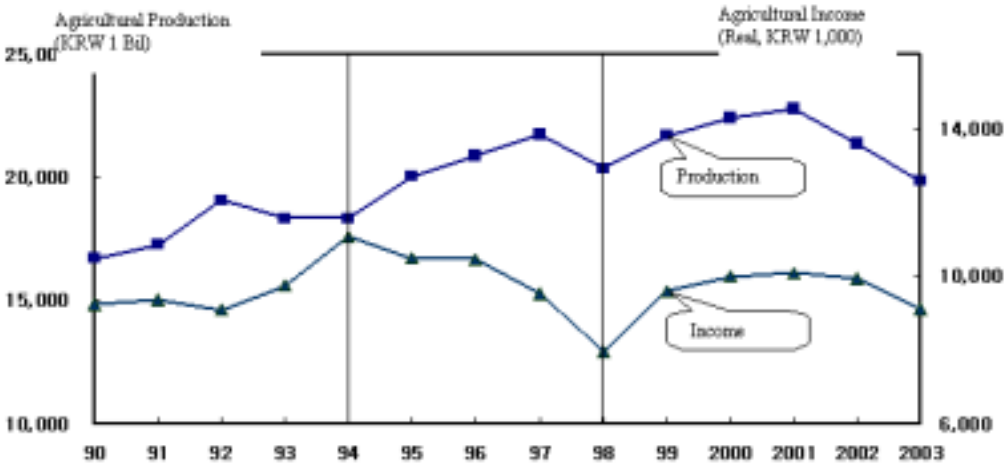
The agricultural reform was aimed to enhance agricultural productivity. Therefore, a substantial amount of agricultural investment and loan was utilized to improve the production foundation and expand mechanization, auto-

[1] The government had originally been carrying out the rural restructuring project from 1992 to 2001 by investing 42 trillion won. However, it decided to complete this plan by 1998. The government also established the special rural development tax and planned to invest a total of 15 trillion won from 1994 to 2004.

mation and farm size. Thanks to the agricultural investment and lending, agricultural productivity has increased. Nevertheless, the demand growth for agricultural products was lower than the supply increase. The price fall of agricultural products resulted, and eventually caused farm household income reduction. Korea is repeating the experience of advanced countries. Although the agricultural industry is growing thanks to productivity increase, the agricultural product prices are falling, generating the "phenomenon of growth income dissociation."

Figure 1 shows the trends of agricultural production and income changes since 1990. After 1994, when the government investment and loan support for the agricultural sector significantly increased, the fixed capital of the agricultural industry marked over 9 percent growth per year. This contributed to productivity enhancement, and the growth rate of the agricultural industry recorded an average of 1.5 percent p.a. from 1994 to 2003. However, the agricultural productivity growth and the increase in agricultural import volume brought down the actual prices of agricultural products 1 percent on average p.a. from 1994 to 2003. Owing to the reduction in agricultural product prices and labor cost increase, the actual agricultural income was slashed 1.8 percent on average p.a. from 1994 to 2003.

FIGURE 1. Agricultural Production and Farm Income Trends



Source: Agriculture and Forestry Statistics Yearbook, Ministry of Agriculture and Forestry.

Meanwhile, the growth patterns are different by agricultural product under the influence of the market opening. In the 1990s, the agricultural production has started reacting sensitively to the market demand, and it has become clear what are growing types of products and what are declining types of agricultural products depending on the market demand. Table 1 indicates that vegetables and livestock products have gradually experienced production growth from 1990 to 2002. In particular, the livestock products are taking up a growing portion of the total agricultural production. The overall agricultural products except for staple crops showed positive growth from 1990 to 2000 in terms of annual average growth rate. Livestock products recorded 2.41 percent of growth on average p.a., followed by vegetables with 2.86 percent, fruits with 1.11 percent and special crops with 0.1 percent. The staple crop production grew from 1995 to 2000, but since 2000, it has switched the course. About fruits, its production growth has been stagnant.

