

EFFICIENCY IN AGRICULTURAL WHOLESALE MARKET ACTIVITIES IN SEOUL

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I. Introduction

Changes in marketing conditions and environments for agricultural products cause the existing marketing system to be inefficient and unbalanced. To eliminate inefficiency and unbalance and to determine whether the existing marketing system could adjust promptly to changes in marketing conditions or not, it is necessary to analyze the existing situations of agricultural marketing activities, at both wholesale and retail levels.

Information and statistical data on market activities and transaction volumes among regions for agricultural and fishery products for marketing system planning purposes are very limited. This is true for the agricultural marketing system in Seoul, the largest city in the nation. The establishment of a new wholesale market center in Seoul has been planned as the first phase project of an improved marketing system for perishable foods.

Major purposes of this study are; (1) to review and survey the existing wholesale market activities in the Seoul area; (2) to find means to improve retailing networks and functions; (3) to analyze market-supporting functions, present and future; (4) to sketch the framework of a plan to rearrange and/or establish a wholesale market system for agricultural and marine products; and (5) to provide necessary data for policy-making related to the improved operation of wholesale markets for perishable commodities.

Two public wholesale markets, 14 quasi-wholesale markets and four NACF(National Agricultural Cooperatives Federation) marketing centers for fruits and vegetables, and a public wholesale market, four quasi-wholesale markets and two NFFC (National Federation of Fisheries Cooperatives) marketing centers for marine products are operated in Seoul and were surveyed. In all 1,417 merchants in the wholesale markets and 419 retailers in retail markets in Seoul were interviewed.

The census of wholesale market activities was supplemented by a survey of market traffic volume to obtain more accurate data on market

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throughput at gates on every entry road into the Yongsan market complex and the Cheongryangri area market 24 hours a day at regular intervals, Total volume of agricultural and marine products marketed through Seoul wholesale markets was surveyed at every checkpoint on the leading roads into Seoul on different weekdays once a week for 5 months.

“Legal wholesale market” refers to the market authorized by the Law of Marketing and Price Stabilization of Agricultural and Marine Products to perform wholesaling functions of agricultural (fruit and vegetable) and marine products. The Law specifies that a local government shall open public wholesale markets and that the NACF and NFFC shall open cooperative marketing centers.

“Quasi-wholesale market” refers to the market which is authorized by the Law of Marketing as a retail market or which is not authorized by any laws or regulations, but which performs agricultural wholesaling functions.

II. Agricultural Wholesaling Activities

1. *Physical Facilities and Market Throughput*

The aggregate land areas of agricultural and fishery wholesale markets in Seoul is 73,357 pyung and building area 65,001 pyung, more than two thirds of which are occupied by fruit and vegetable wholesale markets. The quasi-wholesale markets are more numerous and of larger aggregate size than the public wholesale markets. But average land and building areas per market are higher for the public markets than for the quasi-wholesale market.

The wholesale markets are comprised of stalls for wholesalers, intermediate wholesalers, retailers and peddlers, matstalls, administration office, wholesalers and retailers' offices, chilled and cold storage, auction floor, parking lot, loading and unloading sites, commodities owners' lounge, garbage disposal sites, and sanitary facilities.

A total of 2,038 wholesalers are participating in agricultural marketing in the wholesale market. One fourth of them are fishery traders (Table 1). Total quantities marketed through the wholesale markets in Seoul amounted to 2,288 thousand metric tons of fruits and vegetables and 390 thousand metric tons of marine products in 1978. Legal wholesale markets and cooperative marketing centers handled 28% of the fruits and vegetables, and 60% of the fishery products, while quasi-wholesale markets handled 72% of the fruits and vegetables and 40% of the marine products (Table 2).

On a regional basis, 65% of all fruits and vegetables were marketed through the Yongsan wholesale market complex, 20% through the Cheongryangri area and 15% through the other wholesale markets in

TABLE 1 THE PHYSICAL SIZE OF THE WHOLESALE MARKET IN SEOUL, 1979

Unit: Pyung

Type of Market	No. of Market	Total Size		Average per Market		No. of Wholesalers ^a
		Site	Building	Site	Building	
Public Wholesale Market	3	21,943	15,220	7,314	5,073	464 (155)
Fruit and Vegetable	2	14,054	8,674	7,027	4,337	336 (168)
Fishery	1	7,889	6,546	7,889	6,546	128 (128)
Cooperative Marketing Centers	6	6,375	8,122	1,063	1,354	299 (50)
NACF	4	5,075	5,719	1,269	1,430	184 (46)
NFFC	2	1,300	2,403	650	1,202	115 (58)
Quasi-Wholesale Market	19	45,041	41,659	2,371	2,193	1,275 (67)
Fruit and Vegetable	14	39,132	31,022	2,795	2,216	1,018 (73)
Fishery ^b	5	5,909	10,637	1,182	2,127	257 (51)
Total	28	73,359	65,001	2,620	2,321	2,038 (73)
Fruit and Vegetable	20	58,261	45,415	2,913	2,271	1,538 (77)
Fishery	8	15,098	19,586	1,887	2,448	500 (63)

^a Number of registered middlemen for the public wholesale markets and cooperatives marketing centers. Figures in () represent average number of wholesalers per market.

^b Two of five fishery quasi-wholesale markets have vegetable and fruit sections.

TABLE 2 QUANTITIES HANDLED BY TYPE OF MARKET IN SEOUL, 1978

Unit: Thousand $\frac{\text{M}}{\text{T}}$
() : Percent

	Fruit and Vegetable			Fishery		
	No. of Markets	Quantities Marketed		No. of Markets	Quantities Marketed	
		(1,000 $\frac{\text{M}}{\text{T}}$)	(%)		(1,000 $\frac{\text{M}}{\text{T}}$)	(%)
Total Quantities	20	2,288	(100)	8	390	(100)
Legal Wholesale Market	6	635	(28)	3	237	(60)
Public Wholesale Market	2	559	(24)	1	150	(38)
Cooperative Marketing Center	4	77	(4)	2	87	(22)
Quasi-Wholesale Market	14	1,652	(72)	5	153*	(40)

* Includes dried marine products of 64,000 $\frac{\text{M}}{\text{T}}$

1978. In marine products, the Noryangjin wholesale market handled 38% of all marine products shipped to Seoul, Cheongryangri area markets 14%, the Yongsan market complex 11% and the other markets, 37%.

