

2013 Modularization of Korea's Development Experience: Establishment of the Agricultural Distribution System: Focusing on Public Wholesale Market Construction and Management

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Ministry of Agriculture,
Food and Rural Affairs

KREI

Korea Rural Economic Institute

2013 Modularization of Korea's Development Experience:
**Establishment of the Agricultural Distribution
System: Focusing on Public Wholesale Market
Construction and Management**

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Preface

The study of Korea's economic and social transformation offers a unique window of opportunity to better understand the factors that drive development. Within one generation, Korea had transformed itself from a poor agrarian society to a modern industrial nation, a feat never seen before. What makes Korea's experience unique is that its rapid economic development was relatively broad-based, meaning that the fruits of Korea's rapid growth were shared by many. The challenge of course is unlocking the secrets behind Korea's rapid and broad-based development, which can offer invaluable insights, lessons and knowledge that can be shared with the rest of the international community.

Recognizing this, the Korean Ministry of Strategy and Finance (MOSF) and the Korea Development Institute (KDI) launched the Knowledge Sharing Program (KSP) in 2004 to share Korea's development experience and to assist its developing country partners. The body of work presented in this volume is part of a greater initiative launched in 2007 to systematically research and document Korea's development experience and to deliver standardized content as case studies. The goal of this undertaking is to offer a deeper and wider understanding of Korea's development experience in hopes that Korea's past can offer lessons for developing countries in search of sustainable and broad-based development. In furtherance of the plan to modularize 100 cases by 2012, this year's effort builds on the 20 case studies completed in 2010, 40 cases in 2011, and 41 cases in 2012. Building on the past three year's endeavor that saw publication of 101 reports, here we present 18 new studies that explore various development-oriented themes such as industrialization, energy, human capital development, government administration, Information and Communication Technology (ICT), agricultural development, and land development and environment.

In presenting these new studies, I would like to express my gratitude to all those involved in this great undertaking. It was their hard work and commitment that made this possible. Foremost, I would like to thank the Ministry of Strategy and Finance for their encouragement and full support of this project. I especially would like to thank KSP Executive Committee, composed of related ministries/departments, and the various Korean research institutes, for their involvement and the invaluable role they played in bringing this project together. I would also like to thank all the former public officials and senior practitioners for lending their time and keen insights and expertise in preparation of the case studies.

Indeed, the successful completion of the case studies was made possible by the dedicated efforts of the researchers from the public sector and academia involved in conducting the studies, which I believe will go a long way in advancing knowledge on not only Korea's own development but also development in general. Lastly, I would like to express my gratitude to Professors Kye Woo Lee, Jinsoo Lee, Taejong Kim and Changyong Choi for their stewardship of this enterprise, and to the Development Research Team for their hard work and dedication in successfully managing and completing this project.

As always, the views and opinions expressed by the authors in the body of work presented here do not necessarily represent those of the KDI School of Public Policy and Management.

April 2014

Joon-Kyung Kim

President

KDI School of Public Policy and Management



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Summary

This report aims to analyze the background and process of constructing public wholesale markets and policy projects related thereto, outcomes and issues involved, so that the results can be used effectively for policy processes of developing countries, and can suggest implications to policy makers of those countries. Public wholesale markets significantly transformed the premodern distribution system of Korea before the 1980s.

This report is composed of the Background and necessity of public wholesale market construction (Chapter 1), the Outcome and assessment of the public wholesale market (Chapter 2), Promotion of the public wholesale market construction, operation of the market and its management system (Chapter 3), Issues and improvements of the public wholesale market operation system (Chapter 4), and Features of public wholesale market policy and applications for developing countries (Chapter 5).

Until the 1980's, distribution of agricultural products in Korea were unfair and closed transactions by commissioned sellers in markets, which contributed to unfair pricing, and asymmetrical market information resulted in very low negotiation capabilities in the markets for the farmers. To improve this situation, the Korean government enacted the "Act of stabilized distribution and prices of agricultural and fishery products (ASDP) in December, 1976, to make a basis for constructing public wholesale markets.

The Garakdong Wholesale Market, the first public wholesale market in Korea, opened in 1985, to complete the nationwide public wholesale market (33) construction project, which included the Busan International Fish Market in 2008. The outcome of the public wholesale market construction policy is summarized as follows: 1. Suddenly increased volume of transactions and attraction of transactions in similar wholesale markets; 2. Fair and transparent transactions and stable transaction basis; 3. Improved product quality and logistics efficiency; 4. Improved quality of agricultural products and negotiation

capabilities; 5. Enhanced distribution system for agricultural products and leading role in the system; and 6. Reduced the risk of farmers and enhanced reliability of consumers. The public wholesale market construction policy looks very feasible in terms of compatibility, and the goal of the policy was fully achieved in terms of efficiency.

The current transaction system for the public wholesale market is classified under the auction system and the commissioned retailer system, which are very important for distributing agricultural products in Korea through various functions and operational rules. The public wholesale market has various operators and participants, and appointed managers manage facilities, keep transactions organized, guide and supervise people involved in distribution.

The volume of transactions in the public wholesale markets continues to increase, and as of 2011, accounted for approximately 45%, the largest portion, in the total distribution volume of fruits and vegetables in Korea. In regards to the proportions for the transaction systems in the public wholesale markets, the wholesale markets by auctions (95.0%) are even higher than the wholesale markets by the commissioned retailer system (5.0%).

However, a lot of issues have been revealed due to poor operation and management of the public wholesale markets and the changing spirit of people involved in distribution since the 1990s.

The government prepared step-by-step measures to innovate distribution in public wholesale markets, introduced a new transaction system (commissioned retailer system) and started the facility modernization project.

Korea's public wholesale market construction policy suggests many implications to developing countries. Therefore, the first thing needed to establish a public wholesale market construction policy is to examine the necessity of public wholesale markets and its feasibility. Also, another requirement to examine is to build an efficient organization to overhaul and establish related regulations, and to establish a complete master plan to present a feasible construction scheme. In addition, systems need to be built for efficient operation and management.

2013 Modularization of Korea's Development Experience
Establishment of the Agricultural Distribution System:
Focusing on Public Wholesale Market Construction
and Management

Chapter 1

Background and Necessity of Public Wholesale Market Construction

1. Construction and Operation of Public Wholesale Markets
2. Background of Introducing the Public Wholesale Market Construction Policy
3. Distribution of Agricultural Product before Public Wholesale Markets

Background and Necessity of Public Wholesale Market Construction

1. Construction and Operation of Public Wholesale Markets

1.1. Wholesale Market before Public Wholesale Markets

1.1.1. August 1945 (liberation from Japanese Invasion)~June 1951

There were no regulations announced for wholesale markets during this period, and no administrative regulations for wholesale distribution for agricultural products. Participants in wholesale distribution included individual commissioned sellers (a commission agent or middlemen). The Central Wholesale Market established by the Japanese Colonial Government in Korea succeeded and copied Japanese practices for operating the market. Another participant in this period was the Kyungsung Central Wholesale Market (Kyungsung Fishery Product Supply Co., Ltd., Kyungsung Central Fruit and Vegetable Co., Ltd.).

1.1.2. Period of Central Wholesale Market Act (June 1951~January 1973)

The regulations for wholesale markets during this period are described below. The “market rule” of Japan was correspondingly applied to establishing the Central wholesale market act (June 22, 1951). The features of the act copied the ‘Central wholesale market act’ of Japan (enacted in 1923). The part which succeeded the Central Wholesale Market and the wholesale companies of Japanese Government in Korea was just licensed. Central wholesale markets in 15 cities were built across Korea, with changed name from ‘No.3 Market’ in the Japanese colonial era on the basis of one market in one city. The competitive structure of wholesale markets in the 1950s was a two-dimensional competition between the central wholesale markets and quash-wholesale markets. However, Nonghyup participated

in the wholesale business of agricultural and fishery products in 1961 (the new Nonghyup launched in 1961) to result in a 3-dimensional competition structure of quasi-wholesale markets, the Nonghyup joint-markets (18 Nonghyup joint-markets in 1976) and the central wholesale markets.

Market shares by distribution institutions (Seoul, 1972): central wholesale market: 15%, Nonghyup joint-market: 20%, and quasi-wholesale market: 65% (Nongmin Newspaper, 1999). The nationwide commissioned seller organization without legal support established quasi-wholesale markets. Participants in wholesale distribution in this period included commissioned sellers in the quasi-wholesale markets, Nonghyup joint-market middlemen (assistant middlemen, secondary wholesalers), central wholesale market corporations and middlemen (assistant middlemen, secondary wholesalers, and retailers).

1.1.3. Period of Wholesale Market for Agricultural and Fishery Products (February 1973~December 1976)

Regulations for the wholesale markets in this period are described below.

- The “Market rule” of the Japanese colonial government in Korea was applied to enacting the Central wholesale market act (June 22, 1951), and the point of the regulation was to copy the ‘Central wholesale market act’ of Japan (enacted in 1923). The regulation was based on the rule of one market in one city.

Affairs for wholesale markets were transferred from the Ministry of Commerce and Industry (MCI) to the Ministry of Agriculture and Forestry (MAF).

The structure of competition in wholesale markets is below. The central wholesale markets were enhanced as a public wholesale market, but the quasi-wholesale markets still exercised strong market power. Illegal wholesale markets were approved to be a quasi-wholesale market. Market shares by distribution institutions (Seoul, 1972~76) were legal wholesale markets (15%~9.4%), quasi-wholesale markets (65%~73.7%), and Nonghyup joint-markets (20%~16.9%). Participants in wholesale distribution included commissioned sellers in the quasi-wholesale markets, middlemen in Nonghyup joint-markets (assistant middlemen, secondary wholesalers), and appointed wholesalers and middlemen in the central wholesale markets (assistant middlemen, secondary wholesalers, and retailers).

Table 1-1 | Changes of Agricultural and Fishery Product Wholesale Market System before 1985

	Regulation	Wholesale Market Type	Participant in Wholesale Market	Marketer	Transaction System	Team Involved
Period 1 (1945~1950)	No	<ul style="list-style-type: none"> • Commissioned Wholesale Markets • Succession and Dopy of Japanese Practices. 	<ul style="list-style-type: none"> • Individual Commissioned Sellers 		<ul style="list-style-type: none"> • Private Sale by Commissioned Sellers 	No
Period 2 (1950s)	Central Wholesale Market Act	<ul style="list-style-type: none"> • Led by Quasi-Wholesale Markets. • Legal Wholesale Farkets Established (one market in one City) 	<ul style="list-style-type: none"> • Led by Individual Commissioned Sellers • Wholesalers in the Wholesale Markets (corporation) 	<ul style="list-style-type: none"> • Individual Farmers • Local Collectors 	<ul style="list-style-type: none"> • Private Sale led by Commissioned Seller • Auction System was Partially Introduced. 	Ministry of Commerce and Industry
Period 3 (1960~1973)		<ul style="list-style-type: none"> • Led by Quasi-Wholesale Markets 	<ul style="list-style-type: none"> • Middleman (wholesaler) 			
Period 4 (1973~1976)	Agricultural and Fishery Product Wholesale Market Act	<ul style="list-style-type: none"> • Legal Wholesale Markets (one market in one city) 	<ul style="list-style-type: none"> • Intermediate Wholesaler, Lower Wholesaler • Nonghyup Joint-Markets (corporations) 	<ul style="list-style-type: none"> • Led by Local Collector • Individual Farmers • Nonghyup Organization 		
Period 5 (1976~1985)		<ul style="list-style-type: none"> • Nonghyup Joint-Markets 				
Period 6 (1985~)	Act of Stabilized Distribution and Prices of Agricultural and Fishery Products (ASDP)	<ul style="list-style-type: none"> • Led by Public Wholesale Markets • Quasi-Wholesale Markets • Nonghyup Joint-Markets 	<ul style="list-style-type: none"> • Wholesale Market Corporations • Wholesale Middlemen • Joint-Markets • Individual Commissioned Sellers 	<ul style="list-style-type: none"> • Led by Farmer Associations • Individual Farmers • Local Distributors (collectors) 	<ul style="list-style-type: none"> • Led by Auction System • Private Sales by Commissioned Sellers 	MAF

1.2. Enacting ASDP and Constructing Public Wholesale Markets (December 1976~)

Regulations for the wholesale market after December, 1976 are described below. The act of wholesale markets for agricultural and fishery products was integrated into the act of stabilizing agricultural and fishery product prices to enact the act of distributing agricultural and fishery products and stabilizing prices (December 31, 1976). The system of one market in one city was abolished, and the plural corporal system in one wholesale market was introduced.

During the period of 1976~1985 which is a preparatory period for constructing and operating public wholesale markets, the plan for constructing and supporting the agricultural and fishery product wholesale markets as a public market, and the policy for constructing comprehensive agricultural and fishery product wholesale markets were promoted. They aimed at transparent agricultural product transactions, fair pricing, open transaction information, a competition structure between wholesale markets and wholesale market corporations, and to provide a solution for problems in the existing legally authorized wholesale markets and quasi-wholesale markets.

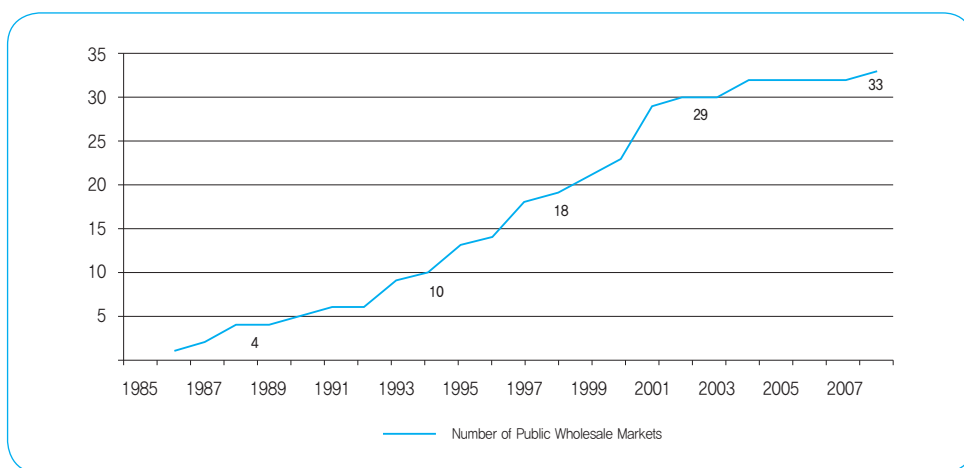
The process of constructing public wholesale markets is described below. A plan was made to build a comprehensive agricultural product distribution center (August 3, 1977), then switch it to a wholesale market for agricultural and fishery products (August 6, 1979). Another plan recommended building the comprehensive Garakdong Wholesale Market for agricultural and fishery products (April 1, 1980). The construction work for the Garakdong Public Wholesale Market started on April 13, 1982 and opened to the public on June 19, 1985.

The public wholesale market construction project was promoted and completed in order to establish a structure of wholesale distribution led by the public wholesale markets. The full-scale public wholesale market construction project started after constructing the comprehensive Garakdong Wholesale Market for agricultural and fishery products in 1985. Thirty-three public wholesale markets for agricultural and fishery products were constructed, including the Busan International Fish Market in September, 2008. The public wholesale market construction project took 29 years (by 2008) until the aforementioned 33 wholesale markets were open after a decision was made to construct the wholesale markets for agricultural and fishery products (1979).

1.3. Current Construction and Operation of Public Wholesale Market

The project for constructing public wholesale markets that started in 1979 was to construct 33 public wholesale markets, took 29 years, and was completed in 2008 by opening the Busan International Fish Market in 2008.

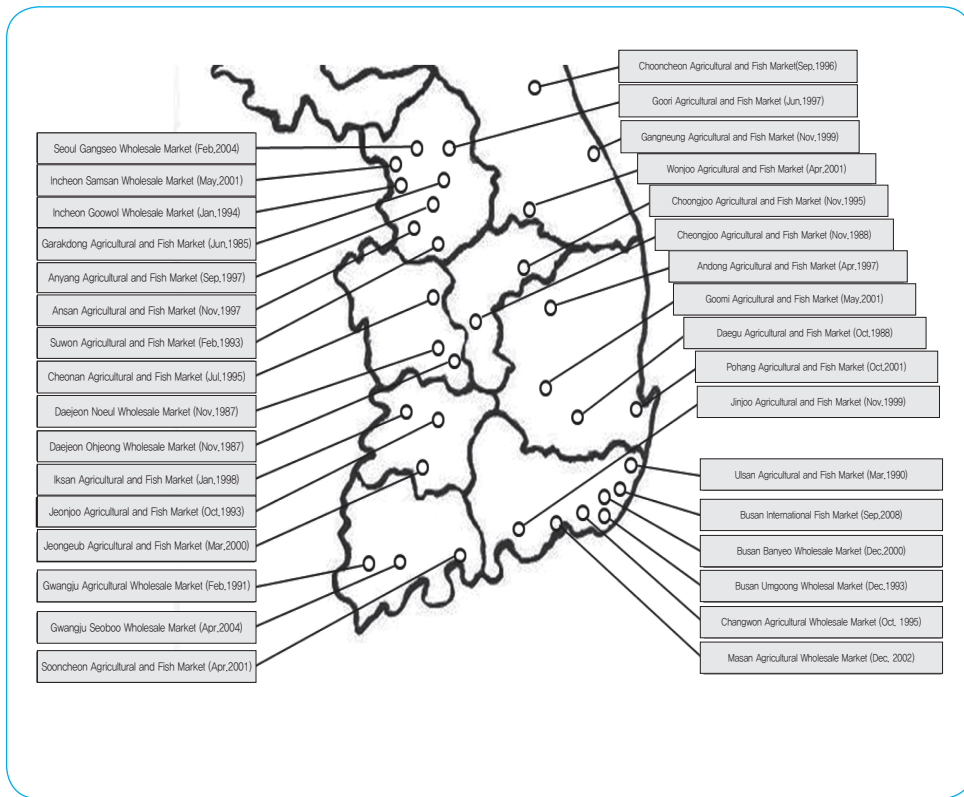
Figure 1-1 | Construction and Opening of Public Wholesale Market for Agricultural and Fishery Products



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

As the policy for constructing public wholesale markets was completed in 2008, the public wholesale markets for agricultural and fishery products were constructed and operated in major cities across the country to form a distribution network led by the public wholesale market transformed from the existing distribution network led by the quasi-wholesale markets.

Figure 1-2 | Distribution of Current Public Wholesale Markets by Region



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Table 1-2 | Distribution of Public Wholesale Market in each Region, Project Period, Cost and Outcome

(Unit: 1,000m², million won, %)

Region	Number of Markets	Project Period	Scale		Project Cost		
			Site	Building	Subsidy by Central Government	Subsidy by Local Government	Total Project Cost
Seoul	2	'79-'04	752.7	374.2	115,402	215,167	330,569
Busan	2	'87-'00	296.2	166.2	42,357	102,321	144,678
Daegu	1	'84-'88	159.0	95.9	4,039	62,384	66,423
Incheon	2	'87-'00	166.2	98.5	34,313	61,716	96,029
Gwangju	2	'88-'03	167.3	81.7	40,085	49,048	89,133

Region	Number of Markets	Project Period	Scale		Project Cost		
			Site	Building	Subsidy by Central Government	Subsidy by Local Government	Total Project Cost
Daejeon	2	'84-'00	186.3	75.0	42,040	67,080	109,120
Ulsan	1	'88-'90	41.0	25.1	2,700	4,400	7,100
Gyeonggi	4	'85-'97	349.6	205.8	95,889	137,590	233,479
Gangwon	3	'94-'00	142.5	38.7	26,252	27,684	53,936
Choongbuk	2	'85-'95	80.0	34.1	4,280	11,361	15,641
Choongnam	1	'93-'95	43.6	14.5	3,123	6,833	9,956
Jeonbuk	3	'89-'99	230.9	62.8	21,439	29,714	51,153
Jeonnam	1	'96-'00	74.4	24.1	18,187	11,647	29,834
Gyeongbuk	3	'94-'01	205.0	65.1	40,395	36,226	76,621
Gyeonngnam	3	'85-'02	175.0	92.8	58,132	59,917	118,049
Total	32		3069.7	1454.5	548,633 (38.3)	883,088 (61.7)	1,431,721 (100.0)

Note: Busan International Fish Market is not included.

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Table 1-3 | Details of Invested Project Cost for each Fund as of the Year of Opening Public Wholesale Market

(Unit: 100 million won)

Year of Opening	Project Cost (100 million won)				
	Subsidy by Central Government	Subsidy by Local Government	Loan	Others	Total
1985	347	208		378	933
1987	10	51	24		85
1988	50	351	35	323	759
1990	27	44			71
1991	17	6	55	68	146
1993	213	747			960
1994	75	242		50	367
1995	221	385			606
1996	47	63			110

Year of Opening	Project Cost (100 million won)				
	Subsidy by Central Government	Subsidy by Local Government	Loan	Others	Total
1997	1000	1251			2251
1998	98	72	42		212
1999	301	307			608
2000	366	631	28		1025
2001	1290	1470			2760
2002	268	220			488
2004	1317	1486	525		3328
Total	5,647 (38.4)	7,534 (51.2)	709 (4.8)	819 (5.6)	14,709 (100.0)

Note: Busan International Fish Market is not included.

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

2. Background of Introducing the Public Wholesale Market Construction Policy

2.1. More Emphasis on Stabilized Supply and Demand and Pricing of Agricultural Products Resulting from Rapid Industrialization and Urbanization

The Five-year Plan for Economic Development that started in 1962 contributed to fast growth of an annual average (1980=100) GNP (Gross National Product) and the GNP increase per capita, 8.4% and 15.4%, respectively. The resources in rural districts and agriculture (labor) moved to the sector of industrialization and urbanization to result in a fast growing volume of demand for agricultural products in the markets. The structure gradually moved from agricultural production just for living to market economy-type agricultural production while the volume delivered to the market for supplying the products to urban consumers increased quickly. While the annual average increase of the total population in the same period was 2.0%, the agricultural population showed an annual average decrease rate of 2.35.

Table 1-4 | Key Economic Indicators before 1985

		Unit	1962	1982	1984	Annual Average Increase/Decrease (%)
GNP	Current Price	1B Won	355.5	51,786.6	66,408.2	26.8
	1980=100		8,432.4	41,736.7	50,003.0	8.4
GNP per Capita		US \$	87.0	1,800.0	2,044.0	15.4
GNP in Agriculture, Forestry, Fisheries	Current Price	1B Won	130.3	7,680.3	9,181.2	21.3
	1980=100		3,415.4	6,962.5	7,453.2	3.6
GNP in Agriculture	Current Price	1B Won	118.5	6,413.3	7,620.5	20.8
	1980=100		3,065.4	6,066.0	6,369.0	3.4
Total Population		1,000	26,432	39,331	40,578	2.0
Farming Population		Farmers	15,097	9,688	9,015	△2.3

Source: National income account (The Bank of Korea), Korea Statistics (Economic Planning Board), Key Agricultural Indicators (MAFRA).

The development of agricultural production technology in the same period contributed to the volume of agricultural production growing quickly to result in the greatly increased volume in the market. People's income increases resulted in significantly increased consumption of agricultural products per capita. In particular, since the 1960's, demand for fruits, vegetables and livestock products continued to increase. As the structure of agricultural production changed, the management structure changed from self-supply farming in the 1970s to commercial farming in the 1980s according to the changing production structure.