TABLE 1. Agricultural Production Amount by Commodity

Unit: KRW 1 billion (as of 1995)

Category		Staple Crop	Vegetable	Fruit	Industrial Crops	Livestock	Total
1990		10,707 (41.2)	4,738 (18.2)	2,125 (8.2)	2,614 (10.1)	5,790 (22.3)	25,974 (100.0)
1995		8,539 (32.8)	6,145 (23.6)	2,704 (10.4)	2,505 (9.6)	6,109 (23.5)	26,002 (100.0)
2000		10,388 (35.8)	6,283 (21.6)	2,374 (8.2)	2,634 (9.1)	7,346 (25.3)	29,027 (100.0)
2002		9,379 (33.2)	6,338 (22.5)	2,050 (7.3)	2,778 (9.8)	7,675 (27.2)	28,219 (100.0)
Annual Avg. Change Rate (%)	1990-95	-4.42	5.34	4.93	-0.85	1.08	0.02
	1995-00	4.00	0.44	2.56	1.01	3.76	2.23
	1990-00	-0.30	2.86	1.11	0.08	2.41	1.12
	2000-02	-3.35	0.29	4.79	1.78	1.47	-0.94

Note: The production amount is the 3-year moving average. Other special commodities include industrial crops and flowering plants.

Source: Annual Report of Agricultural and Forestry Statistics, Ministry of Agriculture and Forestry.

2. Class Division among Farm Households

Bipolarization between Large-scale and Small-scale Farms

For farm household's class division, the previous studies concluded that it has undergone four stages in Korea. In the first stage, the concentrations occurred at the two poles, and in the second stage, the concentration occurred at the mid size farm group until the early 1980s. In the third stage from the early 1980s to the mid-1990s, the move to scale up the farm size was significantly detected. Lastly, since the mid-1990s, the class bipolarization has appeared. In particular, the group of the farm households with 2~3ha of land is getting smaller, pushing the division point upward on a continuous basis. The number of mid size farm households is declining, but the number of farm households with less than 0.5ha of land or with over 3ha is increasing fast, clearly indicating the bipolar trends. Therefore, this trend of being divided into large-scale farms and small-scale farms will accelerate over time, and in some way, the arrival of bigger farms is a right direction to be headed to improve the agricultural structure.

TABLE 2. Farm Household Distribution by Farming Land Size

Unit: 1,000 households, %

Year	Total	(Percentage)	Below 0.5ha	0.5 ~1.0	1.0 ~1.5	1.5 ~2.0	2.0 ~3.0	Over 3.0ha
1990	1,743	(100.0)	27.7	31.2	20.2	11.0	7.4	2.5
1995	1,477	(100.0)	29.3	29.3	18.0	10.3	8.4	4.8
1997	1,417	(100.0)	30.9	29.0	17.1	10.0	8.1	4.9
2000	1,369	(100.0)	32.2	27.7	16.0	9.6	8.3	6.2
2004	1,221	(100.0)	36.5	26.4	14.5	8.4	7.5	6.7

Source: Major Agricultural and Forestry Statistics, Ministry of Agriculture and Forestry.

Farm households are divided into two groups, and this trend is clearly detected by farming type. Due to the constraints in statistical data, it is unable to present the year-based farm household division trend by farming type, but

the recently conducted agricultural census shows that resources including farming land and livestock are concentrated in large-scale farms. According to Table 3, the farm households with over 3ha of rice paddy accounted for 1.2 percent of the entire farm households and 6.2 percent of the entire farming land respectively in 1990. In 2000, the farm households with over 3ha of rice paddy accounted for 3.8 percent of the entire farm households and 20.0 percent of the entire farming land. In case of Korean native cattle, the farm households with over 20 heads accounted for 1.1 percent of the total number of Korean native cattle rearing households and 14.1 percent of the total number of Korean native cattle in 1990. However, in 2000, the figures recorded 6.5 percent and 49.9 percent respectively. Greenhouse farming and livestock rearing is mostly conducted by large-scale farms. In particular, 94.1 percent of poultry farming is conducted by 2.7 percent of large-scale poultry farms with over 10,000 chickens.