The most important origins of fruits and vegetables shipped to Seoul were the Julla provinces, the southwestern part of Korea, and the central Chungcheong provinces. There was no significant difference in the origins of public and quasi-wholesale market produce. Most marine products came from Pusan, the largest harbor in Korea, and the Kyung-sang provinces in the southeastern part of the nation (Table 3).

Seasonality of market throughput in the wholesale market is usually consistent with that of production. For fruits and vegetables, winter—from

TABLE 3 SHIPMENT OF AGRICULTURAL AND MARINE PRODUCTS FROM ORIGINS TO WHOLESALE MARKETS IN SEOUL, 1978

	Total	Unit: Thousand $\frac{\%}{T}$ (): %							
		Seoul	Kyung-ki	Kang-weon	Chung-cheong	Julla	Kyung-sang	Jeju	Uncertain
Agricultural Products (Fruit & Vegetable)	2,288	19	226	340	450	564	371	81	247
	(100)	(0.4)	(9.9)	(14.9)	(19.7)	(24.6)	(16.2)	(3.5)	(10.8)
Public Wholesale Market (2)	559	1	60	136	63	109	69	10	111
	(100)	(0.2)	(10.7)	(24.3)	(11.3)	(19.5)	(12.3)	(1.8)	(19.9)
NACF (4)	77	1	9	5	16	23	7	7	9
	(100)	(1.3)	(11.7)	(6.5)	(20.8)	(29.8)	(9.1)	(9.1)	(11.7)
Quasi-Wholesale Market	1,652	7	158	198	370	432	295	64	128
	(100)	(0.1)	(9.6)	(12.0)	(22.5)	(26.2)	(17.9)	(3.9)	(7.7)
Najin	572	3	47	72	93	168	143	31	15
Taeyang	522	3	21	64	162	113	120	22	17
Chongryangri	249	—	30	10	44	92	8	4	61
Chchonho	23	1	8	4	7	—	3	—	—
Soyoul	36	—	6	19	2	5	2	1	1
Youngil	131	—	17	30	44	8	13	—	19
Others	120	2	29	1	16	46	6	6	14
	Total	Busan	Kyung-ki	Kang-weon	Chung-cheong	Julla	Kyung-sang	Jeju	Uncertain
Marine Products	390	120	49	38	21	68	93	1	
	(100)	(30.7)	(12.7)	(9.7)	(5.4)	(17.4)	(23.8)	(0.3)	
Public Wholesale Market (1)	150								
Cooperative Marketing Centers (2)	88								
Quasi-Wholesale Market (2)	152								

January to early April—is the slack time for marketing and more than average quantities are marketed in the other seasons. The seasonal index of the peak month for vegetables marketed was 1.6, and that of the off-month 0.3. Fruits had seasonal indices from 1.5 in November to 0.3 in January.

On the other hand, marketed quantities of marine products showed even seasonality throughout the year, especially for dried marine products. Specific kinds of fish, either fresh or dried, were marketed with severe seasonal variation but the aggregate was not (Table 4).

2. *Wholesaling Companies or Corporations*

Public wholesale market companies usually both operate and maintain the markets, while quasi-wholesale markets put the emphasis mainly on renting and maintenance businesses, as a landlord. There was an example at a quasi-wholesale market where the market owner performed

TABLE 4. SEASONAL INDICES OF MARKET THROUGHPUT IN THE WHOLESALE MARKET IN SEOUL, 1978

	Fruit & Vegetable			Fishery			
	Vegetable	Fruit	Average	Fresh Fishery	Dried Marine Products	Others	Average
Jan.	0.3	0.3	0.3	0.8	1.0	0.7	0.7
Feb.	0.4	0.4	0.4	0.5	1.1	0.6	0.6
Mar.	0.5	0.5	0.5	0.9	1.1	0.7	0.9
April	0.9	0.8	0.9	0.9	1.0	1.1	1.0
May	1.2	1.1	1.2	1.2	1.0	0.9	1.1
June	1.4	1.2	1.4	1.1	1.0	0.8	1.0
July	1.3	1.4	1.3	1.0	1.0	0.7	1.0
Aug.	1.1	1.3	1.1	0.8	1.0	0.6	0.8
Sep.	1.4	1.0	1.3	1.0	0.9	1.5	1.1
Oct.	0.9	1.1	0.9	1.2	0.9	1.4	1.2
Nov.	1.6	1.5	1.6	1.3	1.0	1.6	1.4
Dec.	1.0	1.4	1.1	1.2	1.0	1.4	1.2
Total	12.0	12.0	12.0	12.0	12.0	12.0	12.0

only maintenance while the wholesalers handled operations separately. In some cases, merchants who own their market stalls organized a market operation committee and employed staff members to take care of market management and tax handling.

Rates of return differed widely among the companies. In the case of a typical fruit and vegetable public wholesale market, company A, the rate of return was 4.6 percent, while that of quasi-wholesale company C was 8 percent.

Legal market company C's total sales of fishery products in 1977 was 12,408 million won. In 1978 it was 16,347 million won, and the rate of return in both years was 0.8 percent. Quasi-market company D recorded total sales of 1,734 million won in 1978 and the rate of return was 4.2 percent.

The administrative labor force of fruit and vegetable wholesale companies numbered: 66 persons at two legal wholesale markets, 321 at 11 quasi-wholesale markets and 26 at four NACF marketing centers. Average workers numbered 33 for public wholesale markets, 29 for quasi-wholesale markets and seven for NACF centers.

There are two public markets, two NFFC marketing centers and four quasi-wholesale markets for fishery wholesale marketing in Seoul, but one public wholesale market as Jongam-dong was excluded from the study because it has failed to function normally. One public wholesale company for fishery goods had 84 staff members in all, three quasi-wholesale markets had 76 persons and two cooperative centers had 58 persons in all (Table 5).