Table 1-5 | Changes of Volume of Produced Agricultural, Livestock and Fishery Products before 1985

		1960	1970	1980	1985	Economic Planning Board (%)
Grain (1,000 tons)	Rice	3,046	3,939	3,550	5,626	2.8
	Barley	1,288	1,820	906	584	△3.5
	Potato	326	783	431	359	0.4
	Minor Cereal	81	124	170	147	2.8
	Bean	150	271	266	275	2.8
Fruits (1,000 tons)	Vegetable	1,088	2,653	7,676	7,763	9.3
	Fruit	166	423	833	1,464	10.4
Livestock Product (1,000 heads)	Cow	1,012	1,286	1361	2,553	3.8
	Pig	1,397	1,126	1,784	2,853	2.9
	Chicken	12,308	23,633	40,130	51,081	5.9
Fishery Product (1,000 tons)		357	935	2,410	3,103	9.0

Source: Statistics of agriculture, livestock farming and fisheries, MAFRA, each year.

The pattern of food demand greatly changed due to income increases per capita resulting from the changing economic structure, and consumers demand for agri-food. In particular, high increases are shown in fruits, vegetables, livestock products and fishery products.

Table 1-6 | Annual Food Consumption Per Capita before 1985

(Unit: kg, %)

Item	1965	1970	1980	1984	Economic Planning Board (%)
Entire Grain	188.8	219.4	195.1	185.4	△0.1
Rice	121.8	136.4	132.4	128.0	0.3
Vegetable	46.7	59.6	120.6	98.6	3.8
Fruit	9.8	10.0	16.2	26.6	5.1
Meat	4.6	6.6	11.3	16.5	6.6
Milk	2.1	1.8	10.8	23.1	12.7
Fishery Product	18.0	17.3	27.0	37.2	3.7

Source: Table of Food Demand and Supply, MAFRA, KREI, each year.

Stabilized demand and supply and prices for agricultural products were very much in demand during the process of industrialization and urbanization. Stabilized prices through stabilized supply and demand for agricultural products in order to build infrastructure for stabilized economic living and continuous industrialization while farmers gave up farming to go to urban areas, and more and more people went to urban areas in the process of rapid industrialization and urbanization. The government enacted the Act of price stabilization fund for agricultural and fishery products (August 3, 1966) to use as a government donated fund in order to stabilize the prices of agricultural and fishery products. The government discussed how to build a new distribution system to replace the existing agricultural product distribution system from the mid-1970s for the purpose of stabilized agricultural product prices in the process of fast industrialization.

2.2. Transition to Commercial Farming and Increased Need for Efficient Distribution

Transforming the agricultural structure to real commercial farming since 1980s led the development of production technology and seed improvements to transform the seasonal production and marketing structure to a year-round production and marketing structure. As agricultural product quality improved, farmers were interested in reasonable prices, buyers and sales methods in consideration of supply and demand. Farmers wanted more accurate market information for decision making, ideal for product type or variety selections that consumers wanted. They also wanted distribution information about distribution routes, marketing time and markets to get even higher prices.

However, unstable supply and demand of agricultural products and extreme price fluctuations repeated with no infrastructure for agricultural product distribution systems. In spite of continued increased consumption of fruits and vegetables, and equalized year-round consumption, high yearly and seasonal fluctuations in supply resulted in repeating high price fluctuations of fruits and vegetables.

Because pricing flexibility of supply and demand for agricultural products is relatively inflexible, slight imbalances of supply and demand result in extreme price fluctuations.

There was a need to develop a distribution structure for performing required functions with minimum costs for enhanced distribution in the process of agricultural product distribution. There is a need to develop a distribution structure for optimum pricing, and reflect supply and demand in the markets to efficiently perform resource distribution. The policy for constructing public wholesale markets was introduced to address the issue of imbalanced information by transparent transactions, fair pricing and open market information.

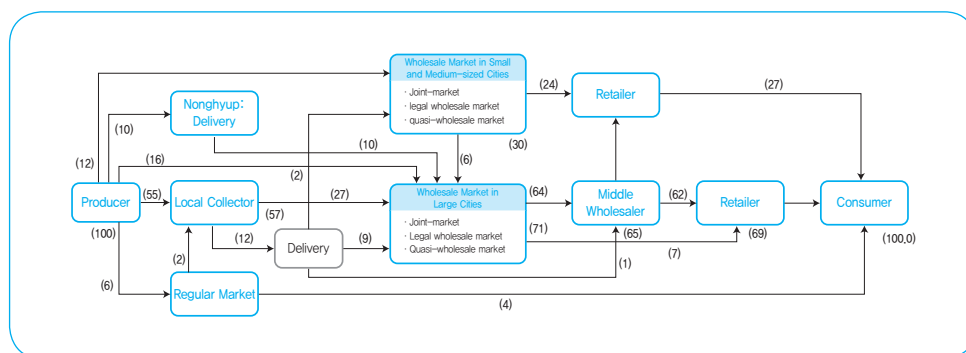
3. Distribution of Agricultural Product before Public Wholesale Markets

Many distribution route members participated in the distribution of agricultural products, where complicated distribution routes and functions overlapped. A general distribution route has a complicated distribution system with seven steps of production: local collection (small scale); Delivery (large scale); Wholesale market (joint-market, legal and quasi-wholesale market); Intermediate wholesaler; Retailer and the Consumer.

Major route members in the production step include Nonghyup delivery people, local collectors, regular markets (conventional markets), and delivery people. The wholesale step includes legal wholesale market corporations, wholesale middlemen and intermediate wholesalers.

Before the public wholesale markets, both producers and consumers experienced losses that incurred from prevailing chronic unfair transactions, for example, market information monopoly by commissioned sellers, manipulation of selling prices, oligopoly for selling and buying agricultural products, and delayed payment under the wholesale distribution system led by the commissioned sellers in the quasi-wholesale market. The commissioned sellers controlled local collectors and sellers (wholesale middlemen, secondary wholesales) for an oligopoly of agricultural products in the buying and selling process.

Figure 1-3 | Fruit and Vegetable Distribution Route before 1985



Source: Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, KREI, December 1984.

Issues in the multi-step complicated distribution route before the public wholesale markets are described below. Overlapping distribution or unnecessary route members on the whole route increased distribution costs (total margin) and resulted in lower farmer's income. The 'local collectors' and the 'delivery people' were functional merchants who collect the products from individual farmers to deliver them to markets. They contributed to overlapping distribution in the collection and delivery process, and a difference in the volume of collection and delivery. In the wholesale markets (joint-market, legal and quasi), many functions of middlemen (wholesalers), intermediate wholesalers and secondary wholesalers overlapped. In the fruit and vegetable distribution route before 1985, at least two steps for distribution overlapped, so that it was necessary to reduce the distribution steps and to exclude route members in order to enhance the distribution structure.

Wholesale distributors before public wholesale markets are described below. The wholesale distributors included the legal wholesale markets, the joint-markets, and the quasi-wholesale markets. A legal wholesale market was for agricultural and fishery products, and established by the head of local municipalities in accordance with the 'ASDP' to allow an appointed wholesaler to operate it. The joint-market was a wholesale distributor organized and operated by the central Nonghyup or local Nonghyup in production areas or areas with markets. The quasi-wholesale market is a group or place where an authorized area or facility was established in a conventional market to perform quasi-wholesale (the role of commissioned sellers). Most legal wholesale markets performed marketing similar to the role of commissioned sellers rather than auctions.

Table 1-7 | Wholesale Distributors for Agricultural Products in each Region before Public Wholesale Market (1982)

	Number of Wholesale Markets			Total
	Legal Wholesale Market	Joint-market	Quasi-wholesale Market	
Places	47	63	74	184

Source: Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, KREI, December 1984.

Table 1-8 | Change of the Number of Wholesale Distributors before/after Opening and Operating Public Wholesale Market

(Unit: places)

Year	Number of Wholesale Distributors for Agricultural Products					
	Legal Wholesale Market	Joint-market	Quasi-wholesale Market	Public Wholesale Market	Private Wholesale Market	Total
1982	47	63	74	-	-	184
1990	42	60	48	5	-	155
1995	38	58	24	13	-	133
2000	23	57	15	23	2	120

Note: The Nonghyup joint-markets sell fruits and vegetables (central Nonghyup and local Nonghyup), and are not included in the wholesale market.

Source: Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, KREI, December 1984.

- Central Nonghyup, Nonghyup 35 Years.

- Korea Nongmin Newspaper, History of Korea's agricultural and fishery product distribution and wholesale market, 1999.

Table 1-9 | Features of Wholesale Market for Agricultural and Fishery Products before 1985

	Legal Wholesale Market	Joint-market	Quasi-wholesale Market
Collector	<ul style="list-style-type: none"> Appointed Wholesaler (corporation) 	<ul style="list-style-type: none"> Joint Market 	<ul style="list-style-type: none"> Individual Commissioned Seller
Distributor	<ul style="list-style-type: none"> Middleman (wholesaler) 	<ul style="list-style-type: none"> Middleman 	<ul style="list-style-type: none"> Individual Commissioned Seller
Pricing	<ul style="list-style-type: none"> Auction, Bidding, Agreement. 	<ul style="list-style-type: none"> Auction, Bidding 	<ul style="list-style-type: none"> Private Sale (one-directional decision)
Feature of Transaction	<ul style="list-style-type: none"> Low Fairness 	<ul style="list-style-type: none"> Low Fairness 	<ul style="list-style-type: none"> Unfair, Closed
Product	<ul style="list-style-type: none"> Unpacked, Packed Products (non-standard) 	<ul style="list-style-type: none"> Packed Product (non-standard), Unpacked Product 	<ul style="list-style-type: none"> Mainly Unpacked Products, Non-Standard
Volume of Transaction	<ul style="list-style-type: none"> Nationwide Medium Scale 	<ul style="list-style-type: none"> Small Scale, Region-based 	<ul style="list-style-type: none"> Nationwide, Large-scale
Market Info	<ul style="list-style-type: none"> Open (asymmetric info) 	<ul style="list-style-type: none"> Open (asymmetric info) 	<ul style="list-style-type: none"> Closed (completely asymmetric)
Market Logistics	<ul style="list-style-type: none"> Mainly Human Labor 	<ul style="list-style-type: none"> Mainly Human Labor 	<ul style="list-style-type: none"> Mainly Human Labor
Market Facility	Per market: site (3,381m ²), Auction site (960), Middleman shop (1,539), Packing lot (242), Others (446)		

Note: The market facility includes other company-owned offices, selection sites, storages, service areas, and parking lots.

2013 Modularization of Korea's Development Experience
Establishment of the Agricultural Distribution System:
Focusing on Public Wholesale Market Construction
and Management

Chapter 2

Outcome and Evaluation of the Public Wholesale Market Construction Policy

1. Outcome of the Public Wholesale Market Construction Policy
2. Assessing the Public Wholesale Market Construction Policy

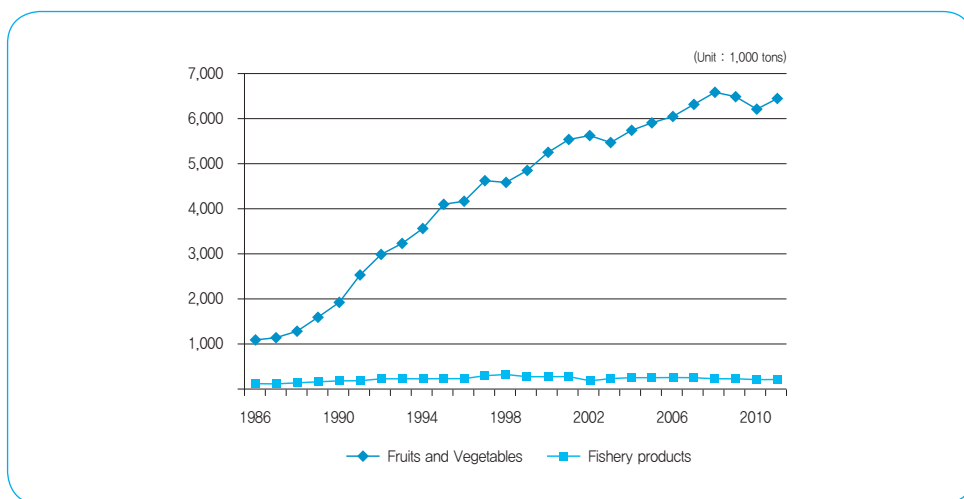
Outcome and Evaluation of the Public Wholesale Market Construction Policy

1. Outcome of the Public Wholesale Market Construction Policy

1.1. Volume of Transactions Rapid Growth and Absorption of Transaction Volumes in the Quasi-Wholesale Market

Since opening in 1985, the Garakdong Wholesale Market, transaction volumes increased by an annual average increase rate of 7.31% for 25 years until 2011. This implies that the volume in the public wholesale market which features fair pricing, transparent transaction process and open transaction information reflects supply and demand according to a specific technology method (auction) tends to increase along with the increasing number of markets.

Figure 2-1 | Increasing Volume in the Public Wholesale Markets



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Table 2-1 | Transaction Volume and Number of Markets for Fruits and Vegetables in the Public Wholesale Markets

(Unit: 1,000 tons, places, %)

	1986	1990	1995	2000	2005	2011	Annual Average Increase
Transaction Volume	1,109	1,946	4,120	5,424	5,924	6,468	7.45
Number of Markets	1	8	14	21	32	32	-

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Transactions in the quasi-wholesale market were replaced by transactions in the public wholesale market. Transactions of commissioned sellers in the quasi-wholesale markets which were not disclosed and thus closed then showed a decrease after constructing the public wholesale markets. Decreased transactions of commissioned sellers in the quasi-wholesale markets imply a decrease in concealed and closed transactions of which the transaction information is not disclosed and pricing efficiency is low for the entire agricultural product distribution volume. Decreases transaction volumes of commissioned sellers in the quasi-wholesale markets contributed to more information sharing between farmers and consumers, resulting in improved negotiation capabilities for buying and selling agricultural products. This also enabled the government to own more market information to

positively result in establishing efficient distribution policies. While the transactions in the legal wholesale market accounted for 20.2% in 1982 when the public wholesale markets were not constructed, the transactions in the public wholesale market were 32.6% in 1988 after constructing the Garakdong Wholesale Market, and 46.2% in 2000. On the contrary, the portion of sales by the commissioned sellers in the quasi-wholesale market was 51.0% in 1982, but 42.0% and 39.6% in 1988 and 2000, respectively.

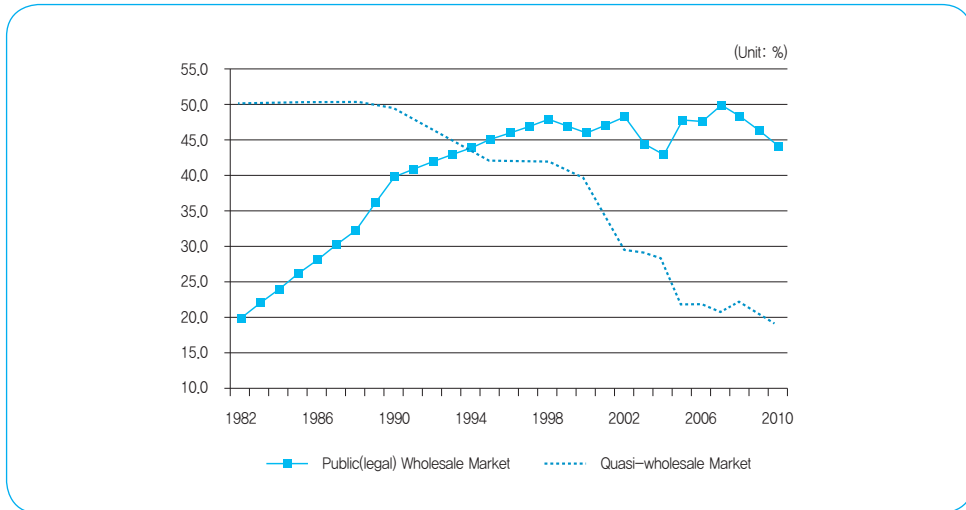
Table 2-2 | Portion of Transactions for Distribution of Agricultural Products
(Fruits and Vegetables)

(Unit: %)

Year	Distribution Volume	Public (legal) Wholesale Market (including joint-market)	Quasi-wholesale Market	Comprehensive Distribution Center	Direct Distribution e-Transaction	Others	Total
1982	6,128	20.2	51.0	-	-	28.6	100.0
1988	7,863	32.6	50.4	-	-	17.0	100.0
1990	8,499	40.1	49.5	-	-	10.4	100.0
1998	11,509	48.2	42.0	3.6	6.2	-	100.0
2000	13,329	46.2	39.6	11.2	7.7	-	100.0
2003	13,418	44.6	29.2	9.7	16.5	-	100.0
2005	13,400	48.1	21.9	14.1	15.9	-	100.0
2008	14,503	48.6	22.2	15.4	13.8	-	100.0
2010	14,500	44.3	18.9	18.2	18.6	-	100.0

Source: Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, KREI, December 1984.
MAFRA distribution policy officer (not publically disclosed data).

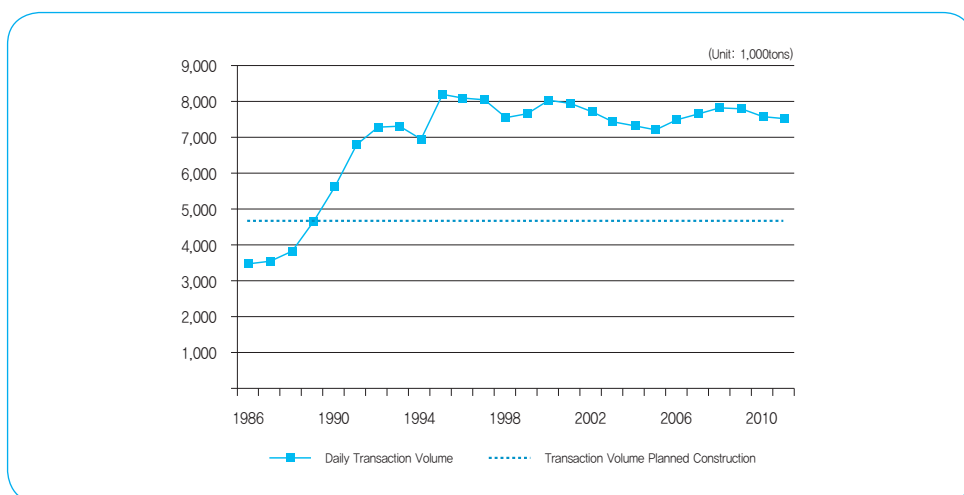
Figure 2-2 | Changes of Roles by Public Wholesale Market and Quasi-Wholesale Market



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

In the Garakdong Wholesale Market, the first public wholesale market opened in 1985, the current daily transaction volume is approximately 1.7 times the 4,680 tones planned at the time of construction. Because the current market site and facility space is too small and narrow in comparison with current transaction volumes, a project to reconstruct the current site is underway for modernized facilities and will be completed in 2025. The estimate of monthly optimum average transaction volumes and comparisons of real transaction volumes reveals the real transaction volumes are approximately 1.9 times the optimum transaction volumes. In the 32 public wholesale markets across the country, the real transaction volumes are more than 1.3 times the volumes planned at the time of construction.

Figure 2-3 | Daily Average Transaction Volume in and Planned Volume for Garakdong Market



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Table 2-3 | Monthly Optimum Transactions and Real Transactions for Fruits and Vegetables in Garakdong Market (2000)

(Unit: tons, %)

Month	Real Transaction (A)	Optimum Transaction (B)	Ratio (A/B)
1	151.1	101.0	1.497
2	132.7	92.9	1.428
3	182.8	101.0	1.810
4	190.0	101.0	1.881
5	225.5	101.0	2.233
6	230.2	101.0	2.279
7	202.7	101.0	2.007
8	207.9	101.0	2.058
9	177.6	101.0	1.759
10	190.7	101.0	1.888
11	199.0	101.0	1.971
12	177.5	101.0	1.758
Total	2,267.8	1,203.9	1.884

Note: Optimum transaction of fruits and vegetables is 4,040 tons/day, fish 540 tons/day, based on transaction for 25days/month (February 23).

Source: Study on analyzing feasibility before Garakdong Market, KREI, June 2001.

1.2. Fair and Transparent Transactions and Stable Transaction Basis

1.2.1. Fair Transactions

The public wholesale market led by the Garakdong Wholesale Market is based on listing auctions, and contributes greatly to fair and transparent transactions. Expanded auctions in the Garakdong Wholesale Market contribute to guiding fair transactions and providing accurate distribution information. Open and fair pricing suggests base prices for various agricultural product transactions to address issues involved in unfair and covered pricing with the conventional commissioned seller system. Market negotiation was enhanced by embracing commissioned sellers in the quasi-wholesale markets and expanding farmers selections dependent on commissioned sellers. Ensuring buyers and fair pricing for small-scale farmers contributed to small-scale farmers determining buyers and marketing periods, and to eliminate disagreements in pricing. Pricing efficiency is enhanced through large volume and fast distribution by public wholesale markets as an intermediate distributor for selling the products marketed by farmers and delivered in a given place to an unspecified number of people. In particular, conversion of the auction method from traditional auctions to electronic auctions further facilitated fair and transparent transactions to result in reliable transactions since 2000. Electronic auctions accounted for 4% in 2000 at the initial stage of the system, but 32.8% in 2001, and a significant increase of 58.6% in 2002. The current electronic auctions in the Garakdong Market account for approximately 99%. Listing guides of wholesale corporations are reinforced for the central wholesale markets, and all steps from checking the volume delivered into the markets to payment for the products are processed online.

Grading and standardized packaging is encouraged at the production sites for fair pricing according to the grades and quality in auctions, and incentives are provided to farmers for improving product quality. Expanded auctions result in enhancing transparent transactions to contribute in fair transactions and to provide accurate distribution information.

Table 2-4 | Transaction by Auctions for Fruits and Vegetables

(Unit: 1,000 tons, %)

Year	Total Distribution	Transaction in Wholesale Market	Auction in Wholesale Market	Auction in total Distribution Volume
1990	15,000	2,566	89.9	15.4
2000	15,000	5,273	90.0	31.6
2011	14,440	6,532	90.4	40.9

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Table 2-5 | Auction for Fruits and Vegetables in Public Wholesale Market

(Unit: %)

Year	Listed Transaction Method		Auction Method		Total
	Auction	Fixed Price · Private Pricing	Electronic	Others	
2002	90.3	9.7	55.5	44.5	100.0
2011	90.4	9.6	90.5	9.5	100.0

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

1.2.2. Reducing Margin in Wholesale Step and Effect of Reduced Cost

The marketing margin rate of agricultural products is determined by both the marketing margin scale and the sales amounts, therefore, the change of marketing margin rate is insufficient to analyze distribution efficiency. Since the marketing margin also includes service costs and logistics costs added in the process of distribution, distribution efficiency is not fully evaluated with just the marketing margin scale and the marketing margin rate. The tendency is that the distribution costs gradually increase while various management technologies (pre-cooling, storage, selection, low temperature transportation, and processing) are applied after harvesting agricultural products to enhance their quality. In particular, because agricultural products experience unstable supply and supply, and great price fluctuations by periods and years, it is challenging to compare and describe marketing margin rates by years. However, because the transaction systems are totally different if they are compared with the marketing margin rate before and after public wholesale market construction, the difference can suggest significant analysis results.

