

Structural-Functional Change and Developmental Dimension of Small-Towns in Korea: The Case Study of Five Lower-Order Centers

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I. INTRODUCTION

Generally, spatial hierarchy can be classified into three levels; city, town and rural area. In Korea, city and town are defined as a urbanized area with population over than 50,000 and 20,000, respectively. Among rural areas, there exist weakly urbanized centers where administrative and/or industrial functions are relatively concentrated. Town and township where county office is located are called together SMALL-TOWN(小都邑) in Korea.

A small-town is a nodal point in a sense of relationships with city and rural areas, and

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with other small-towns. It also functions as a growth pole in its influential hinterland. Vigorous role of small-town contributes to not only rural development, but normal growth of cities.

This study aims at finding of characteristics and problems of small-towns in social and economic aspects through an analysis of their structures and changes. Those findings could be basic information for further development planning of small-towns. Main fields of analysis are demographic structure and its change, land use pattern, economic structure and its change, situation of facilities and utilities, and relations with other regions.

The five case areas were selected from the 22 small-towns of Gyeonggi Province which surrounds the City of Seoul. The selection criteria were industrial dominance and urban-rural characteristics. The selected case areas are four towns of Guri in Yangju County, Geumchon in Paju County, Icheon in Icheon County and Janghoweon in Icheon County, and one town-ship of Yongin in Yongin County. Their classification by the selection criteria is shown below:

	Metropolitan shadow region	Balanced rural-urban region	rural dominant region	Total
Agricultural dominant region			Icheon(利川邑) Janghoweon(長湖院邑)	2
Manufacturing dominant region		Yongin(龍仁面)		1
Service dominant region	Guri(九里邑) Geumchon(金村邑)			2
Total	2	1	2	5

The raw data were gathered through the field surveys of three times on the case areas during July and August, 1977 under the writer's conduct. The data were tabulated for analysis by homogeneous items, In order to compare with national averages of total Korea, necessary information on the statistics of Korea was attached to each table. The source of the statistics is 'Korea Statistical Yearbook' published by Economic Planning Board of the Republic of Korea.

II. GENERAL VIEW ON THE CASE AREAS

The location of the five case small-towns is illustrated in Figure 1. Guri and Geumchon exist over Han River and others are under the river. Direct distance of Guri from the

center point of Seoul is 13km, Geumchon 25km, Yongin 40km, Icheon 48km and Janghoweon 65km. Guri is located within a Seoul commuting distance by using bus, and Geumchon is connected to Seoul by Tongil-ro express way and a rail road. Yongin and Icheon have a strong accessibility to Seoul through Yeongdong Highway. Janghoweon is a marginal area in a sense of approach to Seoul, but an express way is under construction in order to connect Seoul and Masan via Icheon, Janghoweon, Chungju, Mungyeong and Daegu.

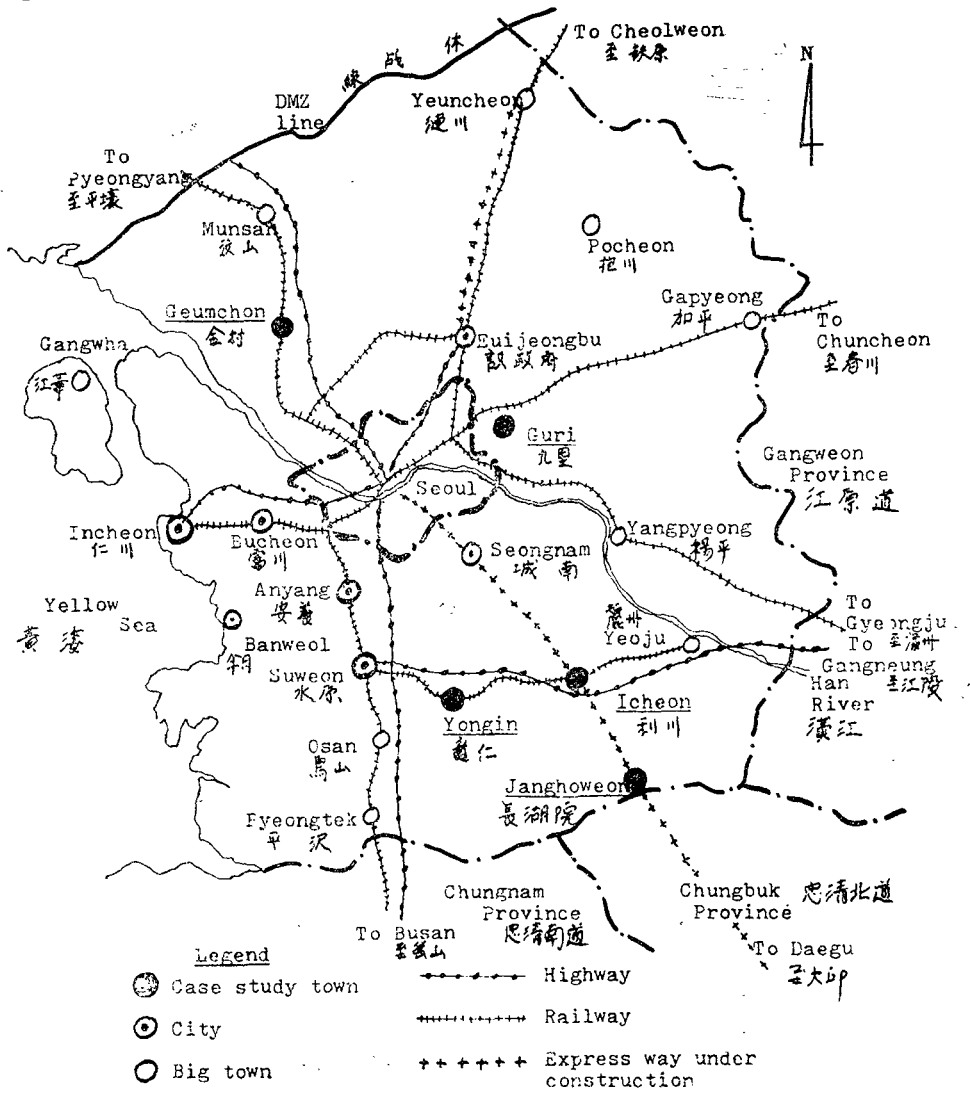


Fig. 1. The Location of Case Towns and Spatial Relations among Centers in Seoul and Gyeonggi Region