Many workers are required to load, unload and transport fruits and

TABLE 5 STAFF AND PERSONNEL BY TYPE OF MARKET IN SEOUL, 1979

	Unit: Person						
	Manager	Clerk	Skilled Worker	Janitor	Cleaner	Others	Total
Fruit and Vegetable Public Wholesale Market(2)	70 (3.5)	99 (5.0)	30 (1.5)	73 (3.7)	91 (4.6)	12(0.6)	375(18.9)
Cooperative Marketing Center(4)	14 (7)	22(11)	8 (4)	12 (6)	8 (4)	—	64(32)
Quasi-Wholesale Markets(14)	4 (1)	16 (4)	4 (1)	2 (0.5)	—	—	26 (6.5)
Fishery Public Wholesale Market(1)	52 (3.7)	61 (4.7)	18 (1.3)	59 (4.2)	83 (6.4)	12(0.9)	285(21.2)
Cooperative Marketing Center(2)	42 (7.0)	95(15.8)	42 (7.0)	27 (4.5)	33 (5.5)	—	239(39.8)
Quasi-Wholesale Market(2)	18(18)	48(48)	9 (9)	8 (8)	1 (1)	—	84(84)
Total	11 (5.5)	18 (9.0)	25(11.5)	4 (2.0)	—	—	58(29)
	13 (4.3)	29 (9.7)	8 (2.7)	15 (5.0)	32(10.7)	—	97(32.3)
	112 (4.3)	194 (7.5)	72 (2.8)	100 (3.8)	124 (4.8)	12(0.5)	614(30.7)

Note: Figures in () represent average per market.

vegetables, and to dispose of garbage in the markets. This manpower is now supplied by the National Transportation Union and the Seoul Market Union Branch under the National Federation of Labor Unions. Wholesalers and jobber-dealers use fulltime or temporary workers of their own to purchase and distribute produce for sale at auctioning or unloading sites. But most labor comes from the union, based on the standard wages for loading, unloading and transporting service set but the Seoul municipal Government. Workers supplied by the union at fruit and vegetable wholesale markets totalled 460 persons at public markets, 480 at quasi-markets and 480 at NACF center—1,090 persons in all.

As in the case of fruit and vegetable markets, at fishery commodities markets the labor force is supplied by labor unions organized within the market. Total union manpower numbered 430 at public wholesale markets, 100 persons at quasi-wholesale markets and 80 at cooperative marketing centers, comprising a total of 610 persons for the loading and unloading of marine products.

3. Dealers' Activities in the Wholesale Markets

Most sellers at public wholesale markets are jobbers who act as wholesalers. But those vegetable dealers usually work as consignee wholesalers because of the poor auctioning system, or consignment sales are often their main job. Those dealers who work as consignee wholesalers at quasi-markets are rather more active and successful than dealers at public wholesale markets. In Seoul, there are 1,538 wholesalers who deal with fruits and vegetables, and of them 69 percent are quasi-wholesale market dealers. Stalls at fruit and vegetable wholesale markets numbered 336 at public wholesale markets, 973 at quasi-wholesale markets and 182 at NACF marketing centers.

Marketing of marine products consists of two major parts: the process of pricing and distribution to consumption areas at local consignment markets and producing areas, and the second process of shipping to public markets, quasi-markets or cooperative centers for re-pricing and re-distributing to consumers. At the three types of wholesale markets at consumption areas there are wholesalers (including middlemen, consigned dealers and authorized dealers), jobber-wholesalers (including missioned dealers) and retailers (including peddlers, cart-pulling sales merchants and roadside sellers). Merchants at fishery wholesale markets totaled 4,986: 1,783 at public markets, 2,141 at quasi-markets and 1,107 at cooperative centers.

Retail and wholesale stalls at fishery wholesale markets numbered totaled 4,813 of which 1,738 were at legal markets, 2,108 at quasi-wholesale markets and 1,967 at cooperative centers (Table 6). Daily quantities of fruits and vegetables handled by stall wholesalers averaged were 4,712 kg, equivalent to 362 kg per pyung. Those quan-

TABLE 6 NUMBER OF MERCHANTS AND STORES BY TYPE OF MARKET IN SEOUL, 1979

	Public Wholesale Market		Cooperative Marketing Center		Quasi-Wholesale Market		Total	
	Subtotal	Average	Subtotal	Average	Subtotal	Average	Subtotal	Average
Fruit & Vegetable								
Wholesaler ^a	336	168	184	46	1,018	82	1,538	77
Intermediate								
Wholesaler	432	216	1,967	492	1,797	128	4,196	210
Retailer	476	237	—	—	1,338	167	2,814	141
Wholesale Store	336	168	182	46	973	70	1,491	25
Intermediate								
Wholesale Store	432	216	1,859	465	1,605	128	3,896	195
Retail Store	200	100	—	—	1,337	96	1,537	77
Fishery								
Wholesaler ^b	128	128	115	58	257	51	500	63
Intermediate								
Wholesaler	512	512	435	218	633	127	1,580	198
Retailer	1,098	1,098	380	190	1,251	250	2,729	341
Wholesale Store	128	128	98	49	257	51	483	60
Intermediate								
Wholesale Store	512	512	—	—	633	127	1,145	143
Retail Store	1,098	1,098	140	70	1,218	244	2,456	307

Note: ^a Fruit & Vegetable Market: Legal (2); Joint Market(4); Quasi-Wholesale Market (1)

^b Fishery Market: Legal(1); Cooperative Marketing Center (2); Quasi-Wholesale Market(5).

titaes were largest for wholesalers and smallest for retailers. Those quantities of fruits and vegetables were 4,118 kg for wholesalers in quasi-wholesale markets and 8–4 kg in cooperative marketing centers. Those ratio trends were the same for marine products, though quantities were smaller (Table 7).

TABLE 7. QUANTITIES HANDLED BY MARKET STALL IN WHOLESALE MARKET IN SEOUL, 1978

	Unit: kg					
	Fruit & Vegetable			Marine Products		
	Whole-sale	Inter-mediate Whole-sale	Retail	Whole-sale	Inter-mediate Whole-sale	Retail
Public Wholesale Market						
Size of Store (average)	13.0	8.3	6.5	7.2	1.3	1.1
Daily Quantities Handled by a Merchant Stall	4,712	1,162	888	3,054	413	112
Daily Market Throughput per Pyung of Merchant Stall	362	140	137	424	318	102
Cooperative Marketing Center						
Size of Store (average)	7.5	2.1	—	11.3	—	—
Daily Quantities Handled by a Merchant Stall	874	106	—	2,200	—	—
Daily Market Throughput per Pyung of Merchant Stall	116	50	—	195	—	—
Quasi-Wholesale Market						
Size of Store	13.9	8.5	4.9	8.4	2.7	2.0
Daily Quantities Handled by a Merchant Stall	4,118	1,032	204	1,395	409	283
Daily Market Throughput per Pyung of Merchant Stall	296	121	42	166	154	140

According to a census of the sellers at fruit and vegetable wholesale markets, the average floor area for each stall was 13 pyung for wholesalers at public wholesale markets, 8.3 pyung for jobber-dealers and 6.5 pyung for retailers. At quasi-wholesale markets, wholesaler stalls occupied an average of 13.9 pyung, jobber-dealers 8.5 pyung and retailers 4.9 pyung. Rental charge was higher at quasi-wholesale markets while monthly market fees were higher at public wholesale markets.