The marketing margin rate is explicitly reduced in the wholesale phase in the public wholesale market system. This is revealed by comparing the marketing margin rate in the wholesale phase for each major item through the nationwide market investigation carried out by the KREI before opening the public wholesale market in 1985 with the marketing margin rate for each item investigated and announced by the Korea Agro-fisheries Trade Corporation (KATC) after constructing and operating the public wholesale market. This result implies that logistics efficiency as well as transaction efficiency is improved because of various factors, such as increased joint marketing, increased logistics efficiency, reduced transaction times, and less loss during distribution after opening the public wholesale markets in the typical low efficiency and high cost transaction structure between individual farmers and commissioned sellers. In addition, because the listing fees (4~6%) to sell products in the public wholesale markets are less than conventional commissioned seller's fees (8~10%), this results in more profits for farmers and accordingly increased incomes.

Table 2-6 | Changes of Marketing Margin Rate in Wholesale Phase of Major Vegetables

(Unit: %)

Year	Chinese Cabbage (fall)	Radish (fall)	Cucumber	Spring Onion	Garlic	Dried Chili Pepper	Spices	Vegetables
1982	44.4	28.8	16.5	27.5	27.0	46.2	22.8	36.0
1990	38.5	16.6	17.8	19.6	15.5	38.5	24.8	25.7
2000	17.0	14.6	18.4	16.9	17.2	13.2	16.8	15.9

Source: KATC, Book of Comprehensive Agricultural Product Distribution, Marketing and Distribution of Agricultural Products, Distribution of Major Agricultural Products, Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, December 1984.
Seong B.Y., et al., Improvement of Distribution System for Major Fruits and Vegetables in Market, KREI, December 1992.

Table 2-7 | Changes of Marketing Margin Rate in Wholesale Phase for Major Fruits

(Unit: %)

Year	Apple	Pear	Mandarine	Peach	Strawberry	Watermelon	Melon	Tomato	Fruits
1982	20.6	20.7	18.7	15.0	14.5	26.1	13.2	15.8	19.5
1990	13.4	9.1	5.3	14.5	14.7	20.3	12.8	10.9	15.9
2000	10.0	8.5	10.9	11.7	11.3	10.9	11.5	7.4	11.1

Source: KATC, Book of Comprehensive Agricultural Product Distribution, Marketing and Distribution of Agricultural Products, Distribution of Major Agricultural Products, Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, December 1984.
Seong B.Y., et al., Improvement of Distribution System for Major Fruits and Vegetables in Market, KREI, December 1992.

1.2.3. Alleviating Price Fluctuations

Exemplary major participants in closed and covered transactions under the distribution system centered at the quasi-wholesale markets include individual farmers, local collectors, and commissioned sellers. Since small-scale farmers and local collectors do not have their own facilities, such as low-temperature storages or warehouses used for controlling demand and supply by deciding demand and supply situations, and handle a small amount, they hardly exercise market power. In this case, because market prices are made through by private buying and selling between commissioned sellers, local collectors or individual farmers, great price fluctuations are shown against changing supply and demand.

Since pricing in the public wholesale markets reflect supply and demand to be determined by auctions, small-scale individual farmers have no choice but to accept pricing and are exposed to unbalanced supply and demand and price fluctuations. However, after the public wholesale markets were constructed and operated, the number of individual farmers selling their products directly in the wholesale markets is smaller, but joint marketing has increased. This contributes to enhancing the farmers' market negotiation capabilities and gives them more power and control. Behaviors that farmers take optimum prices before marketing can mitigate wholesale market price fluctuations. Wholesale market corporations operating the wholesale markets tend to collect products from local farms in consideration of the level of mitigating some price volatility because farmers do not want to market their products when great price fluctuations are shown in the wholesale markets.

Average price volatility was analyzed and compared for a given period before constructing and operating public wholesale markets and after constructing and operating them for major fruits and vegetables. The analysis and comparison reveals some differences between items, but price volatility is mitigated for most items after rather than before the construction and operation. This implies that mitigated price volatility is revealed in comparison of the periods before/after construction and operation of public wholesale markets and the quasi-wholesale markets.

Table 2-8 | Seasonal Fluctuation Patterns of Wholesale Prices for Major Fruits and Vegetables (Amplitude Coefficient)

Analysis Period	Chinese Cabbage	Radish	Chili Pepper	Garlic	Onion	Apple	Pear
1979~1983	198.5	111.3	34.7	211.5	243.8	74.6	98.2
1986~1988	125.2	56.8	18.5	140.6	201.9	61.3	67.7
1979~1991	144.6	86.6	15.7	103.3	190.5	41.4	73.8

Note 1) The source of the price data is Wholesale prices (national average mid-quality price) of major agricultural products investigated by the KATC.

2) The amplitude coefficient for each item is calculated by subtracting the lowest value from the highest value in the monthly average price ratio to divide the result by the lowest value for the annual average prices during the analysis period.

Source: Seong B.Y., et al., Improvement of Distribution System for Major Fruits and Vegetables in Market, KREI, December 1992.

Table 2-9 | Changes of Coefficient of Variation in Price Index

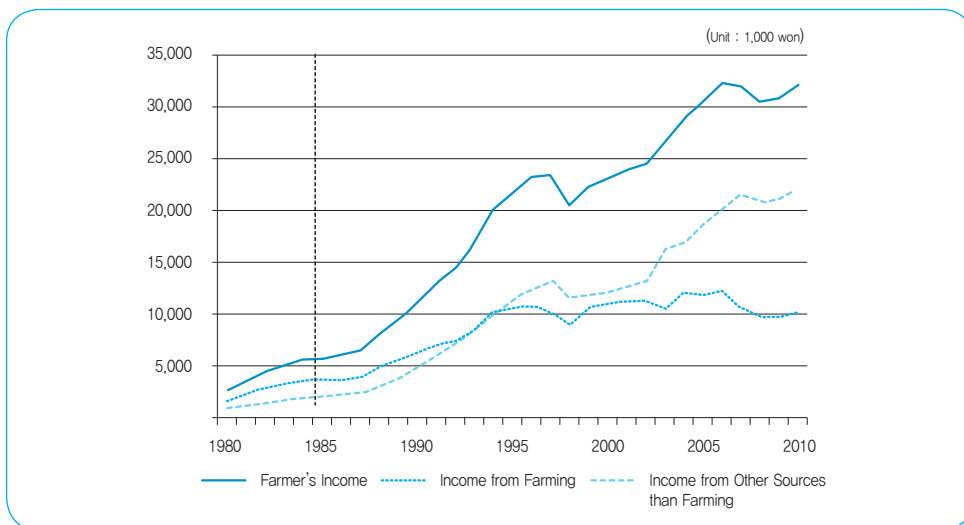
		'83~'87	'88~'93	'94~'99
Producer's Price Index	Fruits	0.17	0.09	0.08
	Vegetables	0.14	0.08	0.08
Price Index for Farmer's Sales	Fruits	0.12	0.06	0.06
	Vegetables	0.14	0.05	0.05

Source: Gwon W.D., et al., Study on evaluating outcome of innovative distribution for agricultural product, Korea Agricultural Economic Association, July 2002.

1.2.4. Increasing Farmers' Incomes

As product quality and the volume of farmers' products marketed in the public wholesale markets increased after constructing and operating the public wholesale markets, farmers' incomes are relatively high compared to before construction and operation of the first public wholesale market.

Figure 2-4 | Farmers' Income before and after Constructing and Operating Public Wholesale Markets



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

1.3. Improving Product Quality and Logistics Efficiency

Products marketed by farmers before opening the public wholesale markets were raw products that were not graded or packaged. Therefore, pricing could not reflect current supply and demand for each product grade to result in a unilateral pricing system, mainly by commissioned sellers who had great transaction negotiation capabilities. With this system, optimum prices which reflect quality and grades of marketed agricultural products could be determined, and farmers had no choice but to accept the prices determined by the commissioned sellers.

However, the sudden increased volume of marketed standard products after opening the public wholesale markets contributed to optimum pricing for each product grade to result in high-value added products and increasing farmers' income. The analysis by the Sangjoo branch office under the National Agricultural Product Quality Management Service (NA PQMS) reveals average incomes per farmer increased by 20~30% by improving the ratio of marketed standard fruits and vegetables in Sangjoo by 80%, in comparison with selling conventional non-graded and non-packaged products.

Meanwhile, the advance of standardized transportation vehicles and standard packages in compliance with government's logistics standardization guidelines contributed to efficient transportation logistics. Standardized quality and grades lead to introductions of transactions, which enabled reduced transaction costs, such as transactions by brands and online transactions.

The data from the NAP QMS revealed that standard product marketing in the wholesale markets was 13.2% in 1988, but 84.2% in 2011. Packaged products marketed in the wholesale markets were 14.3% in 1982, 32.4% in 1988 and 98.2% in 2011, which now implied that most products were marketed as packaged products, not non-graded and non-packaged products.

Table 2-10 | Standardization and Packaging of Agricultural Products Marketed in Public Wholesale Markets

(Unit: %)

Year	Percentage of Standardized Products in Marketing	Percentage of Packaged Products in Marketing
1982	-	14.3
1988	13.2	32.4
1990	15.0	38.5
1995	17.1	68.2

Year	Percentage of Standardized Products in Marketing	Percentage of Packaged Products in Marketing
2000	46.2	88.5
2005	55.5	87.8
2007	73.6	92.9
2010	76.0	94.3
2011	84.2	96.2

Source: Statistics Data, Seoul Agricultural & Marine Product Corporation.

Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, December 1984.NAP QMS (not formally disclosed data).

The advance of product packaging marketed in the wholesale markets contributed to reduced logistics costs by means of efficient logistics in the markets. Standardized and packaged agricultural products marketed in the wholesale markets reduced auction times, and also contributed to efficient use of auction sites to reduce the logistics costs in the markets. Packaged products marketed in the wholesale markets enabled products on pallets to be delivered from farms to greatly reduce unloading costs by means of unloading machines in the markets. A comparison of unloading goods by human labor versus machine unloading through investigation and analysis for the Garakdong Market revealed that 1,356 people were needed if machine unloading accounted for 0%, but 596 people if machine unloading accounted for 50%. The time that it takes for machine unloading is very different from the time it takes to unload by human labor. It is thought that more packaged products on pallets can reduce a great amount of logistics costs in the wholesale phase.

Although the current ratio of fruits and vegetables on pallets marketed in the 32 public wholesale markets was just 9.3% (602,326 tons) as of 2011, the ratio showed a gradual increase, and the ratio of those on pallets marketed in the markets was approximately 10% (934,413M won) in terms of a transaction amount.

Table 2-11 | Unloading Cost Payers in Public Wholesale Market (2011)

(Unit: M won)

	2010			2011		
	Marketer	Corporation	Total	Marketer	Corporation	Total
Fruits and Vegetables	41,477	38,476	79,953	44,311	39,212	83,523
Fishery Products	5,417	964	6,381	5,130	774	5,904

Source: Statistics Data, Seoul Agricultural & Marine Product Corporation.

Table 2-12 | Total Unloading Cost by Machines and Human Labor

		Unloading Cost (won)		Machine and Human Labor (time)		
		Machine Unloading (forklift)	Manual Unloading	Machine Unloading		Manual Unloading
				Machine	Human Labor	
Per Box	4-5kg	37	106	0.3sec	0.3sec	32sec (8sec×4 workers)
	6-9	67	135	0.5sec	0.5sec	52sec (13sec×4 workers)
	10-12	78	204	0.6sec	0.6sec	56sec (14sec×4 workers)
	13-15	109	240	0.8sec	0.6sec	72sec (18sec×4 workers)
	16-20	139	255	1.0sec	1.0sec	88sec (22sec×4 workers)
Per Pallet	4-5	5,000	14,310	40sec	40sec	72min/1 person (18min×4 workers)
	6-9	5,000	10,125			68min/1 person (17min×4 workers)
	10-12	5,000	13,056			60min/1 person (15min×4 workers)
	13-15	5,000	11,040			56min/1 person (14min×4 workers)
	16-20	5,000	9,180			52min/1 person (13min×4 workers)
Per Vehicle	4-5	40,000	114,480	6.0min	6.0min	576min (144min×4 workers)
	6-9	40,000	81,000			544min (136min×4 workers)
	10-12	40,000	104,448			480min (120min×4 workers)
	13-15	40,000	88,320			448min (112min×4 workers)
	16-20	40,000	73,440			416 min (104min×4 workers)

Note: Result of interview and field survey for unloading workers in the Garakdong Market.

Source: Jeon C.G., et al., Study on Improving Unloading System in Garakdong Market, KREI, November 2007.

Table 2-13 | Estimated Unloading Workers Required Depending on Progress of Machine Unloading

(Unit: %, tons, persons)

Year	Ratio of Machine Unloading	Volume of Machine Unloading	Volume of Manual Unloading	Unloading Workers
0	0.0	-	2,139,000	1356
1	5.0	106,950	2,032,050	1,280
2	10.0	213,900	1,925,100	1,204
4	20.0	427,800	1,711,200	1,052
6	30.0	641,700	1,497,300	900
8	40.0	855,600	1,283,400	748
10	50.0	1,069,500	1,069,500	596

Source: Jeon C.G., et al., Study on Improving Unloading System in Garakdong Market, KREI, November 2007.

1.4. Improving Agricultural Product Quality and Enhancing Negotiation Capability

1.4.1. Improving Agricultural Product Quality

While the advanced industrial structure resulted in rapid urbanization, and farmers leaving rural districts and people moving to urban areas since the 1960s, the volume of agricultural product demands in urban areas increased. As a result, the volume of marketed agricultural products produced by farmers increased quickly, so that the agricultural production structure started to change from self-supply farming to commercial farming. As the agricultural production structure changed to commercial farming, farmers faced the issue of selecting ideal buyers, and the major buyers of agricultural products before constructing the public wholesale markets were just merchants of conventional markets in the local production phase, and the commissioned sellers in the quasi-wholesale markets for end consumers.

As farmers had wider selections of buyers for their agricultural products after opening the Garakdong public wholesale market in 1985, the agricultural production structure changed quickly to commercial farming. A representative indicator to show the progress of agricultural production structure to commercial farming is the ratio of merchandised products, which is how many agricultural products farmers produce and sell in the markets. The total ratio for fruits and vegetables before and after constructing and opening the public wholesale markets was 72.9% in 1982, but 84.6% in 1988 after opening the public wholesale markets, and 92.8% which showed a significant increase in 1995.

**Table 2-14 | Changes of Ratio of Marketed Products
before and after Constructing Public Wholesale Market**

(Unit: %)

Item	1982	1988	1990	1995
Chinese Cabbage	67.1	73.1	84.7	91.3
Radish	66.9	78.5	82.8	93.8
Cucumber	81.2	84.6	90.3	92.4
Garlic	73.0	82.5	89.3	96.6
Chili Pepper	78.3	89.7	92.1	95.2
Apple	88.7	90.0	90.0	94.2
Pear	83.5	91.0	91.1	93.1
Vegetables and Fruits	72.9	84.6	88.7	92.8

Source: Seong B.Y., et al., 「Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, KREI, December 1984.

Analysis of standard income for major agricultural crops, Rural Development Administration (RDA), each year.

1.4.2. Improved Transaction Negotiation Capability of the Small-scale Farmer

Agricultural product transactions before opening the public wholesale markets were one-on-one transactions between individual farmers or local collectors and commissioned sellers. Individual small-scale farmers with no collection and analysis capability for market information and with small volumes of marketed products at a time had lower transaction negotiation capabilities compared to commissioned sellers and had little impact on pricing. As the shares of joint marketing and route marketing in the sales in the public wholesale markets increased, the share of joint marketing (including route sales) in the total volume of distributed fruits and vegetables increased from 9.8% in 1990 to 37.6% in 2010. The share of joint marketing in the wholesale markets increased from 9.8% in 1990 to 21.8% in 2010 on the basis of 37.6% for total joint marketing for fruits and vegetables.

Table 2-15 | Estimated Share of Joint Marketing in the Total Volume of Distributed Fruits and Vegetables

(Unit: %)

Year	Joint Marketing			Individual Marketing	Total
	Wholesale Market	Others	Subtotal		
1990	9.8	-	9.8	90.2	100.0
2000	18.0	2.5	20.5	79.5	100.0
2010	21.8	15.8	37.6	62.4	100.0

Note: Share of joint marketing in the wholesale markets=volume of fruits and vegetables through wholesale markets × share of the volume of joint marketing (the share of farmer organizations and route sales by Nonghyup). The share of other joint marketing is calculated by multiplying the share of joint marketing in the volume not including the distributed volume through the wholesale markets.

Source: Statistics Data, Seoul Agricultural & Marine Product Corporation.

The share of marketing in the public wholesale markets is as follows. Individual marketing and local distributor (local collectors) marketing decreased, and the share of farmer organizations and route sales by Nonghyup increased. The increasing share of farmer organizations and marketing by Nonghyup implied that their market negotiation capability and market control power were increasing in relation to individual marketing.

Table 2-16 | Share of Transactions by each Marketing Party in Wholesale Market

(Unit: %)

Year	Individual Marketing	Joint Route by Farmers through Nonghyup	Local Distributor	Other	Total
1982	65.0	22.4	12.6	-	100.0
1990	47.5	35.2	12.4	4.9	100.0
1995	38.0	43.2	13.8	5.0	100.0
1998	35.2	49.1	14.1	1.6	100.0
2000	37.7	49.5	10.7	2.1	100.0
2005	34.0	55.0	6.0	5.0	100.0
2011	33.8	55.1	5.3	5.8	100.0

Source: Statistics Data, Seoul Agricultural & Marine Products Corporation.

Seong B.Y., et al., Study on Master Plan for Improving Nationwide Distribution of Agricultural and Fishery Product, December 1984.

History of agricultural and fishery product distribution and wholesale markets of Korea, Korea Nongmin Newspaper, 1999.

Handbook of Distribution, Distribution Management Bureau of the Ministry of Agriculture, Food and Rural Affairs (MAFRA), each year.

1.5. Advanced Agricultural Product Distribution Systems and Leading Systems

1.5.1. Suggesting Nationwide Standard Pricing for Agricultural Product Prices

This is to suggest nationwide or local standard pricing for most distribution businesses that handle agricultural products while leading and controlling fair pricing and fair transactions.

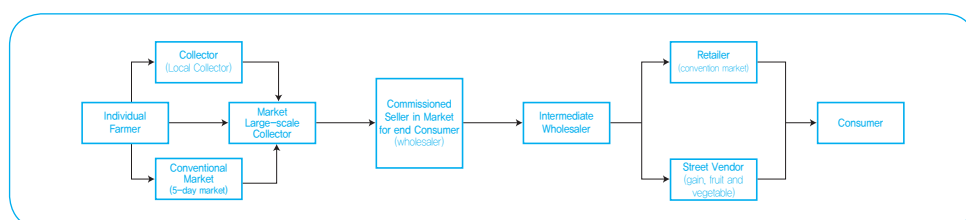
The auction prices in the public wholesale markets are currently used as standard prices for transactions in all markets and off-market transaction prices, including commissioned sellers' prices in the quasi-wholesale markets, the wholesalers' prices in the commissioned retailer system, contract prices between large-scale distributors and farmers (groups), and transaction prices for processing companies and farmers (groups).

1.5.2. Shortening Distribution Routes and Excluding Overlapping Distribution for Agricultural Products

Continuing construction and operation of public wholesale markets contributes to shortening the route of 6~7 steps centered at the conventional quasi-wholesale markets to 4~5 steps, reducing distribution costs and distribution time. This results in the effective supply of fresh agricultural products and reducing losses during distribution.

Major members in the typical distribution route for agricultural products before the mid-1980s included small-scale local collectors in production areas and large-scale middlemen in markets for end consumers. The small-scale local collectors visited individual farmers to collect a small volume of agricultural products and then sold or delivered them to large-scale middlemen in markets for end consumers. The large-scale middlemen in markets for end consumers (in small and intermediate-scale urban areas around production areas) collected the products from the local collectors commissioned the products to commissioned sellers in the quasi-wholesale markets in large cities as an intermediate wholesaler.

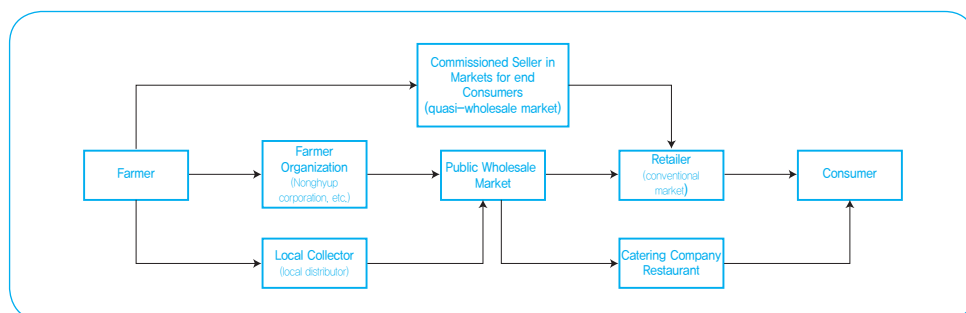
Figure 2-5 | Typical Distribution Route and Members for Agricultural Products before Public Wholesale Market



The typical distribution route of agricultural products before fully-opened distribution markets in 1996 after the mid-1980s when the public wholesale markets were open formed a network with a center at the public wholesale markets through construction and operation of 32 public wholesale markets.

Wholesale organizations included public wholesale markets and private wholesale markets along with quasi-wholesale markets, but the share of the quasi-wholesale markets and the private wholesale markets showed a rapid decrease. Major distributors in production areas included farmer organizations (Nonghyup, Farming Association Corporation), and local collectors (local distributors). Major distributors in the phase of wholesales in markets for end consumers included wholesale market corporations (collectors), wholesale middlemen (distributors), and commissioned sellers in the quasi-wholesale markets.

Figure 2-6 | Typical Distribution Route after Public Wholesale Market



The reduced distribution steps ruled out route members who carried out similar functions overlapping in the commissioned seller system in the quasi-wholesale markets to result in reductions in distribution costs. A comparison of the public wholesale market operation system with the commissioned seller system is described below. In the production areas, the increased share of joint marketing by local farmer organizations contributed to reducing the number of local collectors and their handling ratios. In the wholesale step, the number of wholesale middlemen and secondary wholesalers (retailers) under the commissioned sellers decreased significantly, and the portion of direct sales by wholesale middlemen to retailers increased to reduce marketing margins.

1.6. Reducing Farmers' Risk and Enhancing Consumer Reliability

1.6.1. Ensuring Farmers Safe Revenues of Sales Price

Payment of sales prices for agricultural products in the public wholesale markets is based on same-day payment to enable a fast take of the sale prices. This significantly reduces no revenues or tricky revenue incidents, which occur in conventional transactions with commissioned sellers in the quasi-wholesale markets. An interview survey with the farmer organization (Sangjoo Cucumber Association Corporation in Gyeongbuk) and wholesale middlemen in the Garakdong Market revealed approximately 8~10% of farmers experienced no-revenues of sale prices among the total number of transactions with commissioned sellers in the quasi-wholesale markets. The price payment period with the commissioned sellers in the quasi-wholesale markets was approximately 10 to 30 days. No payments occurred so often because safe price payments were not ensured.