Table 1. Area and Population of Case Towns, 1976

Town	Area (in ha)	Population (in person)	Population density (in person per ha)
Guri	2,509	53,571	21.4
Geumchon	2,378	21,618	9.1
Yongin	5,658	22,543	4.0
Icheon	2,647	23,184	8.8
Janghoweon	6,090	18,262	3.0
(Average)	3,856	27,836	7.2
Total Korea (1975)	9,880,700	34,708,542	3.5

Table 2. Composition of Economic Activities by Industry, 1975 (in %)

Town	Agricultural & forestry	Mining & manufacturing	Commercial & other services
Guri	19.7	11.3	69.0
Geumchon	23.1	6.5	70.4
Yongin	39.7	23.9	36.4
Icheon	61.4	4.5	34.1
Janghoweon	81.2	4.2	14.6
(Average)	42.3	10.0	47.7
Total Korea (1975)	45.9	19.1	35.0

Average population of the five small-towns is 27,836 in 1976 showing 53,571 of Guri as the highest population and 18,262 of Janghoweon as the lowest one (See Table 1). Their average population density is 7.2 persons per hectare(ha) which is double of the national average of Korea. The most dense area is Guri with 21.4 persons per ha. Janghoweon is the only one town whose population density is lower than total Korean average of 3.5 persons per ha.

Table 2 shows composition of economic activities in a number of employment by town. On average, primary industry is 42.3% of total employment, secondary industry is 10.0% and tertiary industry is 47.7%. Their proportions of total Korea are 45.9%, 19.1% and 35.0%, respectively. Icheon and Janghoweon are agricultural dominant towns, and Guri and Geumchon show commercial and service superiority. Yongin can be defined as a small-town of compound industries.

On average, the case small-towns are weaker than total Korea in agricultural activity and manufacturing activity, while they are much stronger than total Korea in commercial and service activity.

III. STRUCTURAL AND FUNCTIONAL ANALYSIS OF THE CASE TOWNS

1. Demographic Structure and Its Change

During the past 11 years, total population of Korea has been grown by 1.27 times, and the five case small-towns show population increase of 2.12 times. Guri being near to Seoul has been increased by 4.63 times in population during the same period, while the far town from Seoul, Janghoweon, has a decreasing trend of population. The other three regions in mid-location between Seoul and the provincial boundary of Gyeonggi illustrate similar growth rates of population to total Korea in the case of Yongin and Icheon, or a stable rate of population growth in the case of Geumchon (See Table 3).

The rural towns in Gyeonggi Province show more in-migration than out-migration, while the other rural areas of Korea show minus net migration. Tables 4 and 5 give us such information that average net migration of the case small-towns in Gyeonggi Province has been increased in positive numbers, while the case of the rest counties of Korea has

Table 3. Population of Towns by 5-year Intervals, 1965-76

Town	(in person)			
	1 9 6 5	1 9 7 0	1 9 7 5	1 9 7 6
Guri	11,559 (100)	28,069 (243)	44,816 (388)	53,571 (463)
Geumchon	20,234 (100)	21,657 (107)	21,456 (106)	21,618 (107)
Yongin	14,688 (100)	13,827 (94)	20,195 (137)	22,543 (153)
Icheon	18,470 (100)	18,607 (101)	22,825 (124)	23,184 (126)
Janghoweon	18,972 (100)	17,515 (92)	18,393 (97)	18,262 (96)
(Average)	13,145 (100)	19,935 (152)	25,537 (194)	27,836 (212)
Total Korea (000)	28,327 (100)	31,435 (111)	34,709 (123)	35,860 (127)

Table 4. Migration of Towns by 3-year Intervals, 1970-76

Town	(in person)								
	1 9 7 0			1 9 7 3			1 9 7 6		
	In-migrants A	Out-migrants B	A - B	In-migrants A	Out-migrants B	A - B	In-migrants A	Out-migrants B	A - B
Guri	6,654	5,148	1,506	7,456	6,008	1,448	16,474	10,540	5,934
Geumchon	1,424	1,599	-175	1,775	1,766	9	2,249	2,676	-427
Yongin	1,056	1,389	-333	2,005	1,905	100	3,423	2,672	751
Icheon	1,407	1,370	37	2,107	2,032	75	3,422	3,375	47
Janghoweon	1,147	1,379	-232	1,503	1,717	-214	2,640	2,431	209
(Average)	2,338	2,177	161	2,969	2,686	284	5,642	4,339	1,303

Table 5. Internal Migration of Total Korea

(in thousand persons)

Classification		1 9 7 1	1 9 7 2	1 9 7 3	1 9 7 4
City	In-migrants A	3,153	2,742	3,688	4,317
	Out-migrants B	2,815	2,518	3,336	3,800
	A-B	338 (100)	224 (66)	352 (104)	517 (153)
County	In-migrants A	1,057	946	1,172	981
	Out-migrants B	1,395	1,170	1,524	1,498
	A-B	-338 (100)	-224 (66)	-352 (104)	-517 (153)

Source: Economic Planning Board, Republic of Korea, *Korea Statistical Yearbook*, 1976.

Table 6. High Educated Population, 1977

(in person)

Town	Educated population A	Population educated in high school and over B	B/A (%)
Guri	44,816	25,993	58.0
Geumchon	14,444	4,880	33.8
Yongin	9,691	2,146	22.1
Icheon	14,997	2,253	15.0
Janghoweon	11,116	3,674	33.1
(Average)	19,013	7,789	32.0

shown a decreasing trend in negative numbers.

The number of average net migration per case smalltown which was 161 in 1970 was increased to 284 in 1973 and to 1,303 in 1976. The case town having shown the highest increasing rate of net migration is Guri, one of the metropolitan shadow region, and the next one is Yongin which is a small-town of compound industry.

The reasons why the small-towns of Gyeonggi Province have been positively increased in net migration would be a Seoul influence. That is, a lot of people comes in Gyeonggi rural centers from Seoul by over-flow and from other rural areas of Gyeonggi and other provincial regions for inter-mediate settlement, while the number of out-migration from Gyeonggi towns is relatively lower than the number of in-migration.

In the level of education, the case small-towns are relatively low. The proportion of the population educated in high school and over to total educated population is 32.0% on average. Guri and Icheon are contrast in a sense of big gap; the former is 58.0% and the latter is 15.0% (See Table 6).