Average floor area for each stall at public wholesale markets for fresh fish was 7.2 pyung for wholesalers, 1.3 pyung for jobber-dealers and 1.1

pyung for retailers and the per-pyung deposit for rent was 482,000 won, 288,000 won and 372,000 won respectively. In the case of quasi-markets average space was 8.4 pyung for wholesalers, 3.5 pyung for jobbers and 1.8 pyung for retailers and the deposit for each area amounted to 206,000 won, 403,000 won and 520,000 won respectively. At quasi-markets for dried fish, average space for wholesalers was 12.8 pyung, for jobber-wholesalers 6.7 pyung and for retailers 2.3 pyung. Per-pyung advance deposits for rent were 260,000 won, 142,000 won and 131,200 won respectively. Monthly rentals were 24,700 won, 22,300 won and 50,000 won respectively (Table 8).

TABLE 8. DEPOSIT MONEY AND MONTHLY RENT PER STORE, 1978

	Building	Deposit Money per Pyung	Monthly Rent per Pyung
<i>Fruit and Vegetable</i>			
<i>Public Wholesale Market</i>			
Wholesale	13.0	208,270	9,790
Intermediate			
Wholesale	8.3	170,370	7,670
Retail	6.5	126,190	9,210
<i>Quasi-Wholesale Market</i>			
Wholesale	13.9	207,290	6,410
Intermediate			
Wholesale	8.5	295,030	9,640
Retail	4.9	249,320	11,340
<i>Fishery</i>			
<i>Legal Wholesale Market</i>			
Wholesale	7.2	482,000	3,800
Intermediate			
Wholesale	1.3	288,000	—
Retail	1.1	372,000	—
<i>Quasi-Wholesale Market</i>			
Wholesale	8.4	206,000	14,200
Intermediate			
Wholesale	3.5	403,000	20,600
Retail	1.8	520,000	27,210

Manpower per stall at vegetable-dealing public wholesale markets averaged 3 persons for wholesalers, 2.3 for jobber-dealers and 2 for retailers. At quasi-wholesale markets, they were 3.3, 2.2 and 2.5 persons respectively. Workers per stall at fruit-dealing public wholesale markets averaged 3.2 for wholesale markets; 2.9 for wholesalers, 2.4 for jobbers and 1.9 for retailers. As the scale of the stall increased, so did the number of employees.

Workers employed by wholesalers dealing with fresh fish at fishery wholesale markets averaged 4 at public markets, 3.1 at quasi-markets and 4.5 at cooperative centers. Those dealing with dried fish had 1.8

workers at the public market and 3.1 at quasi-markets. Dealers in fresh fish used more manpower than dealers in dried products.

It was estimated that daily visitors at fruit and vegetable wholesale markets averaged 11,000 persons at public wholesale markets, 104,750 at quasiwholesale markets and 1,260 at NACF centers, totalling 117,010. Smallscale transport within the wholesale markets was mostly done by manpulled carts.

Regular customers per store at fruit and vegetable public wholesale markets averaged 6.7 persons (25.4 percent) from within the market and 19.7 persons (74.6 percent) from outside, for a total average of 26.4 persons. At quasi-wholesale markets for fruits and vegetables, regular customers averaged 15.1 persons (33.3 percent) from within the market and 30.3 persons (66.7 percent) from outside— 45.4 persons in all. Retailers and jobber wholesalers had fewer regular customers than wholesalers in both public and quasi-wholesale markets.

In shipping produce into the Seoul area, fruit and vegetable wholesale markets utilize in two channels: direct purchase by consignee-wholesalers from producers at quasi-wholesale markets and auctions by middlemen at public wholesale markets. Jobber-dealers and retailers usually buy from consignee-wholesalers or middlemen, but they sometimes purchase directly from producers.

Wholesalers, intermediate-wholesalers and retailers at fruit and vegetable wholesale markets sell in and outside of the markets. The proportion of sales by wholesalers within the market was 38.5 percent of vegetables and 46.2 percent of fruits, while the rest remaining 61.5 percent and 53.8 percent were sold outside the markets (Table 9).

Marketing hours of fruits and vegetables differed by producing area, transportation means, items, sales method, payment and the location of the market. Arrival of commodities at markets was between 21:00 and 07:00 and redistribution was made between 05:00 and 13:00, although there were slight variations according to the market location.

Specialization in fruits and vegetables sales is according to the location of the wholesale markets, and the commercial experiences of the wholesalers.

According to data collected from the fishery products wholesale companies, daily visitors averaged around 75,000 at legal wholesale markets, 56,400 at quasi-wholesale markets and 650 at cooperative centers.

Eighty percent of the customers for merchants at fresh fish wholesale markets were of regular customers such as retailers outside the markets, consumer organizations, general consumers and retailers within the markets, in declining order of proportion. Average regular customers per stall of all the markets comprised 23 percent from within and 77 percent from elsewhere, or 39 and 130 persons, respectively. Wholesalers had more regular customers within the market while jobber-whole-

salers and retailers had more customers from outside.

Sales by fresh fish wholesalers and retailers were 52 percent within the market and 48 percent outside the market. Retailer sales occupied 32 percent within the market and 36 percent outside the market. Sales by dried fish wholesalers and retailers were done 25 percent within the market and 75 percent outside the market (Table 9).

4. Dealers Financial Situations

Surveys were made to determine the amount of fixed and operational capital of the wholesalers, jobbers and retailers at fruit and vegetable wholesale markets. The total capital per stall averaged 12,618,000 won for wholesalers, 5,445,000 won for jobbers and 2,306,000 won for retailers at public markets. At quasi-wholesale markets, they were 21,549,000 won, 10,049,000 won and 7,042,000 won respectively.