TABLE 3. Production Concentration on Large-scale Farm Households, 2000

Unit: %

Category	% of households	% of size	Category	% of households	% of heads
Rice paddy, over 3ha	3.8	20.0	Korean native cattle, over 20 heads	6.5	49.9
Field, over 1ha	10.6	45.2	Milk cow, over 50 heads	26.4	54.1
Orchard, over 1ha	14.1	44.3	Pig, over 1,000 heads	9.8	62.1
Greenhouse, over 2,000 pyeong (1 pyeong = 3.3 square meter)	10.5	47.1	Chicken, over 10,000 heads	2.7	94.1

Source: Original data analysis of Agricultural Census.

As the above table indicates, from the mid 1990s, the farm household class division has accelerated, and the farm resources including farming land are being concentrated in large-scale farms, while general farm households are falling to small scale farms. The farm household class bipolarization is boosting the number of small-scale farms, which are too small to conduct

commercial farming. As of 2003, the small-scale households with less than 0.5ha of farming land and less than KRW 5 million in sales amount accounted for 32.8 percent of the entire farm households (454,000 households). The number of farm households, which conducted farming for self-sufficiency purpose, not for commercial activities, amounted to 81,000 households as of 2003.

Expanding Income Inequality among Farm Households

The income inequality among farm household classes has become more severe, as farms grow larger and more specialized. In particular, since 1994, small-scale farms' agricultural income has continued to decline, while the large-scale farm households are showing the opposite trend. According to the Farm Household Economic Statistics, during the period from 1994 to 2002, the agricultural income (nominal) per household fell 5 percent for the farm households with less than 0.5ha of farming land. But during the same period, the agricultural income (nominal) of the farm households with 3~5ha of farming land increased 11 percent, while that of farm households with over 5ha grew 44 percent.

TABLE 4. Farm Household Income By Class (divided into five classes)

Unit: KRW 1,000, %

Group	1998	1999	2000	2001	2002
Ⅰ(A)	5,886	5,819	5,999	5,854	5,503
Ⅱ	12,373	12,954	13,540	13,304	13,069
Ⅲ	17,807	18,829	19,542	19,471	19,027
Ⅳ	24,697	26,546	27,010	27,455	27,468
Ⅴ(B)	42,526	46,337	45,767	46,834	49,070
Ⅰ-Ⅴ Income Ratio(B/A)	7.2	8.0	7.6	8.0	8.9

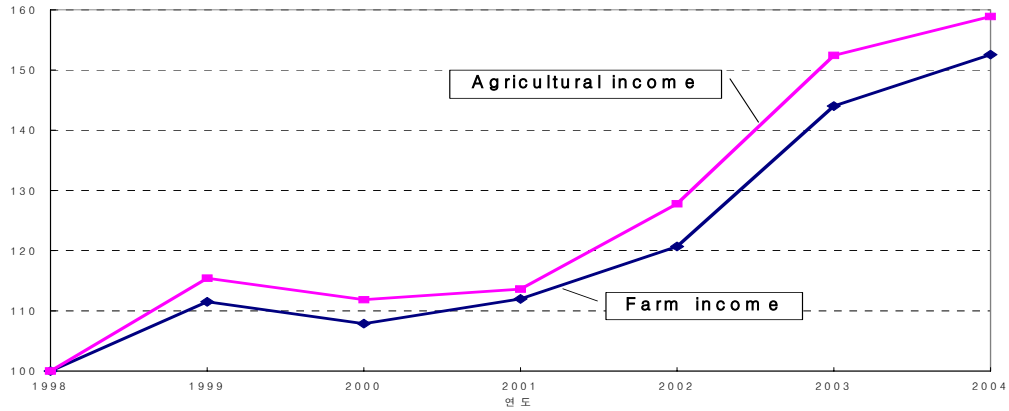
Source: Park et al. (2005). Farm Household Economy.

As set out in Table 4, the farm household income ratio of the top 20 percent to the bottom 20 percent was 7.2 in 1998 and 8.9 in 2002. The income of low-income farm household class, which belongs to the bottom 20 percent,

is declining, while the farm household income of high-income farm household class, which belongs to the top 20 percent, is increasing. Since 2000, the income inequality between the low income class and the high income class has been widening. In particular, the income of low-income farm households was reduced further compared with other classes, grabbing attention to the income inequality among classes. Therefore, this is emerging as a key policy issue.