From economic activity situations being illustrated in Table 7, we can find three major characteristics. First, labour participation of the case small-towns is stronger than total

Table 7. Economically Active Population by Employment Status, 1975

(in person)

Town	Total population A	Population 14-64 years old					Economically active age rate B/A (%)	Labour force participation rate C/B (%)	Unemployed rate D/C (%)
		Total B	Economically active population			Not economically active population			
			Total C	Employed	Unemployed D				
Guri	44,816	28,219	14,730	13,993	737	13,489	63.0	52.2	5.0
Geumchon	21,456	13,782	7,139	6,803	336	6,643	64.2	51.8	4.7
Yongin	20,195	12,343	7,406	7,176	230	4,937	61.1	60.0	3.1
Icheon	22,825	14,214	8,855	8,634	221	5,359	62.3	62.3	2.5
Janghoweon	18,393	10,581	6,825	6,723	102	3,756	57.5	64.5	1.5
(Average)	25,537	15,828	8,991	8,666	325	6,837	61.6	56.8	3.6
Total Korea(000)*	34,709	21,833	12,340	11,830	510	9,493	62.9	56.5	4.1

Note: *In the case of total Korea, economically active age group indicates 14 years old and over.

Korea. Employed rate is 96.4% in the case towns, while 95.9% in an average of Korea.

Second, the closer to Seoul, the lower the labour force participation rate. The rates of Guri and Janghoweon are 52.2% and 64.5%, respectively.

Third, the farther from Seoul the area is located, the higher the employment rate. The unemployed rates of Guri, Geumchon, Yongin, Icheon and Janghoweon in an order of closer distance to Seoul are 5.0%, 4.7%, 3.1%, 2.5% and 1.5%, respectively. These figures imply that metropolitan shadow regions have more unemployment than rural dominant regions.

Table 8. Industrial Structure of Employment, 1975

(in person)

Town	Total employment	Primary industry	Secondary industry		Tertiary industry	
			Manufacturing	Construction		
Guri	13,993 (100)	2,757 (19.7)	1,581 (11.3)	1,581 (11.3)	9,655 (69.0)	882 (6.3)
Geumchon	6,803 (100)	1,571 (23.1)	442 (6.5)	347 (5.1)	4,790 (70.4)	68 (1.0)
Yongin	7,176 (100)	2,849 (39.7)	1,715 (23.9)	1,715 (23.9)	2,612 (36.4)	7 (0.1)
Icheon	8,634 (100)	5,301 (61.4)	389 (4.5)	389 (4.5)	2,944 (34.1)	51 (0.6)
Janghoweon	6,723 (100)	4,128 (81.2)	282 (4.2)	282 (4.2)	2,313 (14.6)	40 (0.6)
(Average)	8,666 (100)	3,666 (42.3)	866 (10.0)	863 (10.0)	4,134 (47.7)	210 (2.4)
Total Korea (000)	11,830 (100)	5,425 (45.9)	2,265 (19.1)	2,205 (18.6)	4,140 (35.0)	511 (4.3)

From Table 8 on industrial structure of employment, we can find the facts that such metropolitan shadow areas as Guri and Geumchon are dominant in commercial and service activities, such a balanced rural-urban area as Yongin shows a balanced structure of industrial employment, and rural dominant areas such as Icheon and Janghoweon mostly consist of agricultural activity.

2. Land Use Pattern

Residential area, farming area and public land of the five case towns are relatively larger than the proportions of total Korea, while their forestry area is relatively much less than total Korea. As shown in Table 9, residential area of the case towns is 3.3% of total area, farming area is 56.1%, public land is 1.6% and forestry area is 33.4%, while those of total Korea are 1.3%, 22.7%, 0.8% and 66.6%, respectively.

Table 9. Area by a Type of Land Use, 1977

(in ha)

Town	Total area	Residential	Farming	Forestry	Public land			Others
					Total	Road	Rail way	
Guri	2,509 (100)	107 (4.3)	1,076 (42.9)	1,022 (40.7)	36 (1.4)	26 (1.0)	10 (0.4)	268 (10.7)
Geumchon	2,378 (100)	93 (3.9)	1,138 (47.9)	1,083 (45.5)	22 (0.9)	9 (0.4)	13 (0.5)	42 (1.8)
Yongin	5,658 (100)	214 (3.8)	1,338 (23.6)	3,877 (68.5)	50 (0.9)	50 (0.9)	—	179 (3.2)
Icheon	2,647 (100)	118 (4.5)	2,119 (80.1)	143 (5.4)	68 (2.6)	67 (2.5)	1 (0.1)	199 (7.5)
Janghoweon	6,090 (100)	112 (1.8)	5,125 (84.2)	312 (5.1)	138 (2.3)	124 (2.0)	14 (0.3)	393 (6.5)
(Average)	3,856 (100)	129 (3.3)	2,159 (56.1)	1,288 (33.4)	63 (1.6)	55 (1.4)	9 (0.2)	217 (5.6)
Total Korea (1973) (000)	9,876 (100)	127 (1.3)	2,241 (22.7)	6,575 (66.6)	82 (0.8)			851 (8.6)

The rural dominant areas of Icheon and Janghoweon have a farming area of more than 80% to total area. The reason why Guri, Geumchon and Yongin consist of a lot of forestry areas stems from the fact that there is a broad area of greenbelt in the surrounding vicinity of Seoul.

Land prices of the case small-towns are various by land use pattern. The average prices per are of the case areas are in a range of 558 to 2,418 dollars in residential area, a range of 1,457 to 7,006 dollars in commercial area, a range of 124 to 403 dollars in cultivated land, and a range of 403 to 930 dollars in factory site (See Table 10). These figures imply that the land of the highest price is a commercial area, the second one is

Table 10. Land Prices by a Type of Land Use, 1976

(in US \$ /are)

Town	Level	Residential area	Commercial area	Cultivated land			Factory site
				Paddy field	Dried field	Perennial plant field	
Guri	High	2,170	2,170	806	372	806	1,240
	Middle	1,860	1,860	372	310	372	930
	Low	1,240	1,550	248	186	248	620
Geumchon	High	5,890	7,440	434	341	—	—
	Middle	4,154	5,580	186	155	—	—
	Low	930	744	124	93	—	—
Yongin	High	620	12,400	620	620	372	620
	Middle	310	6,200	310	372	310	372
	Low	124	1,240	186	124	186	310
Icheon	High	2,480	10,540	248	248	186	—
	Middle	1,240	6,200	186	155	124	—
	Low	310	3,100	124	93	62	—
Janghoweon	High	930	2,480	248	217	124	—
	Middle	620	1,240	186	155	93	—
	Low	186	620	124	93	62	—
(Average)	High	2,418	7,006	403	372	279	930
	Middle	1,643	4,216	248	248	217	682
	Low	558	1,457	155	124	186	403

a residential area and the third one is a factory site.