Dependency on private loans for total investment was averaged 95 percent at public wholesale markets, and 96 percent at quasi-wholesale markets.

Merchants at fruit and vegetable wholesale markets are making extensive use of free-interest loans (in advance of delivery of produce) to farmers. Because of the complicated process and limitations in getting institutional credit, producers and dealers in the countryside usually use these loans. The in-advance loans are lent interest-free to producers and shippers by wholesale merchants and consignee-wholesalers to secure a constant supply of produce. Loans are usually made to producers at sowing time, or just before it, to supply funds for fertilizer, seed or other necessary facilities purchases. As for the produce which is harvested in spring, loans are made in the fall of the previous year, and for fall-harvested produce, the lending is done in late spring or summer. Loans to shippers are usually made in the harvest season, or about one month earlier for the assembly of produce.

The loan period is usually arranged in consideration of the growth period of the produce, and it is usually around three or four months. There are short-term loans of one or two months, or long-term loans of around six months, but almost no loans are extended for longer than one year. Each wholesaler lent an advance to thirteen producers in the public wholesale markets and twenty-three producers in the quasi-wholesale markets. The amount of advance money for each producer averaged 797,000 won in the public wholesale markets and 1,088,000 won in the quasi-wholesale markets (Table 10).

It is characteristic of the loans that there is no interest. For the merchant-lenders who provide interest-free loans by collecting high-interest private loans, there must be a guarantee of compensation: the profit from forthcoming sales of the secured produce.

By method of purchasing, wholesalers bought 29.4 percent (quan-

TABLE 10 SITUATION OF ADVANCE CREDIT IN FRUIT AND VEGETABLE WHOLESALER MARKETS IN SEOUL, 1979

		No. of Stores Answering (A)	No. of Lending Stalls (B)	B/A (%)	Borrower (Person)				Amount of Money		
					Producer		Shipper		Producer	Per-Shipper	Per-Store
					Total	Per-Store	Total	Per-Store			
Legal Wholesale Market	Wholesaler	215	113	53	1,473	13.0	124	1.1	796,979	714,113	11,172,567
	Intermediate Wholesaler	54	5	5	91	18.2	—	—	173,737	—	3,162,013
	Retailer	18	1	6	—	—	—	—	—	—	—
Quasi- Wholesale Market	Wholesaler	448	384	86	8,758	22.8	226	0.7	1,088,054	2,231,692	26,369,815
	Intermediate Wholesaler	172	20	12	108	55.4	61	3.1	711,982	32,787	3,944,703
	Retailer	56	3	5	43	14.3	—	—	44,186	—	631,860

tity-wise) of the produce through auctions, 66.5 percent through consignment and 25.8 percent through free purchase at public wholesale markets for fruits and vegetables. At quasi-wholesale markets, there were no auctions and 66.5 percent of all purchases were through consignment and 33.5 percent through free purchase. In the case of consigned purchases of fruits and vegetables, 52.3 percent of all purchases were paid the same day and 21.6 percent were paid in two or three days. And 8.1 percent of the purchase was paid in four to six days, and same amount was paid in seven to nine days after the purchase.

Credit sales were mainly made by producers and shippers to wholesalers, and to jobber-wholesalers by wholesalers, and by some wholesalers and jobbers to retailers. Credit loans amounted to 1,169,407 won per wholesale stall. At quasi-wholesale markets, credit sales were made to 34 persons for an average of 2,560,975 won per stall. Half of the credit sales were paid in one to three days (Table 11).

Capital per stall at public fishery product wholesale markets totaled: 20 million won for wholesalers, 2.6 million won for jobber-dealers and 0.9 million won for retailers. At quasi-markets, wholesalers had 22.5 million won, jobber-wholesalers 6.1 million won and retailers 5.7 million won for capital. Average per stall capital of the entire market was 9 million won at public markets and 13.4 million won at quasi-markets. Average operational capital was 7 million won at public markets and 10 million won at quasi-markets.

The proportion of borrowed capital was 26 percent at public markets, 31 percent at quasi-markets and 47 percent at cooperative centers. Of the loans, 94 percent were private at public markets, and as high as 94 percent at public markets, 99 percent at quasi-markets and 100 percent at cooperative marketing centers. Private loans were mostly extended by acquaintances.

Fishing loans were offered to an average 6.4 producers by each wholesale stall at public markets, to 9.6 persons at quasi-market and 7.4 persons at cooperative centers. Per producer, the loans amounted to 759,375 won, 955,223 won and 844,596 won respectively. Loan totals were estimated at 4,860,000 won, 9,170,140 won and 12,550,009 won per stall at the respective markets.

The proportions by purchased weight, of fresh fish among fishery products by wholesalers was 100 percent at public markets, 21 percent at quasi-markets and 53 percent at cooperative centers. There were no transactions in dried fish by auctioning at quasi-markets, but 29 percent were dealt by free purchase and 71 percent by consigned purchase. Purchases of fresh fish (weight-wise) by wholesalers were 63 percent by free purchase and 37 percent by relative dealings, while at quasi-markets 88 percent were free sales and 12 percent were consigned sales. At cooperative centers all were by free sales. As for dried products at wholesalers,

TABLE 11 CREDIT TRANSACTIONS IN FRUIT AND VEGETABLE WHOLESALER MARKETS IN SEOUL, 1979.

	Legal Wholesale Market			Quasi-Wholesale Market		
	Wholesaler	Intermediate Wholesaler	Retailer	Wholesaler	Intermediate Wholesaler	Retailer
Credit Customer Per Store (Person)	14.8	14.2	14.5	34.3	17.4	11.8
Credit Bill Per Customer (Won)	79,014	48,552	10,487	74,664	44,251	39,838
Total Bill Per Store (Won)	1,169,407	689,433	152,068	2,560,975	769,959	472,624

TABLE 12 CREDIT TRANSACTIONS IN FISHERY WHOLESALER MARKETS IN SEOUL, 1979

	Legal Wholesale Markets			Quasi-Wholesale Market			NACF
	Wholesaler	Inter-mediate Wholesaler	Retailer	Wholesaler	Intermediate Wholesaler	Reailer	Wholesaler
Credit Customer Per Stall (Person)	49.0	23.0	5.5	34.7	13.4	6.2	50.9
Credit Bill Customer (Won)	179,350	24,720	42,630	226,580	362,300	28,520	170,150
Total Bill Per Store (Won)	8,788,150	568,560	234,575	4,854,820	4,854,820	176,824	8,660,635

80 percent were dealt by free sales and 20 percent by relative sales.