In addition, when the Gini indicators[2] are examined by farm income sources based on the Farm Household Economic Statistics, the inequality in agricultural income is the most significant. In particular, the Gini indicator of agricultural incomes by year rose to 60% between 1998 and 2004.

FIGURE 2. Inequalities of farm income and agricultural income, 1998-2004



Note: For the convention of the comparison of the two indicators, the Gini index values in 1998 are set as 100.
Source: Farm Household Economy Survey 1998～2004.

[2] The Gini index is a measure of inequality of a distribution. It is defined as a ratio with values between 0 and 1: the numerator is the area between the Lorenz curve of the distribution and the uniform distribution line; the denominator is the area under the uniform distribution line.

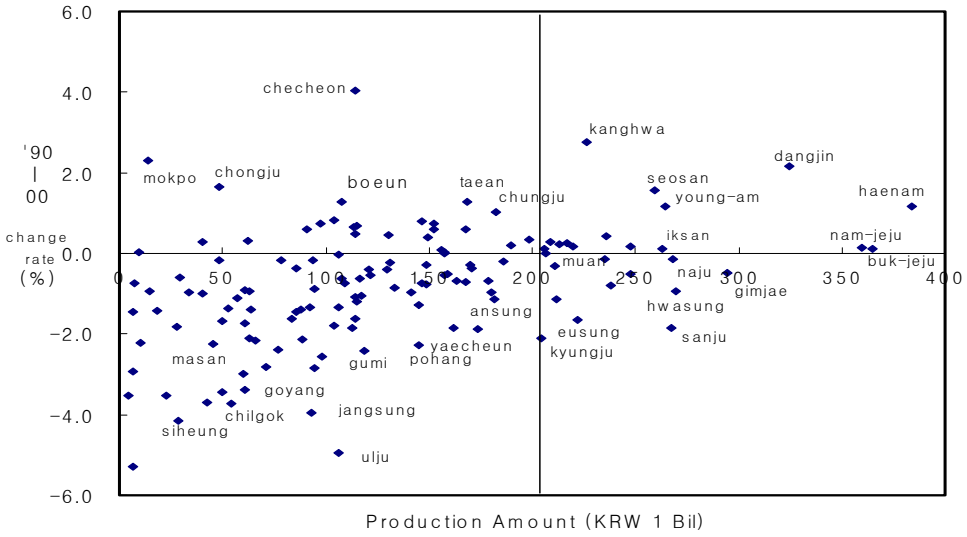
3. Regional Agriculture and Development Gap within Rural Community

Productivity Gap among Regions

In the previous chapter, it was described that the agricultural productivity has improved nationwide since the 1990s, and then how the nationwide change was translated into the regional agriculture. The trend of gross agricultural outputs by Si (or city) and Gun (or county) could display a clear view. However, due to the fact that agricultural statistics are not produced for all regions, the available gross agricultural output by Si and Gun (GRDP) data released by the National Statistical Office will be utilized to estimate GRDP in consideration of the farming land ratio of each Si and Gun.

Figure 3 shows the size of gross agricultural output by Si and Gun and its change from 1990 to 2000. As illustrated in the figure, the rural areas can be classified into four categories: the growth area with high gross agricultural output, the declining area with high gross agricultural output, the growth area with small gross agricultural output, and the declining area with small gross agricultural output.

FIGURE 3. Agricultural Production (Actual) and Change by Si and Gun



Source: Estimation based on NSO's KOSIS and Agricultural Census data.

To be noted, the gross agricultural output by Si and Gun differs depending on the land utilization types such as whether they are rice paddies or fields. Table 5 shows gross agricultural outputs by Si and Gun based on the rice paddy ratio. It was found that compared with the areas which have a balanced combination of rice paddies and fields, the areas with high ratio of fields or rice paddies have a higher agricultural growth rate. This can be interpreted as the bipolarizing agricultural trend. For instance, the large-scale plain area in the South Western coast or the high-altitude agricultural area in Gangwon Province displays relatively high growth rate. The field areas or the high-altitude agricultural areas are well-equipped with production infrastructures so that the farming size of farm household has been rapidly expanding, and currently large-scale farming has been conducted centered on more stable rice farming.