It is a general trend that the metropolitan shadow regions have higher prices of land than the rural dominant areas. The small-town showing the highest prices in residential area is Geumchon, in commercial area it is Yongin and in cultivated land and factory site it is Guri.

3. Economic Structure and Its Change

(1) Agricultural Production

The cultivated land per farm household of the five small-towns is 4.11ha in 1976, which is about 4.4 times of a national average of 0.94ha. Especially, Guri and Janghoweon show 6.45ha and 9.60ha per farm household, respectively, but Guri has been increased by 2.1% and Janghoweon has been decreased by 20.3% from 1970 to 1976 in per household cultivated land (See Table 11). In general, the small-towns of Gyeonggi Province have been keeping a faster decreasing rate of cultivated land, farm households and per household land than an average of Korea. This means that the rural centers of

Table 11. Change in the Area of Cultivated Land and the Number of Farm Households from 1970 to 1976

Town	Cultivated land (ha)			Farm households (household)			Cultivated land per farm household (ha)		
	1970	1976	Growth rate (70~76) (%)	1970	1976	Growth rate (70~76) (%)	1970	1976	Growth rate (70~76) (%)
Guri	7,962	7,962	0	1,260	1,234	-2.06	6.32	6.45	2.1
Geumchon	2,497	2,497	0	1,040	1,184	13.85	2.40	2.11	-12.1
Yongin	1,336	1,338	0.2	1,371	1,252	-8.68	0.97	1.07	10.3
Icheon	1,053	1,087	3.2	1,194	808	-32.33	0.88	1.34	52.3
Janghoweon	25,150	19,343	-23.1	2,088	2,014	-3.54	12.05	9.60	-20.3
(Average)	7,600	6,445	-15.2	1,391	1,298	-6.70	4.52	4.11	-9.1
Total Korea (000)	2,271*	2,240**	-1.4	2,482	2,379	-4.1	0.92	0.94	2.2

Note: *1971, **1975

Table 12. Number of Farm Households by Size of Cultivated Land and Type of Product, 1976 (in household)

Town	Total number of households	Size of cultivated area				Type of product				
		Less than 0.5ha	0.5ha ~ 1.0ha	1.0ha ~ 3.0ha	3.0ha and over	Paddy field	Dried field	Fruits	Live-stock	Others
Guri	1,234 (100)	337 (27.3)	477 (38.7)	399 (32.3)	21 (1.7)	713 (57.8)	66 (5.3)	29 (2.4)	179 (14.5)	247 (20.0)
Geumchon	1,184 (100)	291 (24.6)	391 (33.0)	469 (39.6)	33 (2.8)	1,007 (85.1)	94 (7.9)	21 (1.8)	17 (1.4)	45 (3.8)
Yongin	1,252 (100)	368 (29.4)	401 (32.0)	483 (38.6)	—	916 (73.2)	219 (17.5)	4 (0.3)	17 (1.4)	96 (7.7)
Icheon	808 (100)	254 (31.4)	308 (38.1)	211 (26.1)	35 (4.3)	624 (77.2)	76 (9.4)	12 (1.5)	17 (2.1)	79 (9.8)
Janghoweon	2,014 (100)	491 (24.4)	520 (35.8)	857 (42.6)	146 (7.2)	1,760 (87.4)	52 (2.6)	130 (6.5)	15 (0.7)	57 (2.8)
(Average)	1,298 (100)	348 (26.8)	419 (32.3)	484 (37.3)	47 (3.6)	1,004 (77.3)	101 (7.8)	39 (3.0)	49 (3.8)	105 (8.1)
Total Korea (1975) (000)	2,379 (100)	785 (33.0)	828 (34.8)	730 (30.7)	36 (1.5)	1,745 (73.3)	380 (16.0)	49 (2.1)	13 (0.6)	192 (8.0)

Gyeonggi Province are transferred into non-agricultural activities more fastly than the rest of Korea.

Table 12 gives such information that around 60% of farm households are petty farmers holding less than one ha cultivated land, and more than 70% of farmers are engaged in paddy fields. The case towns are peculiar in a sense that their farmers in livestock breeding activity are relatively much more than national average, and that their dried field activity is weaker than other regions.

Table 13. Amount of Farming Products by Crop in 1970 and 1976 (in M/T)

Year	Town	Total	Rice	Barley & wheat	Misce. cereals	Pulses	Potatoes	Vegetables	Fruits	Special crops
1970	Guri	11,231 (100)	1,186 (10.6)	8,500 (75.7)	3 (0)	4 (0)	4 (0)	1,469 (13.1)	56 (0.5)	9 (0.1)
	Geumchon	4,865 (100)	2,612 (53.7)	150 (3.1)	3 (0.1)	10 (0.2)	172 (3.5)	1,877 (38.6)	29 (0.6)	12 (0.2)
	Yongin	6,793 (100)	3,329 (49.0)	729 (10.7)	6 (0.1)	272 (4.0)	233 (3.4)	2,127 (31.3)	65 (1.0)	32 (0.5)
	Icheon	6,190 (100)	2,576 (41.6)	259 (4.3)	2 (0)	155 (2.5)	8 (0.1)	3,063 (49.5)	113 (1.8)	14 (0.2)
	Janghweon	12,881 (100)	5,488 (42.6)	496 (3.9)	19 (0.1)	240 (1.9)	1,551 (12.0)	3,435 (26.7)	1,627 (12.6)	25 (0.2)
	(Average)	8,392 (100)	3,038 (36.2)	2,027 (24.2)	7 (0.1)	136 (1.6)	394 (4.7)	2,394 (28.5)	378 (4.5)	18 (0.2)
	Korea (000)	9,955 (100)	3,939 (39.6)	1,820 (18.3)	124 (1.2)	277 (2.8)	783 (7.9)	2,520 (25.3)	423 (4.3)	68 (0.7)
1976	Guri	12,904 (100)	1,757 (13.6)	1,650 (12.8)	4 (0)	84 (0.7)	84 (0.7)	9,222 (71.5)	90 (0.7)	13 (0.1)
	Geumchon	9,408 (100)	3,743 (39.8)	357 (3.8)	5 (0)	12 (0.1)	2,588 (27.5)	2,500 (26.6)	12 (0.1)	191 (2.0)
	Yongin	8,027 (100)	3,182 (39.6)	350 (4.4)	8 (0.1)	246 (3.1)	46 (0.6)	4,082 (50.9)	94 (1.2)	19 (0.2)
	Icheon	7,220 (100)	3,049 (42.2)	234 (3.2)	8 (0.1)	129 (1.8)	118 (1.6)	3,409 (47.2)	249 (3.4)	24 (0.3)
	Janghweon	15,851 (100)	7,020 (44.3)	234 (1.5)	19 (0.1)	400 (2.5)	546 (3.4)	5,159 (32.5)	2,434 (15.4)	39 (0.2)
	(Average)	10,681 (100)	3,750 (35.1)	565 (5.3)	9 (0.1)	174 (1.6)	676 (6.3)	4,874 (45.6)	576 (5.4)	57 (0.5)
	Korea (000)	11,301 (100)	4,669 (41.3)	1,806 (16.0)	94 (0.8)	363 (3.2)	740 (6.6)	2,911 (25.8)	644 (5.7)	73 (0.6)