Payments for consigned sales were often made the same day (48 percent) but 43 percent were paid within up to 10 days. When five days were set as a reimbursement limit, payments by that day were as high as 75 percent.

Wholesalers at public markets for fishery products owed, from sales on credit, an average of about 4.9 million won to one person. In quasi-markets, wholesalers were in debt to an average of 22.7 persons about 176,000 won each. Wholesalers, on the other hand, sold on credit to an average of 49 persons at public markets—up to 179,000 won per person—and it was 35 persons up to 227,000 won per person at quasi-markets (Table 12).

Most frequent duration of credit sales at fishery products wholesale markets was three days: 62 percent at public markets, 34 percent at quasi-markets and 80 percent at cooperative center.

III. Food Retail Activities

Patterns of retail marketing are: 1) retailing within the market, 2) retailing by cooperatives (agricultural and fisheries), 3) supermarkets, 4) chain stores, and 5) other retail activities.

Because of the delayed development of a modernized marketing system for perishable commodities, conventional markets have played a major role in transactions for general consumers. Retail shops, street vendors, peddlers and small neighborhood stores have spread according to population distribution. But now, along with the recent concentration of population on the newly developed apartment complexes on the southern side of the Han River (in the Gangnam area), large-scale chain stores and consumer unions have started to develop.

The ratio between the north and south of the Han River was 66:44, supermarkets 44:54 and chain stores 35:65, indicating development of a modernised marketing system in the newly planned residential areas. Population-wise, the north to south ratio in Seoul is 63:37.

There were 228 retail markets for the general public in Seoul dealing with fruits, vegetables and fishery products. Of these 139 (61 percent) were located in Gangbuk (north of Han River), and 89 (39 percent) were in Gangnam (South). Retail shops numbered 16,022, among which 2,220 were fruit retailers (31 in northern part). There were 330 supermarkets, 3,802 chain stores and 43,641 retailers including peddlers, roadside vendors and neighborhood stores.

Vegetables handled by the retailers per day was 4,840 tons, of which 52 percent was dealt by supermarkets, chain stores and other retailers, 47.7 percent by retailers within the markets and 0.3 percent by NACF centers. Daily marketing of fruits including melons, tomatoes and musk

melons amounted to 1,980 tons, 53.9 percent of which were handled by supermarkets, chain store and other retailers, 45.9 percent by retailers within the market and 0.4 percent by cooperative centers. In the case of fresh fish, of the daily transaction of 832 tons, 53 percent was through supermarkets, chain stores and other retailers, 45.1 percent by market retailers and 1.9 percent by NFFC centers (Table 13).

Daily handling quantity per person was bigger for retailers at wholesale markets than retailers at retail markets, and bigger at markets than at cooperative centers. Commodities transacted at Yongsan wholesale markets were found to have been marketed evenly throughout northern and southern parts of Seoul, while those at Cheongryangri wholesale markets were limitedly circulated in northeastern Seoul, according to a review of commodities going to market retailers and cooperatives other than supermarkets, chain stores and other retailers.

In the case of fresh fish, the percentage of supplies coming directly to retailers within the market from producers was 19 percent higher than that of fruit and vegetables.

Some 98 percent of retailers at wholesale markets purchased commodities within the same market; retailers within retail markets bought at wholesale markets (85 percent) or from producing places (15 percent). Spicy vegetables are usually purchased at Kyongdong Market and dried fish products at Chungbu Market (more than 95 percent).

More than 40 percent of commodities sold at superchain stores were supplied directly by purchases at producing places.

In transportation, tricycled cargo trucks were most commonly used and 2.5-ton trucks were also often used jointly by several merchants. For clam and similar products, cars were used and dried products were carried by bus.

IV. Market Supporting Function

Market supporting function here indicates the comprehensive role and function of the market to reduce marketing cost and to enhance efficiency to protect the profits of both producers, and merchants and to benefit consumers, including such activities as support of marketing processes, promotion of fair dealing and formation of a basic marketing system. It includes offering marketing information, grading and standardization services, reduction of risk, privileges in taxation and financing, utilization of laws concerned and training and education of marketing personnel.

1. Market Information

Price information sources for fruit and vegetable merchants at wholesale markets were mostly their own experiences and judgment and then senior merchants' advice, while merchants of fishery products first relied on

TABLE 13 QUANTITY RATIO BY ITEM AND TYPES OF RETAIL OUTLET.

		Unit: Ton/Per Day				
Items	Types of Retail Outlets	Gangbug	Gangnam	Total		
Fruits	Retail Activities within Markets	Retailers within Wholesale Markets	331	68	399	
		Retailers within Retail Markets	307	202	509	
		Total	636	272	908	(45.9%)
	Retail Activities under NACF and NFFC	4.3	4.4	8.7	(0.4%)	
	Supermarkets, Chainstores and Other Retailers			1,063 ¹	(53.7%)	
	Total			1,980 ²	(100.0%)	
Vegetables	Retail Activities within Markets	Retailers within Wholesale Markets	872	282	1,154	
		Retailers within Retail Markets	734	422	1,156	
		Total	1,606	704	2,310	(47.7%)
	Retail Activities under NACF	6.8	8.1	14.9	(0.3%)	
	Supermarkets, Chainstores and Other Retailers			2,515.1 ³	(52.0%)	
	Total			4,840 ⁴	(100.0%)	
Fresh Fishes	Retail Activities within Markets	Retailers within Wholesale Markets	60.2	35.0	95.2	
		Retailers within Retail Markets	169.0	111.0	280.0	
		Total	229.2	146.0	375.2	(45.1%)
	Retail Activities under NFFC	7.2	9.0	16.2	(1.9%)	
	Supermarkets, Chainstores and Other Retailers			440.6 ⁵	(53.0%)	
	Total			882 ⁶	(100.0%)	

Note: ^{1 3 5} Total quantities handled in wholesale stage. Quantities handled by retailers within markets, and by NACF and NFFC

² Fruit quantities at wholesale stage (estimated product loss 6.4%)

⁴ Vegetable quantities at wholesale stage (estimated product losses 11.5%)

⁶ Fresh fish quantities at wholesale stage (estimated product losses 1.4%)

other salesmen around them, and then their own experiences and judgment. Of the 1,500 interviewees, those who cited their experience and judgment for pricing numbered 44 percent in the case of fruits and vegetables and 29 percent in the case of fisheries.