TABLE 5. Avg. Gross Agricultural Output by Si and Gun According to Rice Paddy Ratio

Unit: KRW 1 million, %

Year	Rice Paddy-Field Ratio				
	Over 75% of rice paddies	75～50% of rice paddies	50～25% of rice paddies	Less than 25% of rice paddies	Total
1990	112,095	92,745	49,206	49,852	87,314
2000	142,656	106,678	46,814	61,725	91,203
Annual Avg. Change Rate	2.44	1.41	-0.50	2.16	0.44

Note: as of 1995.
Source: Estimation based on NSO's KOSIS and Agricultural Census data.

Rural Population Reduction and Hollowing Hilly and Mountainous Region

The mainstream trend of the agricultural industry in Korea is that it is growing in the plain areas and the areas near cities, while it is waning in the hilly and mountainous areas, which are in a disadvantageous position in terms of both land and market conditions. In the hilly and mountainous areas, the reduction

of farming size had led to negative impact on new investment, causing the vicious cycle of reduction.

The agricultural population reduction is a general phenomenon displayed in rural areas. However, dramatically fast progress of agricultural population reduction in the hilly and mountainous areas is surprising to the extent that people concern that the regional communities might be hollowed out. As in Table 6, the urban population is growing, while the rural population is declining on a continuous basis. In particular, the population reduction in Myeon is the most significant. The proportion of Eup and Myeon population to the entire rural population dropped from 42.7 percent in 1980 to 20.3 percent in 2000. Table 7 shows that the number of Myeon with fewer than 2,000 residents has increased from 9 in 1985 to 170 in 2000. The number of Myeons with fewer than 1,000 residents recorded 17.

TABLE 6. Annual Avg Population Growth Rate in Urban and Rural Areas, 1980~2000

Unit: %

Year	Nationwide	Urban Area	Rural Area		
			Total	Eup	Myeon
1980~1985	1.6	4.3	-2.6	1.2	-4.3
1985~1990	1.4	4.1	-4.5	-5.6	-4.0
1990~1995	0.6	1.6	-2.9	-0.6	-4.1
1995~2000	0.7	1.0	-0.4	-1.5	-1.6

Source: National Statistical Office, Population Census.

TABLE 7. Dramatic Population Reduction in Rural Areas

Unit: areas

# of Eup & Myeon	1985	1990	1995	2000	2005	2010
Fewer than 2,000 residents	9	30	97	170	333	470
Fewer than 1,000 residents	2	3	10	17	46	109

Note: The forecasts for 2005 and 2010 are based on the assumption that the currently occurring Eup and Myeon population reduction will continue.

Ⅲ. Causes of Bipolarization and Outlook

1. Causes of Bipolarization

The bipolarization in the Korean agriculture is an inevitable phenomenon, which is occurring in the process of agricultural restructuring. Compared with advanced countries, Korea achieved fast industrialization during relatively short half a century from the 1960s to the present.

There are various causes of the bipolarization within Korean agriculture such as productivity inequality among farm households, farm characteristics, and agricultural policy perspectives. This study focuses on structural and political causes of bipolarization and explains the causes in the framework of a qualitative analysis.

Structural Causes

The problem of bipolarization is that the increase of the number of low income households and the clustering of low income class over time. Accordingly, identification of low income farm households will be useful in understanding the forces behind bipolarization among farm households

Park et al. (2005) present that low-income farm households have relatively elderly farm operators and below-average farming size. Low-income farm households' economy mainly depends on non-farm income and transfer receipts rather than farm income in contrast to the high-income class. The low-income households' average income is about half of their consumption expenditures. The aged farmers, who were unable to change their jobs or industry, thus have continued to stay in this industry.

Low income households with small-scale farms, which are mostly run by aged people, find it difficult to make their living out of farm income. Kang (2004) examine characteristics of farm exit and find the exit probability of elderly operator with small scale farming was relatively lower than medium sized farms. Most elderly operators keep their farmland until they die and produce corps for only self-consumption as their farm incomes are very low. On the other hand, young farmers operating medium sized farms will leave farming

due to their high opportunity cost or degenerate into smaller farms by a business failure. Since the small-scale farms are entitled to get compensation in case of agricultural product prices' fall, they will have continue to keep their farming size small, and the number of small-scale farms will remain unchanged.