However, in the public wholesale markets, the ratio of auctions for delivered products is 91.7% (2011), which implied very safe price payments, and the price payment rule is specified in the ASDP. If a public wholesale market delayed or could not provide price payments for farmers, the corporation concerned cannot carry out business in consideration of the inter-corporation competition structure in the wholesale market. The safe and fast price payment system in the public wholesale markets instructed and controlled safe transaction price payments for all commercial distribution types in transactions of agricultural products in addition to the public wholesale markets.

1.6.2. Enhancing Consumer's Reliability for Products in the Public Wholesale Market

The public wholesale markets test residual agricultural chemicals in agricultural products delivered to enhance reliability and safety for the delivered agricultural products. They issue a marketing suspension command for farmers or farmer organizations if there are any detected residual agricultural chemicals or heavy metals are more than an permitted levels through sampling investigation of delivered agricultural products. This aims to notify farmers of the importance of safe agricultural products. While consumers are very interested in safe agricultural products, the current wholesale markets further improve related facilities and equipment and increase the frequency of safety inspections and investigated samples in order to improve marketability and to control safety. Key management sectors of the current public wholesale market overhaul project (modernization project) by the Korean government aim to reinforce facilities and equipment for quality control and safety inspection in the wholesale markets.

In addition, although each wholesale market may be slightly different, wholesale markets employ more systems, for example, GAP (Good Agricultural Practice), environmentally-friendly agricultural products, and agricultural products to apply a history tracking system. The aforementioned efforts of wholesale markets contribute to providing information related to consumers and to enhancing reliability on safety, and encouraging farmers to improve quality and to produce safe agricultural products. Wholesale market corporations specify dedicated auction sites or transaction areas for higher pricing and introduce preferential auctions if high quality and safe agricultural products are delivered.

2. Assessing the Public Wholesale Market Construction Policy

2.1. Method of Assessment

The exemplary standard of assessing policies includes effectiveness, efficiency, appropriateness, suitability and sensitivity. Effectiveness is to assess the level of achieved original policy goals, and efficiency is to assess total benefits in comparison with total project costs. Appropriateness is to assess how much appropriate the project scale and range are for project demand, and suitability is to assess whether the project goal is compatible with social-economic points of view. Sensitivity is a reaction shown through the necessity and preference of the group for the policy project.

The Government invested a significant amount of money in the public wholesale market construction project and the construction period was very long, therefore, it was difficult to directly compare the effects before and after the project. Therefore, the assessment was carried out focusing on project appropriateness and effectiveness rather than on a standard applied to all cases. Since the assessment of the public wholesale market construction project by the government needed assessment of increased benefits to the community in terms of national economy as well as the aspect of enterprise management and finances, various standards were applied for analysis.

2.2. Assessing the Policy for Constructing Public Wholesale Markets

2.2.1. Recognition of Issues, Decision-making for Policy, and Appropriate Enforcement

The analysis of construction and operation of public wholesale markets reveals that the policy for constructing public wholesale markets is very appropriate. The policy was promoted in order to ensure fair and transparent transactions in the premodern distribution structure and the wholesale distribution system with its center at the quasi-wholesale markets, for example, the small-scale production structure, the decentralized structure, complicated distribution routes and participation of many intermediate sellers. In particular, the public wholesale market construction project is very appropriate and in order to improve asymmetrical market information in transactions between farmers-commissioned sellers-consumers, non-explicit transactions, closed market information, unfair pricing and asymmetrical transaction negotiation capability under the conventional commissioned seller system.

The minimized number of transactions which are basic rules in wholesale market transactions, and the rule of mass preparations are applied to collect and distribute small volumes fast in a mass-collection manner. This process contributes to efficient distribution of agricultural products, and ensuring a stable supply of food to people through the wholesale markets. Public investment is very appropriate for which the wholesale markets are a kind of public object in which the government is a major investor. The project for constructing public wholesale markets is for public investment. The support scale and ratios of the central government and local bodies who establish wholesale markets and are the owner thereof are appropriated so that the share of the local bodies is greater than the financial share of the central government to be appropriate in terms of maintenance and management of the public wholesale markets and system management. It is also thought that efficient policy enforcement has been made for appropriateness and discretion of the policy enforcement institutions in terms of policy enforcement. However, there are some issues in policy enforcement in terms of specialty and faithfulness.

Determination and promotion of efficient wholesale market operations and improvement of related systems are very appropriate in terms of necessity and policy goals in addition to the policy for constructing wholesale markets. However, some of constructed and operated wholesale markets and introduced systems have issues related to appropriate recognition of problems, appropriate policy goals in terms of policy decision making, and prior preparation for policy decision making. It is very appropriate to be aware of introduction of the e-auction system in wholesale markets to ensure fair and transparent transactions in the

wholesale markets. It is thought involved people's support of policy, policy enforcement, and policy outcomes are all successful.

Overall appropriateness of the policy for constructing public wholesale markets is assessed to be very positive and high in terms of necessity and feasibility. However, the policy results reveals some issues in terms of appropriate policy goals because the goals and targets at the time of policy decision were slightly different for the central wholesale markets and the local wholesale markets. It also revealed that policy goals to cope with environmental changes were not modified. Locations of wholesale markets are properly selected generally in consideration of nationwide business areas for distributing agricultural products, but a few local wholesale markets were not ideally located because some people just wanted to construct wholesale markets and their opinions were supported. In particular, while the people who constructed and opened the public wholesale markets do not look after policy enforcement, for example, attraction of quasi-wholesale markets and maintenance of surrounding areas, negative impacts are given to active operation of wholesale markets.

2.2.2. Effective Policy for Constructing Public Wholesale Markets

The outcome of continuous and nationwide construction of public wholesale markets are seen in various sectors, for example, fast construction of bases for a large volume of agricultural products, contribution to farmer's ideal decision making resulting from standard pricing and propagation, improved fair and transparent transactions, propagated distribution information, and provision of stable buyers to farmers. This outcome was an indicator of successful achievements of policy goals. The wholesale distribution system with its center at quasi-wholesale markets was successfully switched to public wholesale markets. Approximately 50% of the total volume of distributed agricultural products currently trade in public wholesale markets. However, poor achievements of policy goals were exhibited in some local wholesale markets because of expansion and construction of local wholesale markets not ideally located, and continued modification of policy goals for wholesale markets which did not consider the changing distribution environment.

Although the internal and external distribution environments for agricultural products changes quickly, the function of current wholesale markets focuses on just legally connecting collection with distribution. This involves an issue of improving competitiveness for various competing business types. Therefore, policy goals should be modified in order to cope with the distribution environment changing quickly for agricultural products. This aims at competitive public wholesale markets.

2013 Modularization of Korea's Development Experience
Establishment of the Agricultural Distribution System:
Focusing on Public Wholesale Market Construction
and Management

Chapter 3

Policy System for Construction, Operation and Management of Wholesale Markets

1. Systems for Promoting Construction of Public Wholesale Markets
2. Operation and Management System of Public Wholesale Markets

Policy System for Construction, Operation and Management of Wholesale Markets

1. Systems for Promoting Construction of Public Wholesale Markets

1.1. History of the Legal System for Agricultural Product Distribution

There were no regulations for distribution of agricultural products or wholesale markets in Korea until the Act of central wholesale market in 1951, after liberation from the Japanese invasion in 1945. There were also no related administrative powers. The central wholesale markets established by the Japanese colonial government copied Japanese practices for operation, and the key operators of the wholesale markets were individual commissioned sellers (commission agents or middlemen).

The first Act of the central wholesale market, a regulation for the distribution of agricultural products was enacted in June, 1951, to switch wholesale distribution of agricultural products to a legal management system. However, the aforementioned Act also applied and copied the “Market Regulations” of Japan, to manage just the wholesale distributors in the Japanese Colonial age as a legal wholesale market while wholesale distributors were not overhauled or newly established. There were legal wholesale markets based on the rule of one market in one city, but most agricultural products were traded in the quasi-wholesale markets and there was almost no market domination or restraining power for legal wholesale markets. While the legal wholesale markets also professed the auction system, pricing through fair and transparent auction was not implemented, and

middlemen (wholesalers) in the markets continued to exercise numerous illegal practices in the transaction process, for example, unilateral unacceptable price discounts, and illegal collusion with their own market information.

Nonghyup launched in 1961 and devised a 3-dimensional structure composed of Nonghyup joint-markets, legal wholesale markets and quasi-wholesale markets, but the distribution system still had its central commissioned sellers in the quasi-wholesale markets. The market shares of each distributor at that time (Seoul in 1972) were estimated at 16% of the central wholesale markets, 29% of the Nonghyup joint-markets and 65% of the quasi-wholesale markets (Nongmin Newspaper, 1999).

In February, 1973, the Act of central wholesale market was replaced to enact the Act of wholesale market for agricultural and fishery products. It aimed to address the issues in the previous Act of the central wholesale market and to organize wholesale distribution for agricultural products. The Act still complied with and copied the system of the Act of the central wholesale market. The rule of one market in one city still existed, but duties for wholesale markets were transferred from the Ministry of Commerce and Industry to the Ministry of Agriculture and Forestry. Although the character of wholesale markets was enhanced against the central wholesale market, the quasi-wholesale markets still exercised strong market power, and the number of quasi-wholesale markets further increased.

Market shares of each distributor were 9.4% of the legal wholesale markets, 73.7% of the quasi-wholesale markets, and 16.9% of the Nonghyup, and the ratio of quasi-wholesale markets increased more than it did in 1972.

The government integrated the Act of the wholesale market for agricultural products with the Act of funds for stabilizing price of agricultural product to enact the Act of stabilized distribution and price of agricultural product (ASDP) and then to make a legal framework for the policy of public wholesale market construction in December, 1976. The goal of this Act was to improve problems in the wholesale distribution system for agricultural products in the quasi-wholesale markets. While rapid industrialization and urbanization resulted in increasing volumes of supplied agricultural products and merchandization, even unstable demand, supply and pricing, the government established various goals including fair and optimum pricing, mitigation of price fluctuations and stabilized prices to enact the ASDP. Since 1977, the government started looking for a new distributor and distribution system to replace the existing quasi-wholesale markets.

1.2. System for Promoting Public Wholesale Market Construction According to the ASDP

1.2.1. Goals of the ASDP and Definition of Public Wholesale Markets

The goals of the ASDP were to implement smooth distribution of agricultural and fishery products, and to attain optimum pricing in order to protect consumers' profits and to stabilize the quality of life for Koreans.

The wholesale markets for agricultural products were legally established by the Seoul city council, metropolitan city councils, local municipality councils, or provincial city councils in their relevant areas in accordance with Article 17 in order to wholesale all or parts of items specified in the Presidential Decree, including grains, fruits and vegetables, flowers, poultry, meat, fish, shellfish, shells, seaweed and forestry products. The central wholesale markets were designated for wholesaling agricultural, forestry and fishery products which were the focal points of wholesale trade in the relevant and surrounding areas (specified by the MAFRA Decree) which belonged to wholesale market areas for agricultural and fishery products, established by the Seoul City Council, metropolitan city councils, local municipality council, and local provincial councils. The local wholesale markets were for agricultural and fishery products and not included in the central wholesale markets which belonged to the wholesale markets constructed on the basis of the ASDP.

1.2.2. Construction and System of Garakdong Public Wholesale Market for Agricultural and Fishery Products

The Garakdong Wholesale Market for agricultural and fishery products was the first public wholesale market constructed according to the ASDP, and construction began in 1979 and the market opened in 1985. Construction of the Garakdong Wholesale Market for agricultural and fishery products was a nationwide project in order to achieve complicated and various goals including smooth progress of industrial advancement focusing on industrialization, construction of a basis for stably supplying agricultural products to a fast growing urban population, stabilized prices to stabilize people's living, and increasing farmer's incomes.

The major participant in constructing the Garakdong Public Wholesale Market was the government (the Economic Planning Board and MAFRA), and financial resources were from the government (budget for special grain management), loans from the IBRD for agricultural product distribution (\$50 million), and budget from the Seoul local body. For project planning, the Korea Development Institute completed the Project Plan in 1978, and KREI published the Master Plan for Nationwide Distribution of Agricultural and Fishery

Products report based on volumes of distributed agricultural and fishery products and the current distribution of the national basis for deciding the scale in 1982. During this process, the IBRD Advisory Council advised investigations by distribution experts and about studies on how to establish a master plan for nationwide distribution of agricultural and fishery products. The IBRD's mission last reviewed the plan of constructing wholesale markets, and made a final assessment for advice and loan agreements.

The organization constructing the Garakdong Wholesale Market for agricultural and fishery products included a chairperson (1st vice minister of the Ministry of Agriculture and Fisheries) and the council was established in 1983 for comprehensive wholesale market operations of the Garakdong Wholesale Market for agricultural and fishery products which had 10 members. The organization strived for smooth progress of construction and opening of the market. The committee for establishing the market management corporation was composed of a chairperson (deputy mayor of Seoul) and five members to develop a master plan for operations and management after opening the wholesale market. The sub-committee for constructing the comprehensive wholesale market for agricultural and fishery products was composed of working parties including MAFRA, the Economic Planning Board, Seoul City Council, and KREI were organized to manage affairs including the timeline of wholesale market construction.

Table 3-1 | Details of the Process of Constructing Garakdong Wholesale Market for Agricultural and Fishery Products

Period (Year)	Details	Remarks
08/1977	<ul style="list-style-type: none"> ■ Determined the policy to establish an agricultural and fishery product distribution center (MAF) 	
01/28/1977	<ul style="list-style-type: none"> ■ The draft of IBRD loan agreed for agricultural and fishery product distribution in the National Assembly (\$40M). 	Cost for constructing joint-markets, cost for refrigerator cars, cost for low temperature storage facilities.
07/1978	<ul style="list-style-type: none"> ■ KDI completed the project plan. 	
11/20/1978	<ul style="list-style-type: none"> ■ Economic Planning Board discussed the policy for constructing comprehensive wholesale markets in the conference with involved institutions. ■ 1B won support was determined with the budget for special grain management for the cost of buying the site. ■ KREI superintended the project of addition, supplement and investigation by the IBRD. 	<ul style="list-style-type: none"> ■ The Seoul city council and MAF discussed to buy the site. ■ The site was purchased in 12/1978.

Period (Year)	Details	Remarks
02/15/1979	<ul style="list-style-type: none"> Complementary investigation with distribution experts supported by the UNDP, and establishment of the master plan for nationwide distribution of agricultural and fishery products. 	<ul style="list-style-type: none"> Performed by KREI.
08/06/1979	<ul style="list-style-type: none"> The finance minister council determined promotion of the project. The project leader was Seoul city council who funded 52,041M won. 	<ul style="list-style-type: none"> 45% assisted.
04 -05/1980	<ul style="list-style-type: none"> Plan established for constructing comprehensive wholesale markets based on the first interim report by the KREI (Seoul city council). The IBRD mission visited Korea for discussion about final assessment for reviewing the plan of constructing wholesale markets and loan agreement. 	<ul style="list-style-type: none"> 05-09/1980, master design for construction (advisory company specified by the US government participated) Loan agreement on 02/08-12/1989 (Washington)
08/20/1980	<ul style="list-style-type: none"> Discussion in a sub-committee for constructing comprehensive markets for agricultural and fishery products. 	
08/1980-12/1981	<ul style="list-style-type: none"> Master plan determined and construction plan modified. Ordered non-construction cost design service, and first construction for new buildings (engineering). Ordered second construction for new buildings (engineering, electricity). 	<ul style="list-style-type: none"> Hanyang Housing Co. appointed as a constructor in 03/1982.
10/30/1982	<ul style="list-style-type: none"> Committee to establish a market management corporation organized (Seoul city council). <ul style="list-style-type: none"> Chairperson: deputy mayor of Seoul Committee: head of planning management, director of industry and economy, director of city planning, CEO of general construction, head of process management. 	
08/25/1983	<ul style="list-style-type: none"> Council for operating Garakdong Wholesale Market for agricultural and fishery products established. <ul style="list-style-type: none"> Chairperson: assistant secretary 1 of MAF. Committee: agricultural policy director, livestock director, grain office director, fishery office director, director of Seoul industry and economy, head of Seoul process management office, director charge of NFL, researchers at KREI. 	<ul style="list-style-type: none"> Smooth progress of market construction and opening of the market.

Period (Year)	Details	Remarks
04/10/1984	<ul style="list-style-type: none"> Wholesale market management corporation established. 	<ul style="list-style-type: none"> 05/29/1984: president appointed and work begins.
05/24/1985	<ul style="list-style-type: none"> Announcement to use the wholesale markets for agricultural and fishery products before completion of construction (Seoul city council). 	
06/19/1985	<ul style="list-style-type: none"> Garakdong Wholesale Market for agricultural and fishery products opened. 	

The schematic timeline for constructing and opening the Garakdong Public Wholesale Market for agricultural and fishery products is described below.

- The policy for establishing a comprehensive distribution center for agricultural and fishery products was determined (August 3, 1977).
- Change to a policy for constructing wholesale markets for agricultural and fishery products (August 6, 1979).
- A plan was established to construct the Garakdong Wholesale Market for agricultural and fishery products (April 1, 1980).
- Construction began (April 13, 1982).
- The market for fruits, vegetables and fishery products began its operations (June 19, 1985).
- The direct sale market began its operations (May 15, 1988).

2. Operation and Management System of Public Wholesale Markets

2.1. Function and Rule of Public Wholesale Markets

2.1.1. Importance of Wholesale Markets for Agricultural and Fishery Products

The wholesale markets for agricultural and fishery products were an intermediate market to connect producers (farmers and fishermen) to retail markets for end consumers to concentrate supply and demand by producers and consumers to implement pricing. This enabled qualitative and quantitative supply and demand gaps between producers and

consumers to be controlled, and distribution costs to be reduced through mass distribution. An important challenge was fast pricing and distribution through concentration and a large scale of products for transactions in order to match and adjust supply and demand for all agricultural products across the country for the small-scale distributed production and consumption structure, effective farm organization, merchandization and joint distribution. In this case, wholesale markets were considered the most ideal distributor among other distributors for agricultural products. For the category and operation system of the constructed wholesale markets, the model and the system were ideal for the step of economic and agricultural development and changing the distribution environment of the concerned country could be applied.

Many goods and people involved in transactions were centralized in the wholesale market at a time, therefore, wide areas and various related facilities were required. If sufficient space and facilities ideal for the volume of transactions were not ensured, transaction bottlenecks occurred and resulted in a distribution structure of inefficiency and high costs leading to long transaction times and increased distribution costs.

The wholesale markets for agricultural and fishery products were based on the mass-preparation rule and minimized transactions to improve distribution efficiency and to reduce social distribution costs. The rule of mass preparation was to always collect and have large volumes of agricultural products so that a multiple number of sellers and buyers could gather to make transactions at a desired time. Sellers could sell them any time at a price that reflected supply and demand, and buyers could always buy desired qualities. The rule of minimized transactions minimized the number of transactions in order to minimize social distribution costs including the search costs between people involved in transactions. This was enabled by the wholesale markets which played the role of an intermediary between unspecified sellers and buyers although many transactions occurred between sellers and buyers increasing distribution costs if there was no wholesale market.

Distribution carried out in a wholesale market for agricultural and fishery products included a commercial function (transaction), a logistics function, information collection and propagation, and supply and demand control. As the industrial structure advanced and the economic scale grew larger, various distributors in addition to wholesale markets appeared and the share of transactions in the wholesale markets reduced while direct transactions between farms and retailers increased. Even in economically developed countries, the policy for improving the structure of agricultural product distribution started with a policy for constructing wholesale markets for agricultural and fishery products. There is no country where wholesale markets for agricultural and fishery products disappeared although the industrial structure in the country is very advanced to result in a relatively small share of the agricultural sector. However, the aforementioned country showed a reduced number

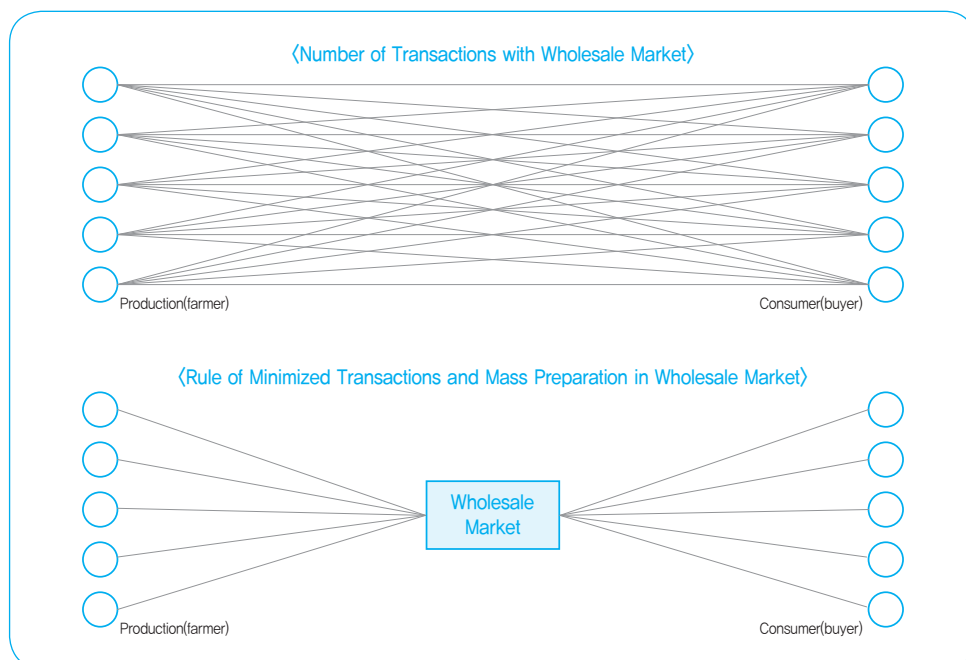
of wholesale markets for agricultural and fishery products, or changing systems, functions and roles. Those changes are different based on economic development steps or the level of changing distribution environment in each country.

2.1.2. Features of Agricultural Product Transactions and the Role of Wholesale Markets

Agricultural products require daily transactions because of their inflexible demand and low storage stability, wholesale markets are required where many transactions can be made concurrently (rule of mass preparation).

Intermediate distributors are required to minimize the number of transactions to reduce social distribution costs in the structure of a number of unspecified small-scale seller's selling small quantities at one time and a number of small-scale buyer's buying small quantities at a time. This is why distributors are required to act as an intermediary for transactions between sellers and buyers in order to minimize the number of transactions to reduce transaction costs in the markets because there are a number of farmers whose marketing volumes are not great at any given time. In this case, when the farmer's farming scale is low and there are no ideal farmers' organizations, for example, in Korea, the rule of minimized transactions.

Figure 3-1 | Structural Logic for the Necessity of Wholesale Market by Auctions



Unspecified small-scale individual sellers and buyers feature a very small-scale marketing and purchases result in relatively low transaction negotiation capabilities. Therefore, sellers want selling agents who can sell their products profitably by means of high transaction negotiation capabilities, and buyers want buying agents who can buy the products at lower prices.