From Table 13, we can draw some characteristics on farming products. The crops which have been increased in production during 1970 and 1976 are rice, pulses, vegetables, potatoes and fruits. Only barley and wheat have been greatly decreased in their production. An increasing rate of vegetable production is higher than any other crops. In 1970, the ratio of vegetables in a total amount of the case towns products was 28.5%, the next to rice production, and it was increased to 45.6% in 1976, the first among all kinds of crops. Especially, Guri shows a remarkable growth of vegetables. Most of vegetable products flow into Seoul for consumption.

In terms of a marginal productivity of cultivated land, the case small-towns are about one-fourth of total Korea on average. In 1970 and 1976, the amounts of farming products per cultivated land are 1,104kg/ha and 1,657kg/ha respectively in the case towns, while they are 4,333kg/ha and 5,046kg/ha respectively in the case of total Korea (See Table

14). Only Yongin and Icheon have a higher marginal productivity of land than national average.

Table 14. Amount of Farming Products per Cultivated Land and per Farm Household

Town	Per cultivated land (kg/ha)		Per farm household (kg/household)	
	1 9 7 0	1 9 7 6	1 9 7 0	1 9 7 6
Guri	1,411	1,621	8,913	10,457
Geumchon	1,948	3,768	4,678	7,946
Yongin	5,085	5,999	4,955	6,411
Icheon	5,878	6,642	4,515	8,936
Janghoweon	512	819	6,169	7,870
(Average)	1,104	1,657	6,033	8,229
Total Korea	4,333	5,046*	4,009	4,750*

Note: *1975

Table 15. Change in the Number of Manufacturing Firms, 1970-76

Town	Year	Total	Food, beverage & tobacco	Textile, wearing apparel & leather	Wood & wood product	Paper & printing	Chemicals, petroleum, coal, rubber & plastic product	Non-metallic mineral product	Basic metal	Fabricated metal product	Others
Guri	1 9 7 0 (A)	22	—	6	4	—	3	—	—	6	3
	1 9 7 6 (B)	71	4	18	12	1	13	1	—	15	7
	B-A	49	4	12	8	1	10	1	—	9	4
Geumchon	1 9 7 0 (A)	1	1	—	—	—	—	—	—	—	—
	1 9 7 6 (B)	8	2	2	1	—	2	—	—	—	1
	B-A	7	1	2	1	—	2	—	—	—	1
Yongin	1 9 7 0 (A)	6	—	—	3	2	1	—	—	—	—
	1 9 7 6 (B)	30	—	2	3	5	1	—	—	—	19
	B-A	24	—	2	0	3	0	—	—	—	19
Icheon	1 9 7 0 (A)	5	—	—	3	2	—	—	—	—	—
	1 9 7 6 (B)	6	—	—	3	3	—	—	—	—	—
	B-A	1	—	—	0	1	—	—	—	—	—
Janghoweon	1 9 7 0 (A)	—	—	—	—	—	—	—	—	—	—
	1 9 7 6 (B)	2	—	—	—	—	—	—	—	—	2
	B-A	2	—	—	—	—	—	—	—	—	2
(Average)	1 9 7 0 (A)	6.8	0.2	1.2	2.0	0.8	0.8	—	—	1.2	0.6
	1 9 7 6 (B)	23.4	1.2	4.4	3.8	1.8	3.2	0.2	—	3.0	5.8
	B-A	16.6	1.0	3.2	1.8	1.0	2.4	0.2	—	1.8	5.2

In contrast to farming production per cultivated land, an amount of farming production per farm household of the case small-towns is higher than an average of total Korea. Its growth rate of every small-town is very high during 1970 and 1976.

(2) Change of Manufacturing and Service Firms

The metropolitan shadow regions, Guri and Geumchon, contain various manufacturing firms. However, the rural dominant regions, Icheon and Janghoweon, have a few and very simple firms. As of 1976, each small-town has 23.4 firms on average. Among them, the number of firms manufacturing a sort of textile is 4.4, of wood product is 3.8, of chemicals is 3.2 and of metal product is 3.0 in each town on average (See Table 15). An increasing rate of the number of manufacturing firms is higher in the metropolitan shadow and balanced rural-urban regions than the rural dominant regions.

On the other hand, the average number of service firms per small-town has been increased by 2.25 times during the six years from 1970 to 1976. As shown in Table 16,

Table 16. Change in the Number of Service Firms, 1970~76

Town	Year	Total	Construction	Wholesale	Retail	Banking & insurance	Transportation & communication	Electricity, water service & gas	Others
Guri	1970	171 (100)	—	12	135	—	—	—	24
	1976	1,184 (692)	—	436	556	—	—	26	166
Geumchon	1970	320 (100)	16	35	161	—	104	4	—
	1976	413 (131)	39	87	97	4	167	24	—
Yongin	1970	298 (100)	11	22	209	35	2	—	19
	1976	645 (216)	10	16	557	18	8	—	36
Icheon	1970	323 (100)	21	16	286	65	—	—	—
	1976	471 (146)	72	28	371	82	108	3	21
Janghoweon	1970	309 (100)	—	25	235	14	31	—	4
	1976	474 (153)	—	23	380	28	39	—	4
(Average)	1970	284 (100)	10 (100)	22 (100)	205 (100)	23 (100)	27 (100)	1 (100)	9 (100)
	1976	638 (225)	24 (240)	118 (536)	393 (192)	26 (113)	64 (237)	11 (1,100)	45 (500)

Table 17. Annual Per Household Income of Farmers by Source (in US \$)