Accordingly, the plans that induce old operators with very small farms to retire smoothly are worth considering for further easing the polarization problem.

Political Causes

The agricultural reform policy implemented in the 1990s focused on industrial efficiency, further widening the gap between urban and rural areas. The problems brought about by the 1990s agricultural reform policy are as below:

First, the policy strived to achieve agricultural development through nurturing advanced farm households. The agricultural policy of the 1990s put its primary focus on enhancing agricultural competitiveness in preparation for the market opening. Under the goal, capable farm households were selected to support their size growth and specialization to enable them to grow into advanced farm households. Along the way, most small-scale farm households without competitive edges were excluded from the government's policy support and social policies. As a result, most farm households experienced their income reduction.

Second, the policy lacked safety measures to protect farm household incomes. The settlement of UR negotiations and the launch of the WTO system have spurred the domestic agricultural marketing opening. However, this has not been followed by appropriate government counter measures. The direct payment system, which is effective in preserving farm household income, was not devised. Instead, the Korean Government pursued the policy with a focus on agricultural production and structural reform, widening the gap between classes and regions. In advanced countries, since the 1980s, a host of diverse direct payment systems were introduced to cushion the impact of market opening and reduce the income gap. Without such policy measures, in Korea, it were farm households who should absorb the entire impact of income reduction associated with market opening.

Third, the measures taken by the government were so monolithic without due consideration of regional characteristics. The central government implemented the "top down" measures, making local governments follow its instructions, instead of strengthening their capability to take their own customized measures. This has led to making the local governments more dependent on the central government's plan and instructions. Besides, the Government has put its energy and resources in carrying out the structural reform, where competitive agricultural areas, commodities and farms were selected to provide government support, and the project to adjust production and consumption for balanced supply and demand and price stabilization. Nevertheless, these government policies turned out to restrict market functions.

2. Outlook of Bipolarization

Based on the analysis above, the agricultural bipolarization in Korea is likely to develop as below:

First, farm households' class division will get deeper, while the bipolarization between large-scale and small-scale farms will be more apparent. Since the small-scale farms and the part-time farms are entitled to get compensation in case of agricultural product prices' fall, it is expected that they will continue to keep their farming size small, and the number of small-scale farms will remain unchanged. For instance, according to the rice production cost statistics in 2002, the income small-scale farms earn per 10a was KRW 757,000, which is higher than the income large-scale farm's tenant farmers earn (KRW 554,000). If rice price is slashed 50 percent, it is estimated that small-scale farms could still earn some KRW 287,000 per 10a. This is the economic advantage to make small-scale farms continue to stay in the agricultural industry.

Meanwhile, as the aged farm owners retire, their farming land is expected to be concentrated in competitive farm households through market competition. This will facilitate the production concentration in the top class farm households. The number of farm owners over 60 years as of 2000 is expected to drop in half by 2015. As of 2000, the farming land owned by farm owners over 70 years amounts to 160,000ha, and their farming land is predicted to be securitized within 10 years.

Secondly, the distinction between growing and dwindling agricultures will become more apparent as the product specialization proceeds. The capital and technology intensive greenhouse horticulture and livestock farming will grow further, while land based farming such as rice farming will remain stagnant. Until recently, rice farming has driven the growth of the Korean agriculture. But the decreasing rice consumption and the wider rice market opening are expected to bring down the scale of the rice farming industry. The developments of the rice farming will be substantially influenced by the results of the WTO/DDA negotiation currently under way. In the meantime, fruits, vegetables and livestock products, whose consumption is rising these days, are believed to be relatively less sensitive to the market opening. However, in order to stabilize their domestic markets, it is key to obtain consumer's trust by protecting the environment and securing food safety through environment friendly agriculture.