Sellers who market a small quantity at a time result in low negotiation capabilities and need selling agents and a method of ideal transactions. Small-scale buyers of low transaction negotiation capability also need buying agents and a method of ideal purchase to reduce transaction costs and to buy desired products. Direct transactions by a multiple number of unspecified small-scale sellers and buyers contribute to increasing the number of transactions and distribution costs. Direct transactions with any one party without any agent participating in direct transactions contribute to asymmetrical information between parties involved in transactions and unbalanced transaction negotiation capabilities. Therefore, collectors and distributors are required as a subject for transaction agents who implement mutual containment.

The person who acts for a seller's direct transaction in the wholesale markets for auctions for fair pricing, which reflects supply and demand, and ensures transparent transactions is a wholesale market corporation. The distributor acting on behalf of small-scale buyer's direct purchase to buy products at a more reasonable price is an intermediate wholesaler. Therefore, two operators in the wholesale markets for auctions can be the operators and agents of sellers and buyers in the wholesale markets while they minimize the number of transactions between sellers and buyers, implement fair and transparent transactions and guide horizontal competition.

If sellers become large-scale sellers participating in auctions in the wholesale markets and there is no asymmetrical information or no difference in transaction negotiation capability with the wholesale middlemen who are buyers and distributors to distribute products to retailers, there is no need for wholesale market corporations who act on behalf of sellers. Therefore, the wholesale market system with auctions can switch to the wholesale system in advanced countries.

Figure 3-2 | Job Sharing and Specialization of Wholesale Market Operators

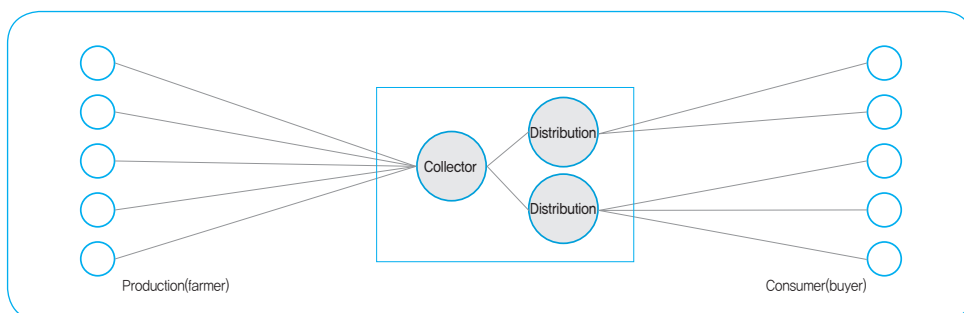


Table 3-2 | Features of Agricultural Product Transactions and Wholesale Market Systems

Feature	Condition	Remark
<ul style="list-style-type: none"> ■ Inflexible demand, low storage stability ■ Everyday transaction required 	<ul style="list-style-type: none"> ■ Wholesale market which enables large-volume transactions at a time 	<ul style="list-style-type: none"> ■ Rule of mass preparation
<ul style="list-style-type: none"> ■ Multiple small-scale sellers, small-quantity marketing ■ Multiple small-scale buyer, small quantity purchase 	<ul style="list-style-type: none"> ■ Minimized social transaction cost ■ Intermediate distributor needed 	<ul style="list-style-type: none"> ■ Rule of minimized number of transactions
<ul style="list-style-type: none"> ■ Seller's low transaction negotiation capability ■ Buyer's low transaction negotiation capability 	<ul style="list-style-type: none"> ■ Agent for fair transaction needed ■ Ideal transaction method needed 	<ul style="list-style-type: none"> ■ Ensure fair transaction ■ Minimize transaction costs
<ul style="list-style-type: none"> ■ Acting for the role of wholesale market by auctions 	<ul style="list-style-type: none"> ■ Wholesale market corporations as seller's agent ■ Wholesale middlemen as buyer's agent 	<ul style="list-style-type: none"> ■ Market corporation (fee paying merchant) ■ Intermediate wholesaler (merchant with transaction difference)
<ul style="list-style-type: none"> ■ Large-scale sellers ■ Seller's high transaction negotiation capability ■ No asymmetrical information 	<ul style="list-style-type: none"> ■ No need for transaction agent ■ Direct transaction between sellers and buyers ■ Condition for commissioned retailer system (wholesaler) 	<ul style="list-style-type: none"> ■ Reduced distribution route ■ Reduced distribution cost

2.1.3. Functions of Public Wholesale Markets

Large-scale collection and fast distribution of small-scale agricultural products are intended for collecting individual, small-scale and distributed agricultural products in one place and in a large scale to distribute them to buyers quickly, accurately and efficiently. Agricultural products are produced in many sites across the country. This function enables the wholesale markets to implement the rule of mass preparation and the rule of minimized transactions, so that it is possible to reduce social distribution costs to establish efficient distribution systems.

Pricing is based on supply information of agricultural products listed in the wholesale markets and buyers' demand information to implement transparent and optimum pricing through fast and fair assessment. Exemplary pricing in wholesale markets are auctions and bidding, and private trade in wholesaler system markets. In addition, there are various pricing methods in consideration of features of markets and transaction items, supply and demand of each item and market structure. The public wholesale markets of Korea are based on the auction system which reflect features of the production and supply structure and the demand structure of Korea's agriculture since 1985, when the Garakdong Wholesale Market for agricultural and fishery products opened for business.

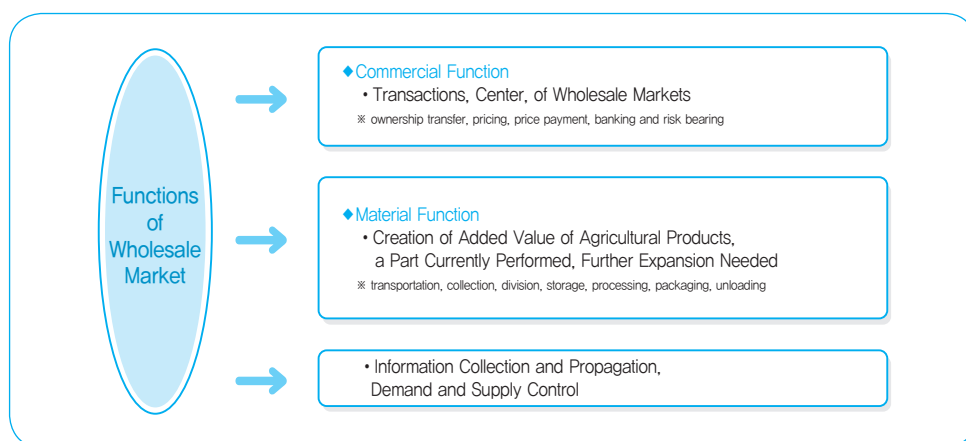
Price payment is the process to pay sellers immediately when transactions of agricultural products marketed in the wholesale markets are completed by means of auctions or other selling methods. The ASDP provides immediate payment when auctions or selling products are completed to protect sellers. In the distribution system with its center of commissioned sellers before constructing and operating public wholesale markets, payments by commissioned sellers to sellers took 15 days if things went well, or at least one month in most cases. Some commissioned sellers did not pay the prices to put sellers at risk of receiving no payments for their products.

Information collection and propagation is the process of collecting information related to transactions and logistics created in wholesale markets to propagate and provide it to people involved in distribution (producers, sellers, intermediate merchants, buyers, consumers, logistics companies, wholesale market corporations, and intermediate wholesalers). The goal is to support ideal decision making related to activities in the markets. One key function of a wholesale market is to deliver various information including varieties, quality, product specification and packaging buyers (consumers) want producers to assist them in establishing ideal production plans. The transaction information is used to assist all functional merchants and buyers (consumers) as well as producers who participate in distribution for ideal decision making for transactions and logistics activities.

The function of reduced distribution costs is to reduce total social transaction costs according to the rule of minimized transactions, to reduce total logistics costs by means of the reduced transportation and efficient transportation (large-scale joint transportation, and improved loading efficiency). As a result, reduced unnecessary distribution costs in the entire distribution process contribute to sellers being paid for their products and reducing the price paid by buyers.

The function of supply and demand control is related directly to the purpose of wholesale markets to centralize many agricultural products in one place to show current supply and demand in a given supply zone. This function enables wholesale market operators (wholesale market corporation, intermediate wholesaler) to control the volume of supply through material activities by controlling the volume delivered in and out of the markets, and the volume of demand through pricing.

Figure 3-3 | Key Functions of Public Wholesale Market



2.1.4. Rule of Public Wholesale Market Operations

Transactions of Korea after 1985 when the first public wholesale market started operations were based on auctions and bidding. It was a method of transactions for pricing to reflect supply and demand on the day of transactions, and ensuring transparent and fair transactions. However, the rule of auctions and bidding used from 1985 to 2012 implemented highly transparent and fair transactions but often experienced sudden increases and decreases based on supply and demand on the relevant day to contribute to increased pricing instability for farmers. The government then amended the related act (ASDP) in order to mitigate extreme price fluctuations and instability resulting from the auction system to introduce the fixed price and private sale system. The reason for changing the pricing

method in wholesale markets from auctions to fixed price and private sale was to mitigate extreme price fluctuations to stabilize farmers' incomes and also to stabilize consumer's expenditures (auction, bidding, fixed price, and private sale rule).

For agricultural products traded in the wholesale markets, it is essential that the wholesale market corporations who are collectors as a wholesale market operator are commissioned by farmers to sell on their behalf. The wholesale middlemen who participate in auctions to purchase and distribute products listed as distributors should trade just the agricultural products listed by the wholesale market corporations. This rule aims to improve reliability of both sellers and buyers on wholesale markets by clearly specifying shared roles of the wholesale market corporations who act on behalf of sellers and the wholesale middlemen who act for buyers in the wholesale markets (rule of private sale).

It is not permitted for wholesale market corporations or the commissioned retailers (wholesalers) to reject or avoid sales commissioned by farmers (sellers) for agricultural products delivered for sales, or reject or avoid sales of commissioned agricultural products. This is a rule of compulsory reception and selling if farmers commission sales of agricultural products any time, in any market, or whether the marketed quantity is big or small. This rule aims to protect farmers' (producer) right of marketing and selling their agricultural products and to ensure access to sales. Wholesale market corporations or commissioned retailers can reject reception of products for sales commissioned in the following cases: those that violate the distribution order according to laws, those not reported for selling, those that failed safety test, and those smaller than the minimum standard quantity in the relevant wholesale market (rule of forbidding denial of reception).

The provision related to the rule of forbidding denial of reception describes no discrimination in handling commissioned products delivered for selling whoever commissions the sale of the agricultural products delivered in the wholesale market, however large the quantity of the products commissioned for sale, whatever level of the products commissioned for sale, and whenever the products are commissioned for selling. Exemplary discrimination of the products commissioned and delivered for selling is preferential pricing, auction orders or presentation in auctions based on sellers, or the scale or level of the delivered products (rule of forbidding discrimination). The rule states that whole quantities of agricultural products delivered on the day should be listed, priced and distributed on the day, which implies the products marketed by farmers on the basis of market information should be priced fairly and appropriately depending on supply and demand for the day. Fair and optimum pricing is unlikely to be made based on supply and demand for the day, if the agricultural products delivered on the day are not listed and traded that same day. Because agricultural products are highly prone to spoil and decrease in quality, the agricultural product listed on the day should be traded for optimum prices (rule of full listing on the day).

Public wholesale market operators are wholesale market corporations who are one of the collectors, and wholesale middlemen who are distributors. Wholesale market corporations collect agricultural products from farms and act on behalf of farmers for fair and optimum pricing. The wholesale middlemen act for buyers by participating in auctions to purchase and distribute high-quality agricultural products at optimum prices. The aforementioned two operators have explicit positions and restrain each other in the wholesale markets for optimum pricing through fair and transparent transactions. Therefore, delivered agricultural products should be sold to wholesale middlemen in the wholesale markets, and rules state that wholesale middlemen as distributors should participate in auctions just for distribution but not for collection for themselves. This implies that the wholesale market corporations who act for farmers (sellers) and the wholesale middlemen who act for buyers in the wholesale markets by auctions are faithful to their roles to implement orderly and fair transactions in the wholesale markets. As a result, business of the wholesale market corporations is not allowed outside the wholesale markets, and the scope of the wholesale middlemen's business is also restricted (rule of forbidding third party sales and direct collection).

There is a rule that states that wholesale market corporations or commissioned retailers should pay the entire sales price immediately to farmers when transactions of commissioned agricultural products are completed. This aims to avoid farmer's unjust sales price losses and the risk of sale price takes which occur due to payment denial for sale price and delayed payment which often occurs in the quasi-wholesale markets, which is centralized by commissioned sellers. This also ensures farmers to immediately and surely take sales prices (rule of quick payment of transaction prices).

There is a rule that the agricultural products collected by wholesale market corporations should be traded through a method of transactions specified according to provisions in the wholesale markets, unless otherwise specified. This rule aims at optimum pricing which reflect supply and demand of agricultural products listed in the wholesale markets and to minimize issues of distorted market order that may occur in off-market transactions (rule of forbidding off-market transactions).

Costs in the wholesale markets are to be paid by farmers, buyers or market operators, so there is a rule of specifying a maximum limit in cost payments to limit collected costs in order to ensure appropriate income of people who use the wholesale markets. Exemplary costs in the wholesale markets include listing fees and unloading fees paid by farmers, market use fees paid by wholesale market corporations, facility use fees paid by wholesale middlemen, and other intermediate fees. The highest limit is specified for fees for agricultural product sales commission paid by farmers for each category of agricultural products (rule of limiting cost in wholesale markets).

All sellers including farmers and farmer organizations who market agricultural products in the wholesale markets should report themselves to the person establishing the relevant wholesale market for orderly transactions and stable supply and demand. This aims to identify current supply and demand of agricultural products delivered in the wholesale markets to provide information about fair pricing and current demand and supply of entire agricultural products (rule of seller's report).

Wholesale market corporations and the wholesale middlemen who are two operators in the public wholesale markets carry out marketing as sellers (farmers) and buyers to be collectors and distributors, respectively. This is a structural feature for fair and efficient transactions in wholesale markets. It is intended to specify the wholesale market corporations as a fee merchant who acts for farmers, and the wholesale middlemen as a balance merchant who acts for buyers, to keep mutual restraint and opposite positions. The wholesale market corporations are responsible for collection, and the wholesale middlemen for distribution, so that social division can contribute to maximized functional specialization (rule of strict division between wholesale market operators).

2.2. Transaction Systems in Public Wholesale Markets

2.2.1. Transaction System of Public Wholesale Markets

The current legal transaction system of the public wholesale markets includes the auction system and the commissioned retailer system. The wholesale market by auctions embraces listed transactions and off-listing transactions. The auction system is a transaction system that has been used since 1985 when the first public wholesale market started its operations. The commissioned retailer system is a new transaction system experimentally introduced to address the issues shown in the auction system and to expand farmer's marketing selections along with the auction system in the Gangseo wholesale market in June, 2004.

The operators of the wholesale markets for the commissioned retailer system are commissioned retailers (wholesalers), who collect and distribute agricultural products as one operator unlike two operators in the wholesale markets by auctions. Since the wholesale markets used by commissioned retailer system do not operate auctions as a transaction method, and the wholesale markets uses auction, one transaction step is reduced in wholesale markets. A representative transaction method is not an auction, but a kind of transaction method by private sales for deciding the marketed quantities and prices of products in discussion between farmers and commissioned retailers.

In the current ASDP, the method of trade in wholesale markets is divided into transactions by auctions and bidding, and transactions of fixed prices and private sales. The transaction system in the wholesale markets after opening the public wholesale markets was based

on the auction system, but the transaction system of fixed prices and private sales was introduced through the amended act in August, 2012, as a way to mitigate extreme price volatility by the auction system. The auction system is for transactions which reflect the quantity of supply listed in the wholesale markets and supply for buyer's demand on the day, and determines the price of products with the best price offered in the auction. The fixed price sale is a method of sales where the wholesale market corporations suggest the relevant price and the quantity of sales to buyers (wholesale middlemen, participants in sales) for the goods of which the presumed sale price is specified by farmers in advance of the trade. The private sale is a method of specifying prices and quantity of sales in discussion between wholesale market corporations and buyers (wholesale middlemen, participants in sales) while the sales price of the relevant product is not specified in advance. That is, this is a sales method of deciding the prices and the quantity after discussion with buyers for the concerned goods after the actual goods are delivered into the wholesale markets and buyers check them. The private sales method is classified into planned private sales for roughly identifying the quantity of each-day-transactions for the next week in the week before the transactions to decide the quantity of transactions and the price one day before transactions, and the reserved private sale that the wholesale market corporations continue to sell goods commissioned and bought to buyers (wholesale middlemen, participants in sales) who booked quantities and prices in advance for a given period of time. The reserved private sale is classified into a short-term reserved private sale and a long-term reserved private sale. Meanwhile, the auction system includes the preoccupied sales method which is to identify the goods delivered in the wholesale markets and then to sell them before their auction time.

The transaction system in the wholesale markets after opening the Seoul Garakdong Wholesale Market (1985) has been the auction system for the wholesale markets, and transactions in the wholesale markets by auctions have been based on auctions and bidding. However, transactions in the wholesale markets by auctions include the listing transaction system for pricing by auctions based on features of goods traded in the wholesale markets, and the off-listing transaction system for pricing through discussion between farmers and wholesale middlemen without any auction process. Introduction of the wholesale markets by the commissioned retailer system which is a kind of wholesaler system along with opening the Seoul Gangseo wholesale market in June, 2004, contributed to the multiple number of transaction systems following the wholesale markets with their center at the auction system which has continued for approximately 20 years. Transactions in the wholesale markets by the commissioned retailer system are a kind of private sales of which the transaction quantities and the prices are determined between farmers and commissioned retailers.

2.2.2. Comparison of Transaction Systems in Public Wholesale Markets

Comparison of the wholesale markets by the auction system with the wholesale markets by the commissioned retailer system is described below. For the auction system, the step of auction for pricing is added to result in the added step of distribution in the wholesale markets and it has more participants therein in comparison with the commissioned retailer system. The point of pricing in the auction system is price discovery, and price negotiation in the commissioned retailer system. However, although it is pricing by means of negotiation in the commissioned retailer system, the process of price negotiation is relatively hidden and closed in comparison with the auction system.

Because the auction system has one more step of distribution in the markets than the commissioned retailer system in terms of distribution efficiency, people say its technical efficiency is relatively low in comparison with the direct transaction or the commissioned retailer system in consideration of costs for auctions. However, because the auction system reflects supply and demand at the time of pricing in terms of pricing efficiency and prices are determined in an open manner, and its efficiency is recognized relatively high. While sample transactions are prerequisite for improving technical efficiency in auction transactions, there are still some factors which increase distribution costs, for example, opening packages due to mistrust between parties involved in transactions. On the contrary, although the commissioned retailer system shows relatively high technical efficiency related to transactions in the markets and logistics, hidden and closed pricing contributes to relatively low pricing efficiency.

In terms of fair transactions, open pricing is not fair in pricing in the auction system. This is because the prices are not those that can cover all costs from farmer's position. In general, while best resource allotment can be implemented in the full competition market structure, the wholesale market corporations act for multiple sellers. There is a resultant monopolistic market of sellers. Because the point of auction is to ensure fair transactions for fair pricing, it is not a full competition market in terms of the structure of wholesale markets. Therefore, the auction price is not always a true fair price. On the contrary, the commissioned retailer system is structured so that agreed prices are not always fair prices because of individual small-scale farmers and different negotiation capability resulting from asymmetrical information between parties involved in transactions. In particular, the commissioned retailer system has a structure of closed pricing to imply that the prices are not always disclosed and fair prices.

In terms of the welfare of people involved in transactions, the goal of ideal distribution is to divide the added values that occur in the process of distribution between farmers, distributors, and consumers (Pareto's maximum ophelimity). Sellers expect matching

between expected prices and all production and distribution costs. Buyers expect matching between paid prices and expected utility. However, because fair pricing is not always guaranteed in auctions, other transaction party experiences loss or unfavorable pricing when pricing is favorable just to one transaction party (a kind of a zero-sum game). If the auction price is not well connected to retail prices although fair in the wholesale markets, fair auction prices do not make a defined relationship with consumer welfare because the auction prices are not related to the price paid by consumers. Therefore, an auction is a process of reaching one balanced price through the process of price discovery at a certain place at a certain time. This balanced price is a result shown as a phenomenon, and cannot be a price to maximize sellers' and buyers' welfare. The commissioned retailer system features a shape price in comparison with the auction system. Division of added values is distorted due to asymmetrical transaction negotiation capability and information between two parties involved in transactions.

In terms of using material and human resources, it is essential to ensure enough material and human resources to improve auction efficiency in the auction system. Sufficient space and auction sites are required for auctions, and logistics costs are needed for listing auctions. Therefore, sample transactions for reducing costs are thus not easily accepted and many logistics costs are spent to list all of the bulky and heavy agricultural products. Auctions also need to ensure enough auction companies which are human resources, in addition to material resources. However, the commissioned retailer system is thought highly efficient in terms of using resources per unit because it does not need facility spaces and human resources for auctions in the markets in comparison with the auction system. However, the commissioned retailer system is low in terms of market efficiency in the case of small-scale commissioned retailers or if they are unable to control supply and demand independently and are poor distributors.

In terms of technology, although the auction price is secured through competition, supply and demand is not well controlled because of inconsistencies between sellers and buyers in terms of expected psychology. It is hard to say that fair and optimum pricing is implemented. Sellers expect price raises and do not market their products, and buyers expect price drops and may not participate in auctions. The auction system can be a factor of increasing distribution costs in the markets depending on ideal auction methods, auction time and order of auctions. The same level of transaction negotiation capability is needed between two parties involved in transactions for fair pricing, but optimum pricing by negotiation is not easy because of some conditions. Large-scale commissioned retailers are needed to handle a large volume of products or to implement power to cope with supply and demand.

Table 3-3 | Comparison of Two Transaction Systems of Market Efficiency Condition

	Auction System	Commissioned Retailer System
Existing Conditions	<ul style="list-style-type: none"> ■ The auction step is added to the distribution process ■ Features price discovery 	<ul style="list-style-type: none"> ■ Relatively hidden and closed transaction ■ Features pricing by negotiation
Distribution Efficiency	<ul style="list-style-type: none"> ■ Relatively low technical efficiency ■ Relatively high price efficiency 	<ul style="list-style-type: none"> ■ Relatively low price efficiency
Fair Transaction	<ul style="list-style-type: none"> ■ Not full competition market structure ■ Not always fair transactions ■ Disclosed prices are not always fair prices 	<ul style="list-style-type: none"> ■ Asymmetrical information, difference in negotiation capability ■ Closed pricing ■ Price by negotiation is not always fair price
Involved Party's Welfare	<ul style="list-style-type: none"> ■ Pareto optimum goal for dividing added value ■ Process of discovering balanced prices 	<ul style="list-style-type: none"> ■ Distorted division of added values with different transaction negotiation capability and asymmetrical information
Used Resources	<ul style="list-style-type: none"> ■ Enough space and human resources needed ■ High costs per auction in inactivation 	<ul style="list-style-type: none"> ■ Highly efficient use of resources per unit ■ Reduced market efficiency in the case of poor distribution capability
Technical Aspect	<ul style="list-style-type: none"> ■ Non-matching expected psychology between sellers and buyers ■ Issue about optimum pricing ■ Issues about optimum auction method, time and order 	<ul style="list-style-type: none"> ■ Equal negotiation capability is required for both parties in transactions ■ Independent optimum pricing is not easy ■ Small-scale transaction, poor capability to cope with demand and supply

Auctions are a transaction method by making the other party competitively ask for prices of maximum pricing in order to sell or buy goods. A multiple number of sellers and buyers participate in an auction for open competitive pricing in order to sell or buy goods, services or rights. On the contrary, the private sale is a transaction method for pricing through agreement or bargains with some standards agreed between both parties involved in transactions, and multiple factors which affect prices are used to reach agreements. The difference in information of multiple factors and scales (sales scales, purchase scales) which affect pricing is a difference in transaction negotiation capability.