Town	Source	1 9 7 0	1 9 7 3	1 9 7 5	1 9 7 6
Guri	Farming	547(46.3)	584(34.9)	624(32.2)	658(31.0)
	Non-farming	633(53.7)	1,088(65.1)	1,310(67.7)	1,468(69.0)
	Total	1,180 (100)	1,672 (100)	1,934 (100)	2,126 (100)
Geumchon	Farming	940(69.1)	1,080(58.7)	1,080(55.1)	1,180(59.0)
	Non-farming	420(30.9)	760(41.3)	880(44.9)	820(41.0)
	Total	1,360 (100)	1,840 (100)	1,960 (100)	2,000 (100)
Yongin	Farming	—	98(27.5)	162(29.6)	354(41.4)
	Non-farming	—	258(72.5)	386(70.4)	502(58.6)
	Total	—	356 (100)	548 (100)	856 (100)
Icheon	Farming	952(98.6)	1,536(96.8)	1,982(95.6)	2,174(94.4)
	Non-farming	14 (1.4)	50 (3.2)	92 (4.4)	130 (5.6)
	Total	966 (100)	1,586 (100)	2,074 (100)	2,304 (100)
Janghoweon	Farming	1,705(84.0)	2,040(80.0)	2,100(78.2)	2,084(73.0)
	Non-farming	325(16.0)	510(20.0)	584(21.8)	770(27.0)
	Total	2,030 (100)	2,550 (100)	2,684 (100)	2,854 (100)
(Average)	Farming	1,036(74.9)	1,068(66.7)	1,190(64.7)	1,290(63.6)
	Non-farming	348(25.1)	533(33.3)	650(35.3)	738(36.4)
	Total	1,384 (100)	1,601 (100)	1,840 (100)	2,028 (100)
Korea	Farming	496(78.2)	960(82.3)	1,782(82.6)	
	Non-farming	138(21.8)	206(17.7)	376(17.4)	
	Total	634 (100)	1,166 (100)	2,158 (100)	

the kind of the highest growth rate in number during the same period is electricity, water service and gas, the next one is wholesale, and the third one is construction. Among the five case small-towns, Guri is the fastest growth town in a number of service firms 171 in 1970 to 1,184 in 1976. Guri and Yongin are becoming stronger service towns as showing a change from a satellite town of Seoul and a rural service center, respectively.

(3) Income of Farm Households

The annual income per household of the case towns' farmers has been grown from 1,384 dollars to 2,028 dollars during 1970 and 1976 on average (See Table 17). Guri, Yongin and Icheon are relatively high in a growth rate of annual per household income of farmers.

It is a remarkable trend that a growth rate of non-farming income is higher than farming income. The ratio of per household non-farming income in total income was 25.1% in 1970, but it was increased to 36.4% in 1976. Especially, Guri and Yongin

show a higher proportion of non-farming income in total income than farming income. It is a general trend that an amount of non-farming income is more than one of farming income in the metropolitan shadow and balanced rural-urban regions.

It is noted that non-farming income per household of Korea is 20% of total income in

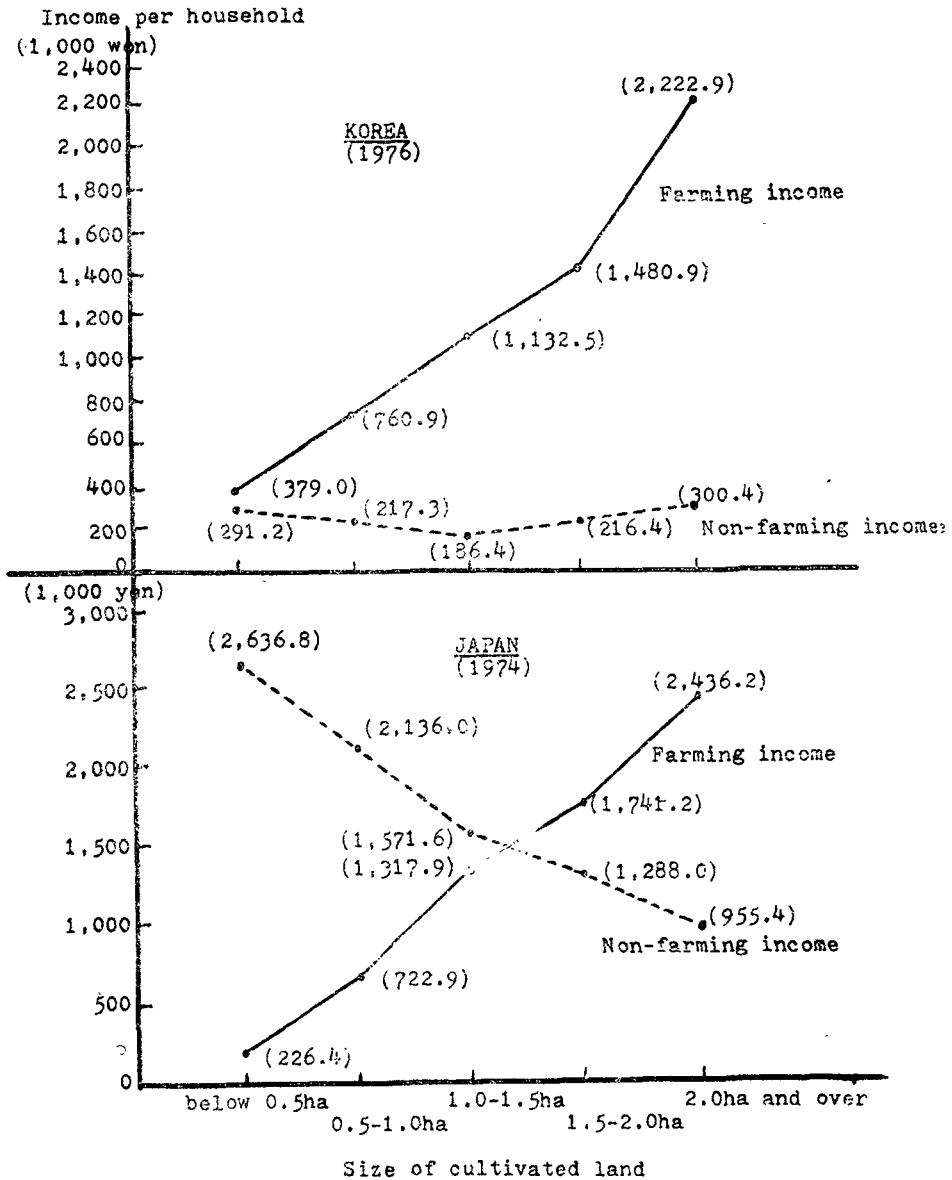


Fig. 2. Income Structure by Cultivated Land Size, Korea and Japan

Table 18. Income of Farmers Per Household by Source, Korea and Japan
(in thousand yen per household)

Country	Year	Total income	Farming income	Non-farming income			
				Total	Wages	Side business	Others
Korea*	1 9 6 2	213.5 (100)	169.9 (79.6)	43.6 (20.4)	20.1 (9.4)	8.2 (3.8)	15.3 (7.2)
	1 9 7 6	385.2 (100)	308.3 (80.0)	76.9 (20.0)	37.1 (9.6)	9.5 (2.5)	30.3 (7.9)
	Annual growth rate(%)	4.9	5.2	4.3	4.8	2.9	5.6
Japan	1 9 7 4	2,945.9 (100)	923.0 (31.3)	2,022.9 (68.7)	1,757.1 (59.7)	124.5 (4.2)	141.3 (4.8)

Note: *Constant market price based in 1970.