Market information was obtained through radio, television and newspapers—40 percent by mass media. Another information medium that merchants wanted to have was the telephone, more heavily relied on by wholesalers than retailers (Table 14).

TABLE 14 MARKETING INFORMATION MEDIA NEEDED BY MERCHANTS

Media	Percentage of Respondents (%)						
	Fruits and Vegetables				Marine Products		
	Wholesaler	Inter- Wholesaler	Retailer	Total	Fresh Fish	Dried Fish	Total
Radio	14.1	17.2	22.7	15.6	18.1	14.9	16.9
T. V.	11.0	14.2	13.3	12.1	25.5	13.8	21.2
Newspaper	11.4	12.1	8.0	11.3	11.4	6.9	9.8
Magazine	1.1			0.7	0.7		0.4
Telephone	43.2	33.6	16.0	38.3	26.2	47.1	33.9
Other	19.2	22.8	40.0	22.0	18.1	17.3	17.8

Kinds of marketing information needed by merchants were: accurate and speedy information handling by mass media (44 percent), effective communication facilities between producers and wholesale markets (26 percent), accurate weather forecasting, reliable commodity price statistics and long-term, forecasts about export and import policies (Table 15).

2. *Packaging and Marketing Losses*

Although packing must serve to keep products clean and in the best possible condition so that unnecessary service will not be required in the process of consumption, there was little uniformity in containers or sizing, dealing units, or grading, causing great differences in price.

Quantitative and qualitative reduction of commodities is the price that must be paid by producers, merchants and consumers. Reduction of quantity in vegetables, according to the survey, was higher in the retail process than in the wholesale or jobber-dealing process. It was highest in summer. The total marketing loss in quantity in vegetables was 35 percent: 11.5 percent in the wholesale process, 7.6 percent in jobber-wholesaling and 16 percent in the retail process. By season, losses hit 43 percent in summer and 29 percent in spring. Total loss of fruit was 12.8 percent. Marketing loss in quantity in marine products was 18.2 percent in seaweeds, and 11.8 percent in dried products (Table 16).

TABLE 5 KIND OF MARKETING INFORMATION NEEDED BY MERCHANTS

Marketing Information	Response Ratio (%)							
	Fruits and Vegetables				Marine Products			
	Whole-sales	Inter-mediate Whole-sales	Re-tailer	Total	Fresh Fish	Dried Fish	Shell Fish	Total
Quantity Produced by Origin	28.4	19.0	12.9	24.5	18.2	30.1	28.9	22.2
Prices by Origin	13.0	8.7	6.5	11.3	12.5	12.5	18.4	12.5
Car Loadings	13.1	12.0	2.6	11.8	12.5	9.7	13.2	11.6
Transaction Quantity within Wholesale Markets	15.9	24.7	25.8	19.1	21.9	21.0	7.9	21.6
Marketing Prices in Wholesale Market	11.6	18.1	26.5	14.7	23.7	13.6	7.9	20.3
Quantity Imported	2.4	1.7	1.3	2.1	0.9	1.1		1.0
Quantity Processed	0.4	0.4		0.4		0.6		0.2
Prices in International Market	1.2	0.2		0.8	0.6	0.6		0.6
Retail Prices by Retail Markets	5.2	6.8	14.2	6.5	5.7	4.0	7.9	5.1
Quantity Retailed by Retailers	5.5	4.6	9.6	5.6	3.4	4.5	5.3	3.8
Forecasts Weather	2.1	2.0	0.6	1.9	0.3	1.1	7.9	0.6
Other	1.3	1.7	0.6	1.3	0.3	1.1	2.6	0.6

3. Finance and Credit

Merchants at wholesale markets depend heavily on private loans because of their narrow access to institutional banks credits and because they had to render large amounts of in-advance, interest-free loans to producers to secure a consistent supply of commodities.

Difficulties in their business operations expressed by the wholesale market merchants were: difficulty in collecting money from sales on credit, lack of operational capital, narrow and inconvenient stalls and difficulty in obtaining commodities at the proper time.

A diversified re-examination of the tax policy for dealers of agricultural and fishery products is necessary. As agricultural and fishery products are primary products they are exempt from the Value Added Tax, but because VAT is levied on marketing services, the more processing they undergo, the more VAT they accrue in the marketing procedure. Quasi-markets, as retail markets, are not taxed. But it would be possible to increase tax income by rearranging overall tax rates to include quasi-market wholesalers and to exempt or alleviate taxation on those retailers dealing with high-risk perishable products (Table 17).

TABLE 16 MARKETING LOSSES OF AGRICULTURAL AND MARINE PRODUCTS, 1978-1979

	Spring	Summer	Autumn	Winter	Unit: % Average
Fruit & Vegetable					
<i>Vegetable</i>					
Total	29.0	43.4	33.8	34.2	35.1
Wholesale	9.7	15.4	10.0	11.0	11.5
Intermediate					
Wholesale	7.0	10.1	7.0	6.4	7.6
Retail	12.3	17.9	16.8	16.8	16.0
<i>Fruit</i>					
Total	10.6	16.8	13.1	10.2	12.8
Wholesale	6.1	7.6	6.1	5.6	6.4
Intermediate					
Wholesale	2.5	6.8	5.0	2.8	4.3
Retail	2.0	2.4	2.0	1.8	2.1
Marine Products					
<i>Fisheries</i>					
Total	8.4	11.9	7.9	5.8	8.7
Wholesale	1.7	1.6	1.3	1.0	1.4
Intermediate					
Wholesale	3.9	5.4	4.7	3.1	4.3
Retail	2.8	4.9	1.9	1.7	3.0
<i>Dried Marine Products</i>					
Total	10.9	15.7	6.4	7.1	11.8
Wholesale	2.1	6.9	3.5	2.5	4.3
Intermediate					
Wholesale	6.3	6.3	2.9	4.6	5.0
Retail	2.5	2.5	—	—	2.5

4. *Legal Service and Merchant Training*

Merchants dealing with agricultural and fishery products wanted the government to recognize the function of quasi-markets so that the quasi-markets would become authorized public markets and become fully active. Heavy tax was one of the reasons for high prices, and an incomplete system, of quality grading of perishable products, and traffic limitation on agricultural and fishery product carries in downtown area were also pointed out. Laws on business morality and a new loan system for institutional capital were also requested by the merchants.