The aforementioned two pricing methods are very different in terms of the basis for fair pricing, transaction speed, features of prices, transparent and open transactions, price

efficiency, and transaction restrictions. Exemplary auction types include an English auction and a Dutch auction. The English auction is a method of raising the bidding price from a low bid gradually to higher bids and the item is then sold when the bid reaches the highest price and there are no higher bidders, and also called a progressive auction. The Dutch auction is a method that the auctioneer first offers and then gradually lowers the highest bid for pricing until an ideal level of price is accepted.

Table 3-4 | Features of Auctions and Private Sales

	Auction	Private Sale
Concept	<ul style="list-style-type: none"> ■ Transaction to find balanced price by competition ■ The highest bid obtained through competing bids 	<ul style="list-style-type: none"> ■ Two involved parties discuss and determine prices ■ Reach agreement for multiple price factors
Pricing	<ul style="list-style-type: none"> ■ Supply and demand at the time of transaction ■ Market structure of traded item 	<ul style="list-style-type: none"> ■ Market negotiation power and information of involved transaction parties ■ Standard price for auction prices in the case of commission
Base for Fair Pricing	<ul style="list-style-type: none"> ■ Market structure (fair price in full competition structure) ■ Multiple sellers and buyers participated 	<ul style="list-style-type: none"> ■ Market structure (fairness ensured in full competition) ■ Negotiation capability, information capability, and openness
Transaction Speed	<ul style="list-style-type: none"> ■ Fast pricing (price discovery) 	<ul style="list-style-type: none"> ■ Discussion of timeline and adjustments required (pricing)
Features of Price	<ul style="list-style-type: none"> ■ Price volatility reflecting supply and demand 	<ul style="list-style-type: none"> ■ Mutual agreement and adjustments in consideration of supply and demand
Transparent and Open	<ul style="list-style-type: none"> ■ Relatively very high transparency 	<ul style="list-style-type: none"> ■ Relatively low transparency
Price Efficiency	<ul style="list-style-type: none"> ■ Supply and demand reflected, relatively high 	<ul style="list-style-type: none"> ■ Difference in negotiation capability, relatively low
Restriction	<ul style="list-style-type: none"> ■ Restriction in transaction space, time and human resources 	<ul style="list-style-type: none"> ■ Relatively low restriction in transactions
Exemplary Transaction Method	<ul style="list-style-type: none"> ■ English auction, Dutch auction, bidding ■ Machine, manual, name plate, e-type 	<ul style="list-style-type: none"> ■ Agreed price, fixed price transactions, reserved private transactions

2.3. Operation and Management Systems of Public Wholesale Markets

The current wholesale markets for agricultural and fishery products are divided into legal wholesale markets established and operated in accordance with the related regulations (ASDP), and the quasi-wholesale markets which are not included in the legal wholesale markets. The legal wholesale markets are classified again into public wholesale markets, general wholesale markets (general legal wholesale markets, private wholesale markets), and joint-markets depending on investors and management methods. The public wholesale markets are invested, established, constructed and operated by local municipalities with the support of the central government on the basis of the ASDP, and account for at least 90%, most transactions, in terms of the current volume of transactions. The public wholesale markets are classified into wholesale markets by auctions and those by the commissioned retailer system. The public wholesale markets are classified into central wholesale markets and local wholesale markets depending on transaction scales, business range and locations.

The public wholesale markets are classified into central wholesale markets and local wholesale markets in accordance with the provisions of the ASDP. The central wholesale markets are those in relevant areas and neighboring areas, established by the Seoul city council or metropolitan city councils. The local wholesale markets are other wholesale markets than the central wholesale markets established according to the provisions of the ASDP. General legal wholesale markets include those approved by the city or provincial mayors and then established by local municipalities, and private wholesale markets established by private investors and operators. The general legal wholesale markets account for a very small share in the entire volume of wholesale market transactions, and their number and transaction scale continue to be reduced. The joint-markets are wholesale markets established by farmer organizations and charitable corporations including local Nonghyup, agricultural associations, and business associations, Imhyup, Soohyup and their central offices, the Farming Association Corporation, the agricultural company corporation, and the distribution corporation after they receive city and the provincial mayor's approval on the basis of the ASDP. The joint-markets include local joint-markets and those for end consumers in urban areas. Most joint-markets for end consumers are positioned in public wholesale markets to perform the same functions and role as the wholesale market corporations. The local joint-markets show the tendency of continuous decreases in terms of transaction scales and the number. Quasi-wholesale markets are formed by multiple agricultural and fishery traders without approval of establishment. The quasi-wholesale markets apparently look like a market to perform wholesales, and are generally mixed with conventional markets (traditional market) for end consumers.

Table 3-5 | Features of Agricultural and Fishery Wholesale Markets

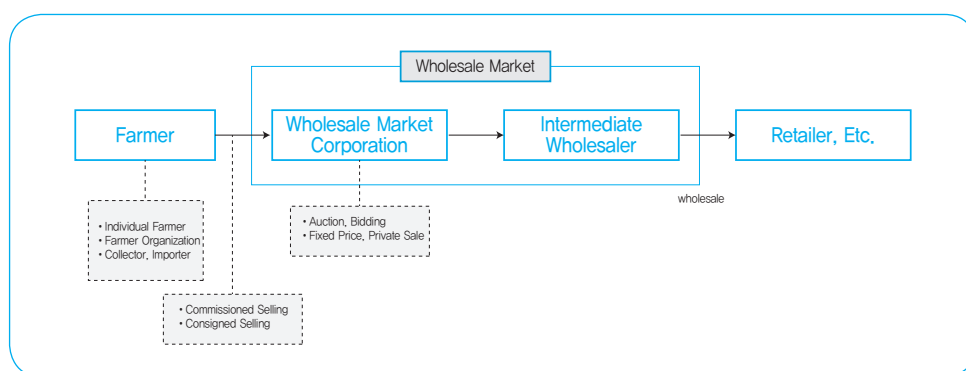
	Legal Wholesale Market			Quasi-wholesale Market
	General legal Wholesale Market	Public Wholesale Market	Joint-market	
Basis	ASDP (Article 47)	ASDP (Article 17)	ASDP (Article 43)	Wholesale and Retail Business Promotion Act (naturally born)
Number of Markets	13 (legal), 2 (private)	29	77 (33)	27
Establisher	General legal: Private Investor, Local Municipalities. Private: Private Investors	Local Municipalities (seoul city council, metropolitan city council, city councils)	Cooperative Association, Farmer Organizations, Charitable Corporation	Naturally Born (private)
Operation	Wholesale Market Corporation, Commissioned Retailer	Wholesale Market Corporation, Commissioned Retailer	Nonghyup	Individual Merchant
Fee	Less than 7%	Less than 7% (2~7%)	Less than 7%	Personal Commission Fee
Transaction	Auction, Private Sale	Auction, Bidding.	Auction, Bidding.	Private Sale
Market Management	Private Company (operator)	Establisher (management corporation, management office)	Nonghyup, Soohyup (Establisher)	Private Corporation, Organizations
Investment	Private Investment	Invested by the Government for Full Amount	Nonghyup, Soohyup (establisher)	Naturally Born (corporation)

For operations of the wholesale markets by auctions, wholesale market corporations are commissioned by farmers to sell their products, or list them directly purchased from farmers and deliver to the wholesale markets. Optimum pricing which reflects supply and demand of the day is secured through auctions for the agricultural products listed in the

wholesale markets, and wholesale middlemen, and buyers participate in the auctions to buy (in the auctions) the products at optimum prices.

The agricultural products bought by the wholesale middlemen are sold to retailers to include a given margin, or selling is intermediated to distribute the agricultural products delivered in the wholesale markets outside the markets. The method of pricing the agricultural products listed in the wholesale markets is based on auctions. Specific items specified by an establisher do not go through the auction process to allow direct transactions between farmers and wholesale middlemen. In this case, pricing is based on private sales agreed with wholesale middlemen in consideration of all market situations.

Figure 3-4 | Transaction and Operation of Wholesale Market by Auctions



Operation of the wholesale markets by the commissioned retailer system is described below. The commissioned retailer system was first introduced along with opening the Seoul Gangseo wholesale market in June, 2004. The Gangseo wholesale market is the only public wholesale market in which the market has separate sections for auctions, selling by the commissioned retailer system, and the operators are commissioned retailers. The commissioned retailers are commissioned for selling on behalf of farmers or purchase agricultural products for pricing them in discussion with buyers or by private sales to sell them. Because the operators of the wholesale markets are just commissioned retailers, one step of distribution in the markets is reduced in comparison with the wholesale markets by auctions.

Figure 3-5 | Transaction and Operation of Wholesale Market by Commissioned Retailer

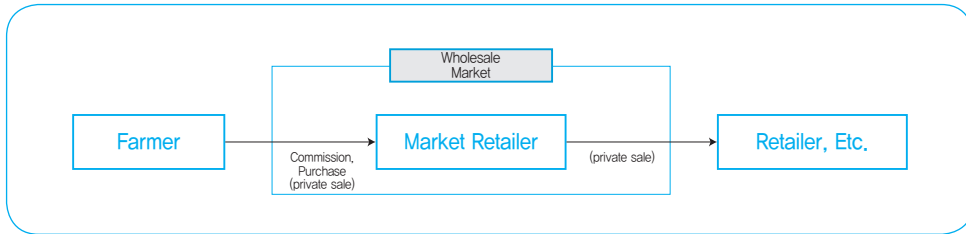


Table 3-6 | Market and Features of the Transaction System for Public Wholesale Market for Agricultural Products

	Wholesale Market by Auction	Wholesale Market by Commissioned Retailer
Basis of Establishment	ASDP (Article 17)	ASDP (Article 17, Article 36)
Number of Markets	33 (total number of markets)	1 (seoul gangseo wholesale market)
Establisher	Central Wholesale Market: Seoul city council, metropolitan city · special municipality city, special municipality do council. Local Wholesale Market: Seoul city council, metropolitan city, special municipality city, special municipality do, city council.	Central Wholesale Market: Seoul city council, metropolitan city, special municipality city, special municipality do council. Local Wholesale Market: Seoul city council, metropolitan city, special municipality city, special municipality do, city council.
Operator	Wholesale Market Corporation (collector) Intermediate Wholesaler (distributor)	Commissioned Retailer (wholesaler)
Marketing Fee	Less than 7%	Less than 7%
Transaction	Auction, Bidding, Fixed Price, Private Sale.	Private Sale
Market Management	Establisher (management corporation, management office)	Establisher (management corporation, management office)
Investor	Government, Local Municipality (establisher)	Government, Local Municipality (establisher)

Establishers and participants in the public wholesale markets include local municipalities including Seoul city council (capital), metropolitan city councils, special municipality city councils (Sejong city council), special municipality do (Jeju) councils, and city councils specified in the ASDP. The Establishers' obligation after establishing the public wholesale markets is maintenance, management and improvement of the wholesale markets, orderly and fair transactions, promotion of competition, management of the market environment, improvements of standardization and packaging, and promotion of trading fresh products.

The establishers should keep the ideal number of wholesale market corporations, commissioned retailers, and wholesale middlemen for operation in consideration of the facilities and transaction scale of the wholesale markets for smooth operations. In addition, major participants to enhance transactions in public wholesale markets include auction companies, participants in sales, and local distributors.

The wholesale market corporations are commissioned by farmers or producers for selling, listing and pricing their agricultural products for wholesale transactions. The wholesale market corporations are appointed by establishers of the relevant wholesale market, and should comply with obligations specified in the ASDP, including the method of sales, appointment and dismissal of auctioneers, management of seller tickets, forbidding business and other business outside the wholesale markets, forbidding denial of consignment, limiting fee collections, fast payment of transaction prices, and paying standard unloading costs.

The wholesale middlemen purchase agricultural products listed by the wholesale market corporations in a specific buying and selling method for wholesale or intermediary methods. Some wholesale middlemen do not purchase listed agricultural products in a specific transaction method like auctions, but handle off-listing items for direct transactions with farmers for those items legally specified. Therefore, wholesale middlemen can participate in auctions hosted by wholesale market corporations to buy goods (purchased from auctions), or be commissioned by farmers or producers to sell off-listing items (items not included in listing) legally specified after obtaining permission from the establishers of the wholesale markets. It is essential that wholesale middlemen are authorized by the establisher of the relevant wholesale market for their business in the wholesale market.

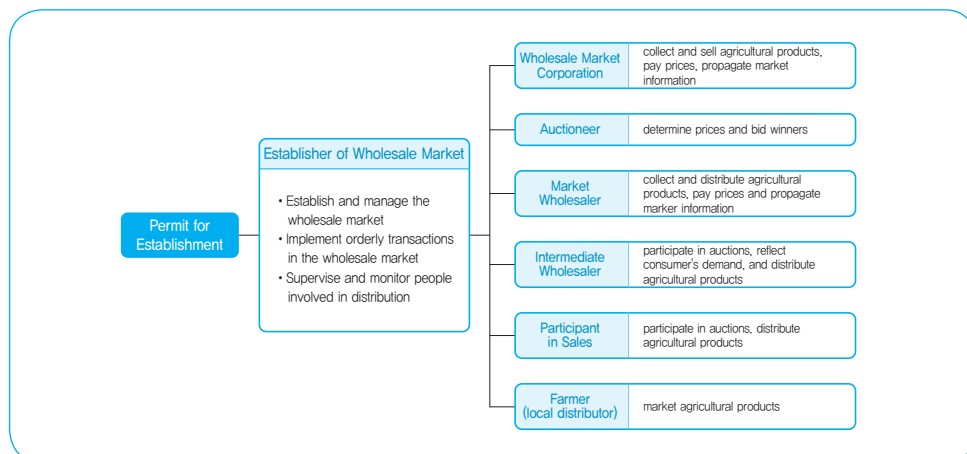
The participants in sales purchase agricultural products listed in the wholesale markets in a specific transaction method including auctions, and play the same role as the wholesale middlemen in auctions. Most participants in sales are large scale organizations including processing companies, retailers, exporters and consumer organizations unlike the wholesale middlemen who are intermediate merchants, and should report themselves to the establishers for participation in the transactions in the relevant wholesale market.

Auctioneers assess prices of agricultural products listed in the wholesale markets and determine bid winners, and sell agricultural products marketed by farmers at an appropriate price for the sake of the farmers. Since auctioneers play an important role of pricing the listed agricultural products which reflect supply and demand of the day, they should pass the auctioneer qualification test which is a national test and are appointed by the wholesale market corporations. Auctioneers should implement transparent transactions and optimum pricing to maximize farmer's and buyer's satisfaction, and the criminal law (Articles 129 and 132) is applied to them like public officers in relation to failed auctions.

Local distributors (marketers) are specialized in collecting agricultural products from farmers to sell them in wholesale markets, unlike general farmers (producers) who sell their agricultural products in the wholesale markets directly or through farmer organizations. Local distributors are not allowed to carry out other business activities of sales, purchase and intermediation than marketing in the registered wholesale markets.

The commissioned retailers are operators of the relevant wholesale market by the commissioned retailer system introduced in June, 2004 for complementing and improving issues in the auction transaction system, and a kind of wholesalers who buy goods from, and are commissioned by farmers (producers) to sell or intermediate farmer's products. They are different from two operators of the wholesale market corporations (collectors) and intermediate wholesalers (distributors) in the wholesale markets by the auction system. The commissioned retailers are intermediate merchants who integrate the functions of the wholesale market corporations with wholesale middlemen in the wholesale markets by the auction system, and should be appointed by the establishers for their business in the relevant wholesale market.

Figure 3-6 | Operators and Participants of Public Wholesale Markets



Legal managers of the public wholesale markets include four types of ‘wholesale market management offices’ by public officers under the establishers, the ‘management corporations’ in accordance with the local public enterprise act, public investment corporations, or the KATC. Wholesale market managers manage facilities, implement orderly transactions, supervise and monitor people involved in distribution. Sellers and seller organizations in the wholesale markets including local municipalities, management corporations, Nonghyup, Soohyup and Imhyup, and wholesale market corporations can invest in establishing public investment corporations. The Garakdong Wholesale Market and the Goori Wholesale Market are currently managed by management corporations established in accordance with the local public enterprise act.

Table 3-7 | Features of each Management Type of Public Wholesale Market

Type	Advantage	Disadvantage
Management by Public Officer (management office)	<ul style="list-style-type: none"> ■ Easy to exercise government authority for orderly markets and control ■ Easy decision-making for repairs, improvements and investment in wholesale markets 	<ul style="list-style-type: none"> ■ Possibility of poor management because of no specialization and avoidance of working in markets ■ Limited response of the management offices to fast decision making
Management by Local Corporation (management corporation)	<ul style="list-style-type: none"> ■ Specialized market management ■ Efficient management with substantial power and responsibility for market management 	<ul style="list-style-type: none"> ■ Too much budget and human power in comparison with actual management ■ Conflicts in decision making between the corporations and local municipalities as substantial management systems ■ Difficult network operation between public wholesale markets
Commissioned Management by Specialized Distribution Institution (distribution corporation)	<ul style="list-style-type: none"> ■ Improved specialization in market management ■ Market management with reduced budgets and minimum organizations 	<ul style="list-style-type: none"> ■ May or may not be accepted by local municipalities ■ Hard to train public officer experts ■ No interest of local municipalities in wholesale markets

Type	Advantage	Disadvantage
Joint Management by Local Municipalities and Representative Market Participant (compromised)	<ul style="list-style-type: none"> ■ Minimized management by local municipalities and public officers for management, reduced management budgets ■ Enhanced management specialization and explicit responsibility by 2-dimensional management areas ■ Reduced conflicts and friction between market participants by self-controlled management in operation ■ Self-control of chaos in markets 	<ul style="list-style-type: none"> ■ Friction and conflicts between public officers and market participants for management ■ Increased total management expenses by substantially 2-dimensional management organization ■ Request of market participants for too much budget and investment given to the management organization

Table 3-8 | Details of Establishment, Operation, Management and Transaction System of Public Wholesale Market Specified in ASDP

	Central Wholesale Market	Local Wholesale Market
Establisher	<ul style="list-style-type: none"> • Seoul city council, metropolitan city council • Special municipality city council, special municipality do council 	<ul style="list-style-type: none"> • The same as left. • City council • Approval of provincial mayors required
Approval for Establishment	<ul style="list-style-type: none"> • Prepare job regulations and operation & management plans • MAFRA minister's approval required 	<ul style="list-style-type: none"> • Attach job regulations and operation & management plans to the application form for establishment approval • Submit to provincial mayors
Standard for Approval	<ul style="list-style-type: none"> • Appropriateness of the place for establishing the relevant wholesale market • Essential facility • Faithfulness and feasibility of the operation and management plan 	
Obligation of Establisher	<ul style="list-style-type: none"> • Facility maintenance, improvements and appropriate management • Promotion of competition, fair orderly transactions and improvement of environment • Standardization for product quality, improvement of packaging, and promotion for fresh products 	

	Central Wholesale Market	Local Wholesale Market
Wholesale Market Management	<ul style="list-style-type: none"> • Management office of wholesale markets (public officer in charge) • Local corporation in accordance with local public enterprise act (management corporation) • Public investment corporation. • KATC 	
Wholesale Market Operation	<ul style="list-style-type: none"> • Establishers select an ideal number of wholesale market corporations, commissioned retailers, and wholesale middlemen in consideration of facility scale, and transaction amount • Establisher's approval is required for each type of wholesale market corporations • Wholesale market corporations appoint more than a given number of auctioneers for fair and fast transactions 	
Sales Rule	<ul style="list-style-type: none"> • Wholesale market corporation should wholesale products commissioned by farmers (consignment denial is not allowed) • Wholesale middlemen cannot trade other items than agricultural products listed by wholesale market corporations 	
Method of Selling and Buying	<ul style="list-style-type: none"> • Wholesale market corporations trade products by means of auctions, bidding, fixed price selling and buying, and private sales 	
Restriction on Business	<ul style="list-style-type: none"> • Wholesale market corporations cannot sell products in other places except wholesale markets 	
Price Payment	<ul style="list-style-type: none"> • Wholesale market corporations should pay prices immediately when selling and buying agricultural products consigned or sold is completed 	

2.4. Current Transactions in Public Wholesale Markets

Korea's general wholesale markets for agricultural and fishery products are classified into public wholesale markets, general legal wholesale markets, and private wholesale markets depending on their investors. However, they are classified into central wholesale markets, local wholesale markets, and private wholesale markets in accordance with the related regulation (ASDP). As of 2012, there were 48 wholesale markets for agricultural products which included 33 public wholesale markets followed by 13 general legal wholesale markets and then two private wholesale markets. There are 11 central wholesale markets, 35 local wholesale markets, and two private wholesale markets in accordance with the related regulation. The share of public wholesale markets is the greatest from the view of participants (wholesale market corporations, commissioned retailers, intermediate wholesalers, participants in sales) in terms of participants in the legal wholesale markets.

Table 3-9 | Current Wholesale Markets

(Unit: markets, persons)

	Classification by Investor			Classification According to ASDP			Total
	Public	General Legal	Private	Central	Local	Private	
Number of Wholesale Markets	33	13	2	11	35	2	48
Number of Wholesale Market Corporations	104	12	2	40	76	2	118
Number of Commissioned Retailers	55	-	-	3	52	-	55
Number of Employees by Wholesale Corporations	2,879	518	19	1,488	1,909	19	3,416
Number of Wholesale Middlemen	7,631	531	25	4,709	3,453	25	8,187
Number of Participants in Sales	490	41	20	304	227	20	551

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

The share of transactions in 32 public wholesale markets for all transactions of fruits and vegetables of legal wholesale markets (public, general legal, private wholesale markets) accounts for 99.0% in terms of both the volume and amount of transactions. This implies most fruits and vegetables are traded in the public wholesale markets. The shares of the general legal wholesale markets and the private wholesale markets account for 0.8% and 0.2%, respectively, in terms of the volume and amount of transactions in 2011. The shares show the tendency of gradually decreasing. In summary, 32 public wholesale markets are in charge of most transactions of wholesale markets for Korea's agricultural products except the quasi-wholesale markets which are non-legal wholesale markets.