Source: Jil-Hyeun Lee, *Economic Growth and Farmers' Income*, Paper for the Conference of Gyeonggi Provincial Evaluation Professors Committee, September 21, 1977, mimeographed.

1976, and it is 68.7% in Japan (See Table 18). In Japan, the less the size of cultivated land a farm household has, the less the farming income and the more the non-farming income of farm household. Figure 2 shows that a size of cultivated land is proportional to an amount of farming income, and reversely proportional to one of non-farming income in Japan. However, the Korean situation is different from Japan. That is, Korea shows that a size of cultivated land is proportional to an amount of farming income, but it is parallel to one of non-farming income. Therefore, it should be an important policy of rural development to make rural farmers to increase non-farming income in Korea.

(4) Annual Budget of Town Government

In 1976, the average amount of annual budget per small-town is 154,500 dollars in a sum of general and special accounts. Direct investments from county, provincial and central governments are excluded in this amount of town budget. During the six years from 1970 to 1976, the growth rate of annual budget was 433.2% on average (See Table

Table 19. Annual Amount of Town Budget, Sum of General and Special Accounts, 1970~76
(in thousand US \$)

Town	1970	1971	1972	1973	1974	1975	1976	Growth rate (1970~76) (%)	
								Budget	Population
Guri	25.5	23.1	27.2	62.0	101.1	104.1	154.9	507.2	90.9
Geumchon	18.5	26.4	32.4	36.2	41.3	61.6	101.4	448.1	-0.2
Yongin	28.0	35.0	49.3	52.1	55.0	110.7	132.4	373.8	63.0
Icheon	48.2	50.1	92.0	115.4	100.8	163.3	216.4	349.0	24.6
Janghweon	24.7	32.9	44.5	41.3	61.8	130.2	167.3	576.8	4.3
(Average)	29.0	33.5	49.1	61.4	72.0	114.0	154.5	433.2	39.6

Table 20. Housing Conditions, 1976

Town	Number of households	Number of existing houses	Construction year				Housing shortage	
			Prior to 1944	1945~60	1961~70	After 1971	Number	Ratio (%)
Guri	11,212	4,978 (100)	725 (14.6)	896 (18.0)	1,174 (23.6)	2,183 (43.8)	6,234	55.6
Geumchon	4,310	3,288 (100)	656 (20.0)	899 (27.3)	905 (27.5)	828 (25.2)	1,022	23.7
Yongin	4,195	2,601 (100)	1,125 (43.2)	571 (22.0)	275 (10.6)	630 (24.2)	1,594	38.0
Icheon	4,316	3,912 (100)	1,748 (44.7)	600 (15.3)	748 (19.1)	816 (20.9)	404	9.4
Janghoweon	3,329	2,873 (100)	1,210 (42.1)	954 (33.2)	380 (13.2)	329 (11.5)	456	13.7
(Average)	5,472	3,530 (100)	1,093 (31.0)	784 (22.2)	696 (19.7)	957 (27.1)	1,942	35.8

Table 21. Ratio of Housing Shortage, Korea

(in %)

Area	1 9 6 0	1 9 7 0	1 9 7 5
Total Korea	20.9	20.7	29.1
Total cities	37.9	43.6	46.3
Total counties	14.0	9.6	11.9

Source: Calculated from *National Report of Population and Housing Census* (Economic Planning Board, Republic of Korea, 1961, 1971 and 1976).

19). Guri, Geumchon and Janghoweon show a relatively high growth rate of budget.

It is clear that growth rate of towns' budget is much higher than the growth rate of towns' population.

4. Facilities and Utilities

(1) Housing and Water Supply Conditions

The ratio of housing shortage is very high in the case small-towns. As shown in Table 20 and Table 21, the average ratio of the five small-towns is 35.8% in 1976, while the ratio of Korea is 29.1% in 1975. Guri, Geumchon and Yongin as metropolitan shadow and balanced rural-urban regions have a worse situation on housing condition. In the case of Guri, more than half of all households are living in rent houses. Although the rural dominant regions such as Icheon and Janghoweon have a relatively weak problem on housing shortage. And the most of houses in these towns are old ones.

A level of water supply service is very low in the small-towns. As shown in Table 22, the average population ratio of water supply in the three case towns is only 27.9% of the subject population for water supply in 1977, and the ratio of Korea is 73.5%. In

Table 22. Piped Water Supply, 1977

Town	Subject population for water supply A	Population being supplied with water B	B/A (%)	Production capacity per day (ton)	Water supply per person a day (liter)
Guri	27,226	6,479	44.0	3,000	60
Geumchon	19,922	5,332	23.3	1,778	71
Icheon	17,605	6,250	36.0	750	105
(Average)	21,584	6,020	27.9	2,843	79
Total Korea (1975) (000)	20,350	14,961	73.5	3,841 (cubic meter)	216

addition, the amount of water supply per person a day is 79 liter, about one-third of the average of Korea.

(2) Medical Facilities

Table 23. Distribution of Medical Facilities, 1976

Town	Total number	Hospital and clinic				Dental clinic	Herb clinic	Dis-pensary	Sanitaria	Mid-wife	Health center
		Total	General hospital	Hospital	Clinic						
Guri	16	4	—	—	4	2	9	1	—	1	—
Geumchon	15	5	—	1	4	2	2	4	1	—	1
Yongin	7	4	—	—	4	1	1	—	—	—	—
Icheon	13	7	—	1	6	1	2	—	—	2	1
Janghoweon	6	2	—	—	2	1	2	—	—	—	1
(Average)	11	4	—	0.4	4	1	3	1	0.2	0.6	0.8
Population per facility											
• 5 towns	2,442	6,326	—	69,589	6,959	19,883	8,699	27,836	139,178	46,393	34,795
• Korea (1975)	3,050	5,549	938,081	264,954	5,702	21,505	14,590	170,980	8,677,250	47,743	175,300