Thirdly, regional agriculture has walked different paths depending on location. Agriculture near cities has prospered, while that of the plain area and the hilly & mountainous area has shown stagnant growth so far. Since the farm income remains stagnant, it is likely that agriculture will be facilitated only in the regions where new sources of income such as non-farm income exist. For instance, the areas near cities can strengthen greenhouse horticulture and livestock farming thanks to their geographical advantages. The plain areas will see specialized farming play out, while the hilly and mountainous areas will energize their agriculture through combining agriculture and tourism. Likewise, while current regional agriculture division continues, in the areas where agricultural production dwindles, new labor will not join agricultural industry, and in the end, agricultural productivity will plunge sharply.

Ⅳ. Policy Tasks and Proposals

The Korean agriculture was restructured in earnest in the 1990s, and thanks to the government support for growing the farm size, industrial efficiency has been achieved to some degree. Along the way, however, the stark disparity between large-scale farms and small-scale farms was generated, causing conflicts

within the rural community. Even the government's agricultural policy has lost its direction for a while. The President Kim Young-Sam government, which was launched in 1993, set the enhancement of agricultural competitiveness as its primary goal of agricultural policy, and has strongly implemented the drive of nurturing specialized farms. Its successor President Kim Dae-Jung government pursued stability in the rural community and strengthened support for mid/small-scale farms. While the agricultural policy has lost its continuity between two governments, the 10-year agricultural reform policy got adrift.[3]

The bipolarization phenomenon in agriculture inevitably appears in the process of implementing agricultural reform. Therefore, advanced countries have tried various policy efforts to get over conflicts stemming from bipolarization. In particular, European countries, which strived to achieve industrial efficiency until the 1970s, compensated a number of small-scale farms and the disadvantaged areas, which inevitably fell behind or were isolated from the restructuring move, through the direct payment system. Since then, the direct payment system has taken a firm root as a good policy means to resolve agricultural problems, which cannot be addressed by the market alone.

The agricultural restructuring policy should implement the industrial policy in parallel with the socio-welfare policy. It is important to enhance the agriculture's industrial efficiency, but at the same time, the conflicts between classes and regions within the rural community should be minimized. Only then, the policy effects can be maximized. From this perspective, the following directions could be proposed for ideal structural reform in agriculture:

Firstly, the perception shift toward government role is required. The government should believe that the industrial development can be best achieved by creativity and endeavors of economic entities, and the government's role is to prepare and manage the environment where the economic entities can fairly compete. In addition, the government should focus on the areas, where the market cannot properly function. In particular, it should take policy measures to help the classes and the regions that have lost competition.

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[3] The Korean economy came to face an unprecedented difficulty with the financial crisis beginning at the end of 1997 and the IMF bailout program. The President Kim Dae-Jung took office in 1998, under the economic crisis. And The government has been strongly pushing the restructure of all economic and social sectors to improve their competitiveness and efficiency.

Secondly, the agricultural restructuring and supply & demand adjustment should be determined by the market. In the era of openness, the government's arbitrary engagement in production will lead to increase in agricultural product import and damage the domestic agricultural industry. Therefore, the government manipulation will end up causing social losses. Therefore, all types of agricultural product's supply and demand adjustments and the agricultural reform should be obtained through market functions. If aids create benefits for specific farm households or organizations, they should not be implemented. Selection and elimination should be determined by the market based on fair competition.

Thirdly, farm household income should be preserved as the market opening progresses, and the welfare supports should be elaborated. It is necessary to draft devices, which can absorb shocks from the agricultural market opening, get ride of concerns related to market opening, and support the stability of the farm household economy. In particular, the goal of income support not tied to production should be set for major agricultural products, and as a complementary measure to support income, the direct payment system should be in place. The social insurance system should be expanded to expedite the farming transfer from aged farmers. The basic livelihood guarantee system should be extended to guarantee the minimum livelihood for small-scale farmers.

Fourthly, the central government should sustain the system, which enables system implementation and build partnerships with local autonomies and commodity production groups at the same time. Considering that its agricultural policy is mostly targeting regional agriculture, the central government should accept the autonomy of local governments to the maximum level. For agricultural production support or distribution business, it is also desirable for the central government to build cooperative ties with producer groups by commodity. The differentiated aid system depending on region should be widely implemented to give higher government support to disadvantaged farmers and underdeveloped rural areas as a measure to ease the phenomenon that the rich get richer and the poor get poorer.

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