Table 3-10 | Transactions of each Type and Category of Fruits and Vegetables

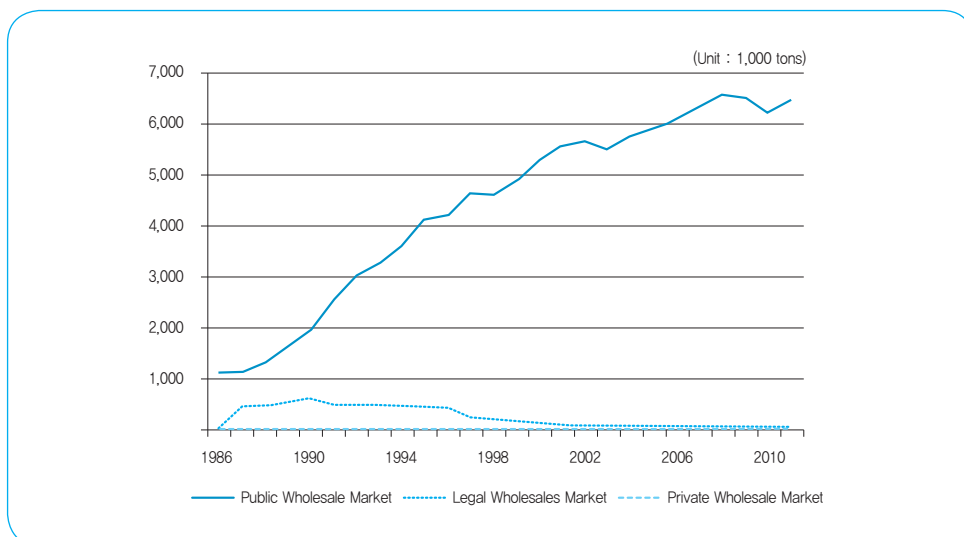
(Unit: tons, B won)

			2010		2011	
			Volume	Amount	Volume	Amount
Fruit and Vegetable	Public	Vegetable	4,869,507	69,425	4,936,144	63,250
		Fruit	1,356,895	26,707	1,531,962	31,331
		Subtotal	6,226,402 (98.9)	96,132 (98.8)	6,468,106 (99.0)	94,581 (99.0)
	Legal	Vegetable	21,634	221	20,616	175
		Fruit	28,784	606	29,600	620
		Subtotal	50,418 (0.8)	827 (0.9)	50,216 (0.8)	795 (0.8)
	Private	Vegetable	6,882	66	5,373	55
		Fruit	10,001	189	8,762	178
		Subtotal	16,883 (0.3)	255 (0.3)	14,135 (0.2)	233 (0.2)
Total			6,293,703 (100.0)	97,214 (100.0)	6,532,457 (100.0)	95,609 (100.0)

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

Since the Garakdong Wholesale Market started operations in 1985 as a public wholesale market followed by opening the Gwangju Seoboo wholesale market in 2004, the volume of transactions of vegetables and fruits in the public wholesale markets continues to grow. However, the share of transactions in general legal wholesale markets or private wholesale markets which are a part of the legal wholesale markets continues to decrease. The current volume of transactions of vegetables and fruits in the legal wholesale markets was just 1% as of 2011.

Figure 3-7 | Changes of Transactions of Fruits and Vegetables in each Type of Wholesale Market



Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products, each year.

The share of the public wholesale markets for the entire volume of distributed fruits and vegetables is the highest. The share of the public wholesale markets for the entire volume of distributed fruits and vegetables in Korea was approximately 45% as of 2011. The public wholesale markets have the greatest share among various wholesale distributors who handle fruits and vegetables, followed by other wholesale organizations (24.5%) including the quasi-wholesale markets, conventional markets, and super supermarkets (SSM), direct transactions (13.3%), large-scale supermarkets (12.1%), and general distribution centers (5.8%).

Table 3-11 | Estimated Share of Public Wholesale Markets for Fruits and Vegetables

(Unit: 1,000 tons, 100 M won, %)

Year	Volume of Total Distribution (estimate)	Volume of Distribution in Public Wholesale Market		Share of Wholesale Market
		Volume of Distribution	Amount	
1990	13,000	2,556	8,232	19.7
2000	15,000	5,424	41,690	36.2
2011	14,616	6,468	94,581	44.8

Note: Figures estimated by utilizing 「Yearly statistics of wholesale market for agricultural and fishery products」.

Table 3-12 | Estimated Volume of Fruits and Vegetables by and Share of each Wholesale Distributor for Agricultural Products (2011)

(Unit: 1,000 tons, %)

	Wholesale Market	Off-market Wholesale Transaction			Other Wholesalers	Direct Transaction
		Large-scale Supermarket	General Distribution Center	Subtotal		
Volume of Handling	6,468	1,768	850	2,618	3,581	1,949
Share of Handling	44.8	12.1	5.8	17.9	24.5	13.3

Note 1) Other wholesalers include quasi-wholesale markets, conventional markets, and large-scale supermarkets.

2) Direct transactions include general direct transactions, e-transactions and the volume of direct sales of materials for processing.

Figures estimated by utilizing 「Yearly statistics of wholesale market for agricultural and fishery products」.

The shares of each transaction system is described in terms of the volume of entire traded fruits and vegetables in the public wholesale markets. The wholesale markets by the auction system account for 95.0%, and the wholesale market by the commissioned retailer system for 5.0%, resulting in the majority transaction share of the wholesale market by the auction system. The transaction method of the wholesale markets by the auction system includes auctions and bidding for listed goods, and private sales for off-listing goods. Their transaction shares in the wholesale market by the auction system are 92.6% and 7.4%, respectively, which imply a very high portion of auctions.

Shares of each transaction method for the traded fruits and vegetables in the entire public wholesale markets are 88.1% by auctions and 11.9% by private sales which imply a very high portion of auctions. Although there are various types of auctions, the share of e-auctions accounts for 93.5%.

Table 3-13 | Share of each Transaction Type in Public Wholesale Markets for Traded Fruits and Vegetables, 2011

(Unit: M won, %)

		Vegetable	Fruit	Total
Wholesale Market by Auction	Auction	6,447,447 (86.7)	2,889,209 (91.1)	9,336,656 (88.1)
	Private Sale (off-listing)	707,792 (9.5)	34,219 (1.1)	742,011 (7.0)
Wholesale Market by Commissioned Retailer	Private Sale	278,049 (3.7)	246,897 (7.8)	524,946 (5.0)
Total		7,433,288 (100.0)	3,170,325 (100.0)	10,603,613 (100.0)

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products.

Table 3-14 | Volume of Transactions by Auction and Bidding

(Unit: tons, %)

	Electronic Type	Manual Type	Recording Type	Written Bidding	Total
Vegetable	3,890,196	241,548	29,320	5,345	4,166,409
Fruit	917,756	54,437	5,116	-	977,309
Total	4,807,952 (93.5)	295,985 (5.8)	34,436 (0.7)	5,345 (0.1)	5,143,718 (100.0)

Source: MAFRA, Yearly statistics of wholesale market for agricultural and fishery products.

2013 Modularization of Korea's Development Experience
Establishment of the Agricultural Distribution System:
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and Management

Chapter 4

Issues and Improvements of Public Wholesale Market Operation Systems

1. Issues of Early Public Wholesale Markets and the Innovation of Wholesale Markets
2. Policy for Improving Issues in Public Wholesale Markets

Issues and Improvements of Public Wholesale Market Operation Systems

1. Issues of Early Public Wholesale Markets and the Innovation of Wholesale Markets

1.1. Issues Related to Early Operations and Management of Public Wholesale Markets

Since the Seoul Garakdong Wholesale Market, the first public wholesale market, started operations in 1985, and 10 public wholesale markets were constructed and operated in major cities of Korea until the early 1990s. Many issues were found because of poor operations and management of the public wholesale markets, and low morale of the people involved in distribution.

Table 4-1 | Key Issues and Effect of Public Wholesale Markets at the Early Stages

Issues of Public Wholesale Market Operations in the Early Stages	Effect of Issues
<ul style="list-style-type: none">■ Prevalent fraudulent auctions (false auction, disguised auction)	<ul style="list-style-type: none">■ Distorted market order and optimum pricing■ Illegal profits of wholesale market corporations and increased burden on consumers
<ul style="list-style-type: none">■ Non-transparent auctions and fabrication of auction results	<ul style="list-style-type: none">■ Delayed disclosure of auction information and fabrication of auction result

Issues of Public Wholesale Market Operations in the Early Stages	Effect of Issues
<ul style="list-style-type: none"> ■ Poor auctioneer management system and distorted auction process 	<ul style="list-style-type: none"> ■ Auctions by illegal collusion with wholesale middlemen and fabrication of auction prices
<ul style="list-style-type: none"> ■ Transaction system not compatible with real environment (limited intermediation of wholesale middlemen) 	<ul style="list-style-type: none"> ■ Difficult distribution of delivered agricultural products and inactive markets ■ Factors of prevalent fraudulent auction (false auction) provided
<ul style="list-style-type: none"> ■ Unqualified people in the public wholesale markets, failures of operations unique to wholesale markets, and disorderly transactions 	<ul style="list-style-type: none"> ■ Paralyzed unique operations and high expense structure ■ Organization and power groups hindered market management
<ul style="list-style-type: none"> ■ High listing fees and increased burden on farmers 	<ul style="list-style-type: none"> ■ Difficulty in ensuring required volumes and resultant inactive markets ■ Provided the reason for survival of quasi-wholesale markets
<ul style="list-style-type: none"> ■ Poor management of products delivered and traded in the wholesale market 	<ul style="list-style-type: none"> ■ Difficulty in managing market information and market management
<ul style="list-style-type: none"> ■ Insufficient number of public wholesale markets and prevalent quasi-wholesale markets 	<ul style="list-style-type: none"> ■ The quasi-wholesale markets for distributing all agricultural products lead to hindering early activation of wholesale management
<ul style="list-style-type: none"> ■ Insufficient facilities, equipment and no management system 	<ul style="list-style-type: none"> ■ Factor of high cost structure in the market (high unloading costs) ■ Wholesale markets lost the function of supply and demand. Extreme price fluctuations

In the ASDP, wholesale market corporations collect and deliver agricultural products, and should collect a large volume of goods of all sorts of grades for active transactions and optimum pricing in the wholesale markets. In the early stage of the public wholesale market, wholesale middlemen who are not legal collectors in the ASDP bought and collected products from farms, or transported those purchased from other wholesale markets because many wholesale market corporations were not fully capable of collecting agricultural products from farms. However, because the agricultural products listed in the wholesale markets according to the ASDP should get through the auction process, related documents were fabricated (recorded listings or recorded auctions) for the agricultural products that wholesale middlemen collected, or a specific intermediate wholesaler who collected the agricultural products was reserved as a bid winner to proceed with a formal auction.

Fraudulent auctions (fake auction) are illegal in accordance with the ASDP. The wholesale middlemen paid fees to wholesale market corporations instead of fabricating documents as if they went through auctions. That is, the wholesale middlemen paid the fees for the agricultural products to the wholesale market corporations with no substantial auctions to result in social problems of unjust gains and increased burden on consumers.

Although the most prominent feature of auctions is to ensure disclosure and fairness according to appropriate auction methods, information related to auctions including bidding prices and bid winners was not immediately disclosed to result in possible fabrication of winning prices and bid winners, and real fabrications occurred at the early stages of public wholesale market operations.

Since supply and demand of agricultural products delivered in the wholesale markets on the day are reflected in pricing, slight changes in the supplied volume (delivered volume) and changes of the number of wholesale middlemen who demand products and participate in the auction and buy the products contribute to extreme fluctuations of auction prices because of the feature of pricing of agricultural products. Extreme fluctuations of auction prices caused unstable farmers' incomes and management, and wariness in the public wholesale markets, and greatly affected consumer expenditures.

Auctioneers are in charge of the most important job in pricing in the wholesale market by the auction system, for example, determination of auction order, price assessment and determination of bid winners, auctioneer's unjust behaviors and accidents contribute to distorted pricing that does not reflect current supply and demand. Exemplary auctioneer's unjust behaviors were illegal collusions with wholesale middlemen who participated in auctions for pricing or determination of a specific intermediate wholesaler as a bid winner to distort transaction orders and prices.

Most wholesale middlemen who were tenants in the public wholesale markets were commissioned sellers who collected and priced agricultural products under their own names in the quasi-wholesale markets. However, because the intermediate wholesaler's job was limited just to intermediation and not wholesale, since they became a tenant in the public wholesale markets, the agricultural products delivered to the wholesale markets were not distributed smoothly and optimum pricing was also not implemented as a result of inactive markets. Therefore, the prevalent behaviors of wholesale middlemen was to buy agricultural products for fraudulent auctions (fake auction) for wholesaling the products rather than intermediation, and transactions were disorganized and illegal.

Since the establishers' greatest interest was how to vitalize the relevant public wholesale market early when it started operations, many people who moved in along with operation of most public wholesale markets were not legally qualified. Most operators, wholesale market

corporations or wholesale middlemen were commissioned sellers or corporations in the previous quasi-wholesale markets. Retailers around the previous quasi-wholesale markets or other small-scale traders unrelated to the function of wholesale markets also became tenants. As a result, the markets were complicated and it was not easy to manage them to the extent that tasks unique to public wholesale markets could not be carried out. Illegal organizations and power acted as a barrier to legal management of the public wholesale markets.

There was also an issue of high listing fees and increased burdens on farmers. Farmers who were used to individual sales in the quasi-wholesale markets or conventional markets felt very uncomfortable of the listing fees specified in the ASDP. Farmers complained about the listing fees citing it as a barrier to ensuring a sufficient volume of products and early vitalization of the markets. It contributed to the survival of the quasi-wholesale markets.

Information about accurate volume and price information delivered in and out of the wholesale markets is an important source of data for market users' decision making including farmers and buyers. However, because of poor management of the volume delivered to wholesalers and transactions, it was not known who delivered the products into the wholesale markets, and the inaccurate delivery volumes was known to be a great barrier to market management. Meanwhile, because it took a long time to construct public wholesale markets for relatively fair and transparent transactions, and the central government and local municipalities needed to invest more into them, and the number of public wholesale markets did not increase quickly. As a result, the share of transactions in the quasi-wholesale markets was greater than in the public wholesale markets, and the distribution system for agricultural products was still led by the quasi-wholesale markets. Quasi-wholesale markets were prevalent in spite of continuous construction and operation of public wholesale markets results from the establishers' inability to organize the business area and market sites of the quasi-wholesale markets to absorb them into the legally approved markets concurrently with starting operations of the public wholesale markets. At the early stages of operating the public wholesale markets, issues that were discovered included insufficient wholesale market facilities and equipment and no system to reveal the high-cost distribution structure in the markets. There was no ideal unloading system including unloaders from the early stages of operation and no unloading facility or equipment to let all volumes of products depend on manual unloading. This resulted in the high-cost structure. Insufficient logistics facilities including low temperature storages in the public wholesale markets were not provided, and the supply and demand control function was lost, which was a unique task of the wholesale markets ultimately resulting in the high-cost structure.

1.2. Improvement of Issues in Public Wholesale Markets and ASDP Chaos

The government promoted amendments of the ASDP in order to improve various issues in operation of the public wholesale market. As a result, five partial amendments were made from December 31, 1976 to 1990 for the act of stabilized distribution and price of agricultural products (ASDP), which was a base regulation for wholesale markets. However, the sixth amendment draft in June 11, 1993 (enforced in May 1, 1994) caused ASDP chaos. The amendment draft of the government was almost an overall amendment for improving all aforementioned issues related to operations and management of the public wholesale markets revealed since the Garakdong Wholesale Market opened in 1985, and establish a distribution system and order centralization at the public wholesale markets.

Details of the amended ASDP are described as follows: forbid intermediate wholesalers to wholesale goods and limit their role to just to intermediation; allow wholesale market corporations to buy products, and expand their business range; allow retailers to establish cooperative associations and to participate in auctions in public wholesale markets; specify all imported agricultural products to go through the wholesale markets; limit auction methods just to the hand-up manual method and the e-method; divide the wholesale markets into central wholesale markets and local wholesale markets; and abolish the system for positioning wholesale middlemen under wholesale market corporations.

The most problematic section in the amendment was the article of forbidding intermediate wholesalers to wholesale goods. This is an article of limiting the role of intermediate wholesalers in the wholesale markets just to intermediation, and forbidding selling and buying products in their own name including consigned sales, and collect to sell products and wholesales. The goal was to correct wrong market practices that occurred when wholesale middlemen collected and then wholesaled products in their own name as well as intermediation. This is an article of fully forbidding substantial wholesaling by the wholesale middlemen that continued since operations of the public wholesale markets, although illegal and a cause for fraudulent auctions (disguised auction, false auction). Resistance from intermediate wholesalers was foreseen. The article of forbidding intermediate wholesalers to wholesale goods was a cause for ‘ASDP chaos’ which paralyzed nationwide distribution of agricultural products simultaneously, and almost became a national crisis.

ASDP Chaos

- The government made every effort to improve all issues that occurred in the early stages of public wholesale market operations, and to establish the distribution system with its center at the public wholesale markets.
 - Accordingly, the sixth draft amended since establishing the ASDP in June 11, 1993 included overall details of amendment to fundamentally improve the public wholesale market distribution system at one time.
 - Enforcement of the amended draft was scheduled on May 1, 1994, and its enforcement was reserved for one year.

- Although many problems were foreseen, for example, intermediate wholesalers resistance due to the amended regulation, it was decided to accept the amended regulation for innovative distribution of agricultural products.
 - The key amendment article for the ASDP chaos was the article of 'forbidding intermediate wholesalers to wholesale goods'.

- Progress of ASDP chaos
 - Wholesale middlemen in local wholesale markets (Cheongju wholesale market) participated in auctions on May 2, 1994, the next day of enforcement of the amended ASDP, but some products had successful bidders, and most of them did not. This resulted in a collective resistance of wholesale middlemen to contribute to heavy reductions in agricultural product prices and farmers protested against the amended ASDP in the markets.
 - On May 3, 1994, 1500 wholesale middlemen in the Daegu, Daejeon and Cheongju wholesale markets as well as the Garakdong Wholesale Market protested against the amended ASDP.
 - Most wholesale middlemen in the public wholesale markets across the country stopped wholesale affairs under the name of observation of provisions to paralyze most transactions of agricultural products in the country. Prices of agricultural products in the retail markets soared as a result of extreme confusion in the distribution of agricultural products across the country.

- In the Seoul Garakdong Wholesale Market, the traded volume dropped to 10–20% of normal transactions on May 3, and wholesale middlemen did not participate in auctions to paralyze transactions. As a result, the farm prices of agricultural products experienced heavy decreases, and most agricultural products spoiled. Agricultural products were not provided on time for the retail markets to result in soaring prices. This chaos continued until May 4.

- o For four days, the ASDP chaos was followed by close examination of issues of distribution of agricultural products including improvements in systems and operations of the public wholesale markets to establish actions for innovative distribution.

2. Policy for Improving Issues in Public Wholesale Markets

2.1. Step 1: Innovative Distribution in Public Wholesale Markets after ASDP Chaos

The government organized the ‘Innovative distribution planning team for agricultural products’ (May 16, 1994) and the ‘Distribution committee’ (May 25, 1994) for promoting innovative distribution in order to establish actions for innovative public wholesale markets after the ASDP chaos incident. After the ASDP chaos, there was an urgent need to establish actions for innovative distribution across distribution of overall agricultural products as well as wholesale markets. To this end, the innovative distribution team was organized and composed of government officials and experts from the government and national policy research institutes.

Table 4-2 | Details of Actions for Step 1: Innovative Distribution in Public Wholesale Markets

Action for Improvement	Details of Improvement
<ul style="list-style-type: none"> ■ Improve the system for managing public wholesale markets 	<ul style="list-style-type: none"> ■ Improve management and operation systems and enhance assessment of wholesale market corporations ■ Allow public investment corporations to manage wholesale markets

Action for Improvement	Details of Improvement
<ul style="list-style-type: none"> Lower listing fees and reduce the burdens on farmers 	<ul style="list-style-type: none"> Lower listing fees by 1.0~1.5%
<ul style="list-style-type: none"> Implement transparent auctions, and enforce the lowest price system 	<ul style="list-style-type: none"> Disclose bid winner's prices on electronic displays. Implemented the farmer's lowest price suggestion system
<ul style="list-style-type: none"> Improve the intermediate wholesaler system and expand the scope of their work 	<ul style="list-style-type: none"> Basis of wholesale transactions, and intermediation exceptionally admitted Admit separation of retail from markets, and exceptional off-listing transactions
<ul style="list-style-type: none"> Implement transactions by whole item listing and orderly transactions 	<ul style="list-style-type: none"> Listing transactions for whole items, consigned sales by corporations for radishes and Chinese cabbage Establishers permit private sales in consideration of current conditions
<ul style="list-style-type: none"> Construct public wholesale markets as early as possible 	<ul style="list-style-type: none"> 24 public wholesale markets by 1998 completed, early construction of second and third public wholesale markets in the capital region
<ul style="list-style-type: none"> Expand facilities for farmers 	<ul style="list-style-type: none"> Install marketing advice centers and customer complaint centers in the markets
<ul style="list-style-type: none"> Further enhance market orders 	<ul style="list-style-type: none"> Regulate illegal use of facilities and irregular unloading Collect fees for disposing waste, and separate wholesale from retail

Details of actions for Step 1: Innovative distribution for public wholesale markets is described below. Separate the wholesale market management from the operators, and appoint managers from public investment corporations in addition to establishers' management offices or local management corporations. Main operators should be wholesale market corporations that are private enterprises. Enhance the assessment of wholesale market corporations to facilitate fair transactions.

Expand the scope of intermediate wholesaler's job to forbid intermediate wholesaler's wholesale of goods which was the root cause of the ASDP chaos to allow their intermediation and wholesale. Wholesale middlemen should handle listed agricultural products on the basis of their wholesale goods, and their intermediation was exceptionally permitted. Off-listing transactions of the items of which the listing auctions were not easy were exceptionally allowed in order to gradually separate retail from the wholesale markets.

Various actions were taken including stronger supervision and monitoring of auctioneers, installation of monitoring cameras, and operation of corruption report centers in order to block unfair transactions in the process of auctions between auctioneers and wholesale middlemen as a part of managing auctioneers.

Middle wholesaler's Pojeon sales and consigned sales were forbidden. Listing transactions for all items traded in the wholesale markets for orderly transactions and optimum pricing in wholesale markets was strongly enforced. A scheme for overall improvements to the unloading system were established in order to improve unloading efficiency and unloading costs in the wholesale markets.

Local collectors who were the major marketers in the wholesale markets were supposed to register themselves for orderly transactions. Written contracts according to the standard contract form in Pojeon sales were encouraged. The listing fees paid by marketers in the Garakdong Wholesale Market was lowered to 1.0 from 1.5% in order to reduce the burden on marketers with lower listing fees by the wholesale market corporations.

It was mandatory to disclose winning prices and bid winners immediately on the spot with monitors and the electronic displays in the marketing advice center in order to facilitate transparent auctions in relation to transaction systems. An agreement was made to construct an information system for generalizing and disclosing distribution information including prices in the nationwide public wholesale markets, and the marketed volume effectively and quickly. If marketers wanted to present minimum prices it was permitted. In addition, permission was granted to construct public wholesale markets through continuous promotion of constructing public wholesale markets to absorb similar markets into the legal market system, and public wholesale markets around large cities were successfully constructed.

2.2. Step 2 and Step 3: Innovative Distribution in Public Wholesale Markets

2.2.1. Step 2: Policy for Innovative Distribution in Public Wholesale Markets

The government established measures in April, 1997 to cope with changing distribution conditions and to correct issues involved in Step 1 on the basis of outcomes for Step 1: innovative distribution in wholesale markets.