Fundamental elements of improved marketing are betterment of human resources and improvement of marketing techniques for higher efficiency. There has been no organization or program for the education and training for merchants on business morality, administration techniques and other general information. Seventy percent of the merchants thought such programs were necessary. Priority contents requested were general information, business morality, business operation techniques and tax education.

TABLE 17 TAXES ON PARTICIPANT IN AGRICULTURAL MARKETING

	Fee	Standard Ratio of Taxable Income ¹	Unit: % Value Added Tax
<i>Legal Wholesale Market</i>			
Wholesale Market Co., Ltd.			
Fruits and Vegetables	7.0	6.36 ²	0.64
Marine Products	6.3	5.7 ²	0.6
Middleman			
Fruits and Vegetables	4.4	4.0 ³	0.4
Marine Products	4.4	4.0 ³	0.4
<i>Quasi Wholesale Market</i>			
Wholesaler			
Fruits and Vegetables	6-8	4.7 ³	—
Marine Products	5-7	4.8 ³	—
Retailer			
Fruits and Vegetables	—	7.0 ³	—
Marine Products	—	6.5 ³	—

¹ Ratio of Estimated Income to Gross Sales.

² The Subject of the Corporation Tax.

³ The Subject of Personal Unified Income Tax.

V. Weakness and Problems in Wholesale Market System

First, wholesale markets are too small to achieve the economy of scale which would ensure, through the auction practice, the best prices to both producers and consumers. In addition, many of them are now located in congested and residential city areas and, therefore, heavy costs, private and social, are needed to take measures against pollution and for a clean environment. Relocation of such congested wholesale markets should be taken under consideration.

Second, there are shortages and poor conditions and imbalance among market facilities. Especially, auction floors without covers are poor facilities for trading in bad weather conditions. A relative shortage of sanitary facilities may create a poor environment for participants.

The facilities criteria regulated by law are too limited and impractical to adjust to the rapidly growing economic and social situations. Most wholesale market facilities are owned and controlled by appointed wholesalers. The openers of the markets, municipal governments, have little invested and seldom take any action to maintain and control the facilities. As a result, social costs due to congested and imbalanced facilities are high relative to the private operation costs of wholesalers. A rehabilitation program for existing wholesale markets should be immediately established and implemented through cooperation between wholesalers and the openers.

Third, the appointed wholesalers have more interest in rental receipts

than income from the efficient operation of markets because they own the facilities. In addition, the openers can control and supervise wholesale markets within the limited scope of their operation, and thus have little interest in improving the markets. Therefore, the exact statistics of market throughput and price are hardly collected by the openers. The openers, municipal governments, should invest in all of or a part of the facilities to encourage wholesalers to operate and manage the market efficiently.

Fourth, the shortage of operational funds for wholesalers makes the advance credit to producers and shippers possible only in limited amounts. The appointed wholesalers, as a corporation, have to keep good records on the advance credit, as a result of which receivers should suffer much red tape to get the credit.

On the other hand, many small wholesalers in the quasi-wholesale markets, which have been developed alongside the public wholesale market, provide the advance credit to the limited producers without limits on the amount and without red tape, to be supplied the products they need by the producers. The fresh and ungraded vegetables are not suitable for auctions or bids in the public wholesale market. The Value Added Tax on the wholesaler's commission and jobber's fee might be converted into quasi-wholesalers' income because they are not incorporated and report underestimated trading volumes. The establishment of a public marketing fund system is required to make the public wholesalers use their funds for advance credit to producers.

Fifth, the fixed commission rates such as the wholesaler's commission and jobber's fee in the wholesale market seem too high since the trading volume has grown. The high commission rates provide incentive for wholesalers and jobbers to actively participate in marketing, but causes lower producers' prices and higher consumers' prices. It would seem to be reasonable to adjust commission rates according to trading volume.

Sixth, the system of locating jobber's stores in the market building and the disorderly market arrangement by commodity groups impede the flow of produce through the market. But this situation has been slowly changing to accelerate the flow of fresh produce.

Seventh, despite the agricultural and fishery cooperatives' practice to improve packaging, grading and standardization in some producing areas, most perishable products arrive at the wholesale market ungraded, badly sorted and improperly packaged. This undermines the confidence of buyers, make sample selling difficult, and causes quick deterioration of the products. More efforts should be made to standardize the product in weighing, packaging, grading and sorting with common criteria everyone can understand and practice.

The market information system based on the efficient standardization

of product is not adequate to provide complete, exact and timely market news to marketing participants and the public. Most information on marketing and production is being obtained by telephone and the dealer's own experience.

Finally, there is no evidence of any attempt to train and educate participants in marketing. The marketing business is becoming more complicated and competitive and requires advanced knowledge and techniques, which can then be enhanced through on-the-job training and education.

VI. Concluding Remarks

The wholesale market for agricultural and fishery products is a central connection point of the entire marketing system. An efficient wholesale market system is the first step for improvement in the marketing system. Efficiency means that every marketing function is performed with minimum costs, and that prices established in the market can be transmitted to producers and consumers with the maximum speed and the minimum discrepancy.

The first wholesale market project in Seoul is under appraisal to build a new modernized wholesale market where all agricultural and fishery products will be auctioned. IBRD will provide part of the funds required to build the market on a loan basis. The operation and management system of the new wholesale market will be designed to make it the most efficient at the present stage of economic and social development in Korea.

The National Marketing Master Plan (NMMP) will be developed to take necessary measures for the rehabilitation of existing wholesale markets and establishment of new markets, including a long-term improvement plan for the entire marketing system. The NMMP study includes a market information development plan, the government supporting and facilitating functions to provide a favorable environment for merchants with the incentive of market improvement, and to check unfair transactions and collusion, a pilot demonstration scheme for new marketing activities, and a training and education program for participants in marketing and personnel related to market administration.

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Choe, Y. B., 1978, "Toward an Idea of Agricultural Economics: A Critique on the Idea of the Applied Economics of Agriculture," *Journal of Rural Development* 1 (Nov.): 1–21.

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