Construction of public wholesale markets was delayed despite the actions of Step 1 for the public wholesale markets. Therefore, the distribution structure for agricultural products led by the quasi-wholesale markets contributed to the inefficient development system, and no competition between distribution routes. There were still fake auctions (fraud auctions,

disguised auctions), and the listing was formally recorded in the public wholesale markets. This resulted in double actions in the wholesale markets, and did not solve the high-cost issue. The numerous issues shown in the early stage of public wholesale market operations were slightly settled by means of the actions in Step 1: innovative distribution, but most issues still existed. Results of unfair transactions and the issue of high-cost low-efficiency were not settled.

Wholesale markets were not ready for handling large volumes of standardized products supplied from farms because of free trading of agricultural products and open distribution markets. There was still a high cost structure in public wholesale markets. Therefore, there was an urgent need for automatic unloading and standardized logistics to reduce logistics costs. Actions for enhancing competitive public wholesale markets should be taken to cope with diversified distribution routes resulting from the FTA for agricultural products, expanded distribution markets and changing farm conditions.

Table 4-3 | Details of Step 2: Innovative Distribution in Public Wholesale Markets

Action	Action in Detail
<ul style="list-style-type: none"> ■ Continue to construct public wholesale markets 	<ul style="list-style-type: none"> ■ Construct 34 public wholesale markets by 2001, in the capital region
<ul style="list-style-type: none"> ■ Improve transaction transparency and abolish fake auctions 	<ul style="list-style-type: none"> ■ Root disguised listings, and admit the exceptional listing system
<ul style="list-style-type: none"> ■ Further expand e-auctions and improve fair transactions 	<ul style="list-style-type: none"> ■ Model e-auctions, and install electronic displays
<ul style="list-style-type: none"> ■ Improve efficient operations and competitiveness 	<ul style="list-style-type: none"> ■ Implement ideal number and scale of corporations and wholesale middlemen
<ul style="list-style-type: none"> ■ Implement effective assessment of wholesale market corporations 	<ul style="list-style-type: none"> ■ Classify excellent and poor corporations

Details of the actions in Step 2: Innovative distribution for public wholesale markets are described below.

- Continue to construct and open public wholesale markets.
- Construct and complete 34 public wholesale markets by 2001 across the country.
- Construct the Garakdong Wholesale Market, second and third wholesale markets in the capital region.

Establishers were permitted to admit exceptional listing items for agricultural products not ideal for listing auctions to allow them to be sold by private sales in order to abolish

disguised listings (false auction, fraud auction) in wholesale markets and to employ the exceptional listing transaction system.

The items for exceptional listings are items of very small quantities in the wholesale markets, and the number of wholesale middlemen who handle the item is low. The transition of manual auctions (hand-up method) to e-auctions was intended to improve fair transactions by means of computerized auctions. Since 1997, the model wholesale market corporation was appointed for expanding e-auctions, to implement model operations and disseminate e-auctions. Electronic displays in the wholesale markets were installed immediately to disclose details of auctions including bid winner prices and bid winners to improve transparent and fair auctions.

It was intended to keep an ideal number of corporations in public wholesale markets in order to implement efficient operation and competitiveness of wholesale markets. The goal was to improve operation efficiency to reduce distribution costs through an appropriate scale of wholesale market corporations. Small-scale wholesale middlemen were encouraged to merge and form a corporation and to scale-up to implement intermediate wholesaler's better management and to reduce distribution costs in the wholesale markets.

For an effective public wholesale market assessment system, the details of assessing the public wholesale markets were combined with the actions in Step 2: innovative distribution. Excellent wholesale market corporations were preferentially supported with marketing funds, and poor wholesale market corporations were not included in the list of reappointed wholesale market corporations by establishers.

2.2.2. Policy for Step 3: Innovative Distribution in Public Wholesale Markets

The overall distribution system continued to have the 'high-cost and low-efficiency structure in spite of the outcomes of Step 1 and Step 2: Innovative distribution. This contributed to improvement actions focusing on the construction of wholesale distribution facilities, in particular, public wholesale markets, rather than related systems or fundamental system innovation. This resulted in an inefficient capacity for the changing distribution environment.

The government organized the 'Innovative distribution system for agricultural products' (March, 1998) for reviewing the current frame and system of the distribution policy related to public wholesale markets to promote new innovative distribution. The government then organized innovative distribution teams for each division (general affairs team, direct transaction team, system improvement team, logistics improvement team, and an e-transaction team), to determine 'the action for innovative distribution for agricultural products' (July, 1998).

The distribution structure in the public wholesale markets was still high-cost and low-efficiency in spite of distribution innovations in 2 steps. More innovation was required to tackle illegal transactions, system operations and unfair transactions. The transaction system had its center at auctions. Wholesale market users including farmers and buyers did not fully believe in key operators including wholesale market corporations and wholesale middlemen in the wholesale markets. The users could not cope with the distribution environment around the wholesale markets and were weak in terms of competition with public wholesale markets. There was an urgent need for improving the incomplete logistics system and the high-cost market structure because of incomplete logistics standardization and cold-chain systems related to distribution in the wholesale markets.

The changing distribution environment around the then-public wholesale markets is described below:

- Fully open distribution markets and accelerated open markets for imported agricultural products
- Intense competition and cooperation between distribution routes and distribution operators
- Appearance of large-scale distribution companies and processing companies, and movement of market governing power
- Fast transition to the customer-friendly distribution system
- Increasing need for strengthening the role of farmer organizations
- Fast propagation of sample transactions and e-transactions.

Table 4-4 | Details of Step 3: Innovative Distribution in Public Wholesale Markets

Key Action	Action in Detail
<ul style="list-style-type: none"> ■ Diversify transaction methods in wholesale markets 	<ul style="list-style-type: none"> ■ Introduce, establish and apply the wholesaler system preferentially to local markets ■ Expand participation of wholesale middlemen in auctions, and joint auctions between corporations
<ul style="list-style-type: none"> ■ Complete construction of wholesale markets and improve facilities 	<ul style="list-style-type: none"> ■ Complete 32 public wholesale markets by 2001 ■ Expand and complete logistics facilities in existing markets
<ul style="list-style-type: none"> ■ Improve high-cost structure and irregularities 	<ul style="list-style-type: none"> ■ Encourage market operators to carry out unloading services ■ Enforce and expand e-auctions, earlier than planned

Details of Step 3: Innovative distribution for public wholesale markets are described below. Diversified transaction methods in public wholesale markets aimed to improve transaction efficiency. To this end, the wholesaler system (commissioned retailer system in wholesale markets) was introduced in the wholesale markets with their center at the auction system, to apply it first to new wholesale markets and local wholesale markets. Wholesale middlemen were permitted to participate in other public wholesale markets and auctions by other wholesale market corporations in the same market for more wholesale middlemen's participation in auctions and optimum pricing. To this end, joint auctions between wholesale market corporations were reviewed. Farmer organizations could further participate in operation of public wholesale markets, to improve reliability of public wholesale markets.

Public wholesale markets were maintained and improved to complete new public wholesale markets early and to cope with the changing distribution environment in existing markets. By 2001, 32 public wholesale markets were completed by 2001, and logistics facilities in existing public wholesale markets were expanded, improved and enhanced.

The listing fees in the public wholesale markets across the country were lowered by 1% to improve the high-cost structure in the markets and to find unfair transactions and irregularities. Model projects were expanded for early transition from manual auctions (hands-up) to e-auctions to implement transparent and fair auctions. Delivery of non-standardized and non-packaged agricultural products was gradually prohibited for efficient logistics in the public wholesale markets and to reduce distribution costs.

2.3. New Transaction Systems and Modernized Facilities in Public Wholesale Markets

2.3.1. Wholesale Market System by Commissioned Retailers

In 1993, the new government (Kookmin's government) organized the 'Committee of innovative distribution for agricultural products' (March, 1998) to discuss topics about innovative distribution (March 1998~June, 1999) in order to review the system and policy for distributing agricultural products and to establish a new framework for innovative distribution (Step 3: Actions for innovative distribution).

Key discussion topics included systematized direct transactions, innovative public wholesale markets, distribution from farms and supplying high-quality and safe agricultural products, improvement of logistics and information systems, and stabilized demand and supply.

The commissioned retailer system was employed on June 1, 2000 in local wholesale markets and July 1, 2005 in the central wholesale markets in accordance with the amended ASDP in January, 2000. While the Seoul Gangseo wholesale market opened in 2004, the

market operated the auction system, and by June, the commissioned retailer system was then operated in the same Gangseo wholesale market. This enabled an experimental wholesale market to be concurrently operated in one market where the listing auction system was operated along with the commissioned retailer system.

The introduced commissioned retailer system aimed to improve issues in the market by auctions that continued since the Garakdong Wholesale Market opened in 1985, and to increase marketers' selections. Another goal was to reduce distribution costs by reducing the auction step because it was thought the process of auctions increased distribution costs in the market because the goods delivered in the wholesale market went through the auction system. In addition, another goal of the commissioned retailer system was to implement stable price revenues for farmers through mitigated fluctuation of agricultural product prices, stable prices, farmers (marketers) higher and stable sales price revenues, and creation of a competition structure in the wholesale markets.

2.3.2. Modernized Facilities in Public Wholesale Markets

While the government's policy for constructing public wholesale markets was completed in 2004, there was a need to modernize facilities in the existing public wholesale markets. During the 20 years of promoting the policy for constructing public wholesale markets, the distribution environment suddenly changed on farms and markets for end consumers, and existing public wholesale markets could not effectively cope with the suddenly changing distribution environment. Competitiveness was also lowered in comparison with other competing distributors, and an example was a stagnant volume of transactions. Then in December 2007, the government established a scheme for overhauling facilities in the public wholesale markets and to gradually modernize them. The progress of modernization has local municipalities who play the role of establishers to establish and promote overhaul plans as the leader, and the government supports them after assessment. The government generally assessed the will of local municipalities and agreements with distributors, to select wholesale markets for facility modernization. The local municipalities gradually promoted modernization on the basis of the master plan for wholesale market facility overhaul, but for each market and each year according to the investment efficiency priority. The project for facility modernization in public wholesale markets included three categories: overall reconstruction on the existing site, market relocation to another site, and remodeling existing facilities.

For modernizing public wholesale markets, wholesale markets to be modernized were selected through public advertisement every year since 2009. Currently selected markets include the Garakdong Wholesale Market (2009~2018), the Daejeon Ojeong market (2009~2013) in 2009, and the Cheonan wholesale market (2012~2014) in 2010 for facility modernization.

Table 4-5 | Current Wholesale Market for Facility Modernization

	Garakdong Market, Seoul	Daejeon Ojeong Market	Cheonan Market
Project Period	2009~2018 (10 yrs) (extended to 2025)	2009~2013 (5 yrs)	2012~2014 (4 yrs)
Total Project Cost	683.1 B won	39.9 B won	39 B won
Type	Overall Reconstruction on the Existing Site	Remodeling Existing Facilities	Remodeling Existing Facilities, and Extension of Market Site
Details	- Facilities for Direct Sales and Services - Wholesale Facilities	- Building for Vegetable Auctions - Composite Shop Building, Onion Building	- Auction Site, Shops, Refrigerated Warehouse - Site for Livestock and Fishery Products, Processing and Sales Place

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Chapter 5

Features of Public Wholesale Market Policy and Implications of Application to Developing Countries

1. Features of Public Wholesale Market Policy
2. Implications of Application to Developing Countries

Features of Public Wholesale Market Policy and Implications of Application to Developing Countries

1. Features of Public Wholesale Market Policy

1.1. System for Promoting Public Wholesale Market Construction Policy

The background of public wholesale market policy was a high concentration of population in urban areas led by the advanced industrial structure in the 1960s and 1970s, overcoming unfair transactions as a result of the increased volume in markets while the infrastructure for agricultural product markets was not constructed, transitioning of Korean agriculture to full-scale commercial farming and changes in agricultural policy goals. Other timely factors were stabilized demand, supply and prices of agricultural products from the social and economic point of view, optimum price revenues and a desire for improved negotiation capabilities for small-scale farmers, including rapidly increased agricultural productivity, advanced agricultural and industrial structure (urbanization and industrialization), small-scale farmers' disadvantages of unfair transactions, and increased necessity for stabilized prices.

From the beginning, the public wholesale market policy was a government-wide project. The government, the national policy research institutions, and establishers divided their roles to promote the project for constructing the Garakdong Wholesale Market. The central government funded 50% of the entire construction costs, and the remaining 50% was covered by establishers, and their metropolitan administration authorities (Seoul city council, Busan and Daejeon city councils, metropolitan city and do councils).

To select public wholesale markets to build, MAFRA delivered the selected market to each city and do in consideration of the scale of funds for constructing public wholesale

markets. Each city and do selected a location, established a construction plan to report to MAFRA, who then finally approve and support construction in consideration of the master plan for construction and operation. After completing construction of public wholesale markets, they are owned by establishers, who are managers of the public wholesale markets.

1.2. System for Managing and Operating Public Wholesale Market

The public wholesale market system by auctions was selected as a transaction system in public wholesale markets to ensure transparent, fair and open transactions and to maximize individual farmers' market negotiation capabilities by shared market information. The features of individual small-scale scattered farmers were considered while farmer's organizations were not fully organized. This was determined by analyzing transaction systems of wholesale markets for agricultural products in advanced countries and in consideration of distributors in the markets and farmer's opinion. In the early stages of operation, transaction efficiency was the most important factor to think of optimum pricing which reflected demand and supply, fair and transparent transaction process and disclosed transaction information, and ensured stable marketing by introducing the system for price payment to marketers at the same time as completing transactions.

The optimum number of tenants in the markets was determined and selected by the volume of transactions and collection for existing distributors and merchants, investigation of business areas, tenancy in the new public wholesale markets, and the expected scale of transactions in the new markets. This was to select tenants in the newly constructed public wholesale markets in relation to the management and operation system of the public wholesale markets. In the early stages, while it was hard to find ideal tenants in the process of switching from individual businesses to a legally authorized new wholesale transaction system, some tenants were unqualified distributors.

Key operators in the operation system were market wholesale corporations (in charge of collection and listing) and wholesale middlemen (in charge of purchase and distribution), who acted on behalf of farmers and buyers. Auctions were specified as a method of buying and products, and other methods except for auctions were not authorized for orderly transactions in the markets. Many issues were found because of conflicts with conventional transaction methods of buying and selling products. The wholesale middlemen were under wholesale market corporations, and could not participate in auctions by other corporations.

Two employed management systems were the 'wholesale market management office' and the 'wholesale market management corporation' composed of public officers under the establishers in consideration of the market type (auction type and commissioned

wholesaler type) and management methods in wholesale markets in advanced countries. The Garakdong wholesale market which is a large public wholesale market, started with a management corporation type.

1.3. Issues of Public Wholesale Market Policy

An issue involved in the construction policy was how to select areas for new public wholesale markets. Therefore, it is desirable to select each market, with a focus on metropolitan distribution regions in the areas benefited the most from new construction. A precondition was to investigate the current situation in the relevant areas with a focus on production and consumption of distributed agricultural products across Korea. However, some new construction projects were decided according to the will of establishers (local municipalities) rather than necessity and economical efficiency of construction while the policy for constructing public wholesale markets progressed. As a result, it was not easy to vitalize the new public wholesale markets early on and also to ensure enough volume, which resulted in slow and stagnant growth and significantly low competitiveness in the markets. There was also an issue involved in selection of locations for new public wholesale markets. Although locations in urban areas should be selected in full consideration of durability (25 to 30 years) and long-term development plans for wholesale markets, rapid urban centralization of outer urban areas at the time of location selection contributed to traffic congestion, and high logistics costs for transportation of agricultural products. It was necessary to have capable distributor tenants from the existing business areas and ideal for the features of the relevant wholesale markets in order to vitalize new wholesale markets and improve competitiveness. However, because existing distributors who wanted to be tenants were accepted without any prior verification for experience of distributor applicants, this was a factor of slow vitalization of the markets after starting operations. It was essential for relevant local municipalities, the establishers, to manage market sites and merchants in the existing business zones well for early vitalization of new wholesale markets and systematic and orderly distribution in the right areas after constructing the public wholesale markets. Although new public wholesale markets were constructed and opened in the same business zone, the establishers did not manage the sites and merchants for the old business zones well, to significantly preventing vitalization and growth of new markets.

Exemplary issues in early operations and management of public wholesale markets included no observance of transaction systems and little spirit of observing regulations. This resulted from the fact that merchants from non-authorized quasi-wholesale markets became tenants as distributors, and they did not observe the transaction system in the new public wholesale markets and caused great problems in market operations of fair and transparent transactions in the early stages. As open and transparent transactions were not ensured and

transaction information was not disclosed in the early stages of operation, all market users including sellers and buyers in the new public wholesale markets did not believe in the new public wholesale markets. The policy of early vitalization and sufficient volume of high quality failed. In addition, there were some problems of forced introduction of transaction systems which were incompatible with the real environment, failed strict selections of public wholesale market tenants, and little training before tenants moved in. Reliability weakened for public wholesale markets because of the recognition of high market costs in the early stages of operation, and poor management of wholesale market transactions contributed to distorted market information.

2. Implications of Application to Developing Countries

2.1. Implications of Promotion of Public Wholesale Market Construction

2.1.1. Promotion

It is essential to examine the necessity of public wholesale markets and why they should be built to promote construction of public wholesale markets. It is necessary to review the necessity of establishing a systematic distribution structure in the step of economic development, and also to review how the agricultural structure for living fully transitions to commercial farming. It is also necessary to review whether the agricultural product distribution sector is well supported in the changing economic structure.

It is also necessary to review investors if the wholesale market should be constructed. A review process needs to determine the government's role as a leading investor. Comprehensive reviews are also needed for investment types including public wholesale markets and private wholesale markets. In Korea, rapid industrialization and urbanization increased the importance of stabilized demand, supply and prices of agricultural products, and agriculture for living transitioned to commercial farming. There were increased needs for efficient distribution and the conventional markets developed into public wholesale markets in order to improve small-scale farmers transaction negotiation capabilities. It is necessary to review why public wholesale markets should be constructed, review the social and economic effects attained if the markets invested by the government are constructed in the existing distribution order.

Related regulations should be refined to construct public wholesale markets. It is necessary to refine regulations for national distribution of agricultural products before establishing plans of constructing public wholesale markets. Regulations for the national

distribution system for entire agricultural products and wholesale markets should be enacted or amended.

Ministries in the government should organize conferences to discuss various affairs including establishing a master plan for construction and operations, financial support (support and loans), planning invested funds, supervising construction and public relations for people when construction of the first public wholesale market is determined. Explicit role divisions should be clarified for all related institutions including government ministries, related public institutions, establishers, and construction companies who participate in constructing the first public wholesale market.

A detailed master plan should be established to suggest an ideal construction scheme. It is essential to describe the current distribution of agricultural products, existing issues and to advocate policy tasks for solutions in the country. In-depth investigations and expert analysis is essential to identify current national distribution and issues, and a road map should be provided for developing the distribution business for all agricultural products. Select locations for constructing the first public wholesale market based on results of investigation and analysis of distribution of agricultural products, and establish an ideal scale of the public wholesale market on results of investigation of current distribution and demand in the markets for end consumers, and about business zones. The direction for an operation system (transaction system, method of transactions, operators) needs to be specified as well as the most compatible with the current situation, and a management system (management organization, management type). Public relations is important for the result of analysis for social and economic effects if the first public wholesale market is constructed and operated.

2.1.2. Implications in Establishing a Master Plan for Ideally Constructing First Public Wholesale Market

A road map needs to be developed for improving distribution of all agricultural products based on the results of investigation and analysis for identifying nationwide distribution of agricultural products to select areas for constructing the first public wholesale market. An area needs to be selected and it should experience the most social and economic effects by construction and operation of the public wholesale market. In general, targets include wide distribution zones around the capital region that have large-scale consumers of agricultural products.

A specific location needs to be selected in the same business zone for agricultural products after selecting an area for constructing the first public wholesale market. An important aspect to consider is durability of 25 to 30 years of wholesale markets for the locations of wholesale markets (because it is not easy to relocate them while open), and also mid-and long-term city development plans in the relevant city as well. In terms of economic

activities, the location should allow easy logistics and be cost-effective between farms and the market. Another important factor is a convenient location for smooth traffic flow from farms for agricultural product transportation across the country.

It is very important to select tenants in the new public wholesale markets preferentially from distributors (commissioned sellers, wholesalers, distribution companies) in non-authorized markets in the same business zones for vitalization of the markets. It is important to select good distributors of better management spirit for sound distribution and those who understand the legally authorized market system rather than to select all distributor applicants in the existing non-authorized markets. If the number of selected distributors is smaller than the number of required distributors in the new market, good distributors can be selected by nationwide public advertisement for distributions.

The sites and merchants in the existing business zones should be regulated when the new market is constructed and opens. It is essential to regulate the sites and wholesalers (commissioned sellers) in the quasi-wholesale markets for agricultural products who can be competitive with the new market. In some cases in Korea, no regulation for old business zones contributes to slow growth of the new markets, and the constructed new wholesale markets are not competitive in turn, although they are built.

2.2. Implications in Public Wholesale Market Operation and Management System

2.2.1. Public Wholesale Market Operation System

Transaction systems depend highly on the facility type or category and arrangement of the relevant wholesale market, and they should be determined in advance when the master plan for constructing and operating the public wholesale market is established. The transaction system for agricultural products is classified globally into the auction system and the wholesaler system, which have compromised or composite systems. An ideal transaction system should be selected generally in consideration of farmers organization type and scale (cooperative association, other corporation), the grade of main production areas for the agricultural products, farmers management scale, distribution of agricultural product markets, general methods of pricing for agricultural products, and farmers opinions. Transaction practices of the distributors in the existing business zones should be comprehensively considered.

Introduction of the auction system needs to build related systems compatible with the auction system. Therefore, it is essential to establish and build an optimum auction method (electronic, manual, mobile, fixed, downward, upward), open auction information,

announcement and distribution systems, transportation (in and out of the markets) systems, and pricing systems. An unloading system is required to reduce distribution costs in the markets because the unloading costs in the wholesale market are relatively high in auctions.

A management and monitoring system is required to regulate behaviors against market orders including unfairness and illegal activities (illegal collusion, price fabrication, false transaction) of participants in transactions. Auctioneers should be strictly managed for optimum pricing and orderly fair transactions in the markets by auctions. If the distributors do not perform their tasks properly, it is hard to ensure vitalized markets and competitiveness, and a management system should be built for performance of their unique tasks (minimum volume of transactions, price payment).

The fees (marketer's listing fee) or expenses (cost for renting facilities, costs for using facilities, waste disposal) should be paid by participants in the public wholesale markets, and it is important to determine optimum rates of paid expenses. The most important factor to ensure reliability in public wholesale markets is safe price payment, as it is essential to ensure an explicit price payment system for marketers.

2.2.2. System for Public Wholesale Market Management

There are various global management organization types. The management organization types are classified into self-management organizations by market participants, management organizations by public officers under establishers (management offices in Korea), management by public institutions (management corporation in Korea), and compromise organizations. The most ideal management organization type should be selected in consideration of transaction systems, transaction methods, stage of economic development, features of distribution systems, and the level of distribution participants.

The specific obligations should be given to the management organizations. In general, the essential duties of the public wholesale market management organizations include management of market facilities (repair, maintenance, using and lending facilities), management of participants (unfairness, illegality), orderly markets (transaction order, smooth flow of traffic), management of collection, analysis and propagation of market information, and training of people involved in market activities (distributors, management people).

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