Table 24. Number of Licenced Medical Personnel, 1977

Town	Number of medical personnel							Number per 10,000 residents						
	Total	Phys.	Dent.	Herb.	Mid.	Nur.	Pha.	Total	Phys.	Dent.	Herb.	Mid.	Nur.	Pha.
Guri	60	10	2	9	1	11	17	11.3	1.9	0.4	1.7	0.2	2.0	3.0
Geumchon	40	12	2	2	—	16	8	20.0	6.0	1.0	1.1	—	8.0	4.0
Yongin	25	4	1	1	1	8	10	11.4	1.7	0.2	0.2	0.2	3.5	4.4
Icheon	51	11	1	2	2	23	12	22.0	5.0	0.4	0.9	0.9	10.0	5.2
Janghoweon	16	2	1	2	—	9	3	9.0	1.0	0.8	1.1	—	5.0	1.7
(Average)	38	8	1	3	1	13	10	15.0	3.0	0.6	1.1	0.3	6.0	4.0
Total Korea (1975)	69,338	16,800	2,595	2,788	23,632	3,773	19,750	20.0	4.8	0.7	0.8	6.8	1.1	5.7

Note: Phys. = Physician, Dent. = Dentist, Herb. = Herb doctor, Mid. = Midwife, Nur. = Nurse, Pha. = Pharmacist

Tables 23 and 24 indicate that the case small-towns do not have a satisfactory number of medical facilities. No general hospital, two hospitals and one sanatoria exist in the five small-towns. The average number of physicians per 10,000 residents is only three persons in the case towns, but it is 4.8 persons in the average of Korea.

The worst town in medical facility is Janghoweon. There are two clinics, one dental clinic, two herb clinics and one health center in Janghoweon. In this town, only two physicians are working. Considering the isolation of Janghoweon far from cities, its medical conditions should be promptly promoted. This is one relevant way which could hold local residents in towns.

(3) Transportation and Communication Utilities

Transportation road conditions of small-towns are not enough. The roads of the five case towns are paved by 25.8% on average; 53.8% within CBD and 19.4% outside CBD. Especially, such rural dominant areas as Icheon and Janghoweon are worse in road condition (See Table 25).

Table 25, Transportation Road, 1976

(in km)

Town	Total				Within town CBD				Outside town CBD			
	Total	Paved	Gra-veled	Unre-paired	Total	Paved	Gra-veled	Unre-paired	Total	Paved	Gra-veled	Unre-paired
Guri	25	9	16	—	4	3	1	—	21	6	15	—
%	100	36.0	94.0		100	75.0	25.0		100	28.6	71.4	
Geumchon	24	6	7	11	2	2	—	—	22	5	6	11
%	100	25.0	29.2	45.8	100	100.0			100	22.7	27.3	50.0
Yongin	33	14	19	—	15	7	8	—	18	7	11	—
%	100	42.4	57.6		100	46.7	53.3		100	38.9	61.1	
Icheon	13	1	12	—	1	1	—	—	12	—	12	—
%	100	7.7	92.3		100	100.0			100		100.0	
Janghoweon	25	1	1	23	4	1	3	—	20	—	20	—
%	100	4.0	4.0	92.0	100	25.0	75.0		100		100.0	
(Average)	24	6.2	11.0	6.8	5.2	2.8	2.4	—	18.6	3.6	12.8	2.2
%	100	25.8	45.9	28.3	100	53.8	46.2		100	19.4	68.8	11.8
Total Korea (1975) (000)	45	10	31	4								
%	100	22.3	69.7	8.0								

The telephone and post services of small-towns are under the national average. As we see in Table 26, the numbers of telephones per 100 residents of the case small-towns and Korea are 3.6 and 4.0 on average, respectively, and the per postbox population of the case towns and Korea are 2,320 and 1,746, respectively.

On the other hand, the communication frequency of the case towns is very high. The number of mails received per person is 88 in the five small-towns and 20 in Korea, and

Table 26. Number of Telephones and Post Boxes, 1977

Town	Telephone			Post box	
	Number of telephones	Type	Number of phones per 100 residents	Number of post boxes	Population per box
Guri	630	magnetic	1.5	15	3,571
Geumchon	1,141	common battery	5.5	4	5,405
Yongin	1,169	automatic	1.9	16	1,409
Icheon	1,307	automatic	6.0	21	1,104
Janghweon	425	magnetic	3.2	4	4,566
(Average)	934		3.6	12	2,320
Total Korea (1975)	1,400,103		4.0	19,880	1,746

Table 27. Communication Utilization, Jan. 1-Dec. 31, 1976

Town	Number of mail matters received				Number of internal long distance calls	Per capita	
	Total	Ordinary	Registered	Parcel		Mails received	Long distance calls
Guri	618,727	588,241	27,402	3,084	398,208	12	7.4
Geumchon	484,725	455,320	27,270	2,135	340,000	22	15.7
Yongin	8,551,390	8,499,951	49,369	2,073	487,346	379	21.6
Icheon	2,169,946	2,092,554	70,657	6,735	568,341	94	24.5
Janghweon	365,752	350,371	14,391	990	150,115	20	8.2
(Average)	2,438,108	2,397,287	37,817	3,003	388,802	88	14.0
Total Korea (1975) (000)	709,074	658,443	44,954	5,677	209,568	20	6.0

the number of long distance calls per person is 14 in the small-towns and 6 in Korea during the year of 1976. The reasons why Guri and Janghweon are very low in communication frequency are different each other. Many residents of Guri do not need mailing and long distance calling to Seoul, because they are commuting to Seoul, and Janghweon

Table 28. Cultural Facilities and Mass Media, 1977

Town	Number of public information office	Number of cinema	Number of wedding place	Library		Mass media					
						Number			Per 100 persons		
				No.	Books	Total	Radio	T.V.	Total	Radio	T.V.
Guri	—	1	1	1	1,500	14,563	9,798	4,765	27.2	18.3	8.9
Geumchon	1	1	2	2	4,174	6,183	4,137	2,046	28.6	19.1	9.5
Yongin	1	1	2	3	7,475	4,537	3,146	1,391	20.2	14.0	6.2
Icheon	1	1	2	1	19,469	5,081	3,753	1,328	21.9	16.2	5.7
Janghweon	—	1	1	—	—	3,630	2,717	913	19.8	14.8	5.0
(Average)	0.6	1	1.6	1.6	6,524	6,799	4,710	2,089	24.5	17.0	7.5

is low in communication frequency, because the spatial circle of the residents' activities is narrowly closed.

(4) Cultural Facilities

From Table 28, it is identified that every small town has one cinema and one or two

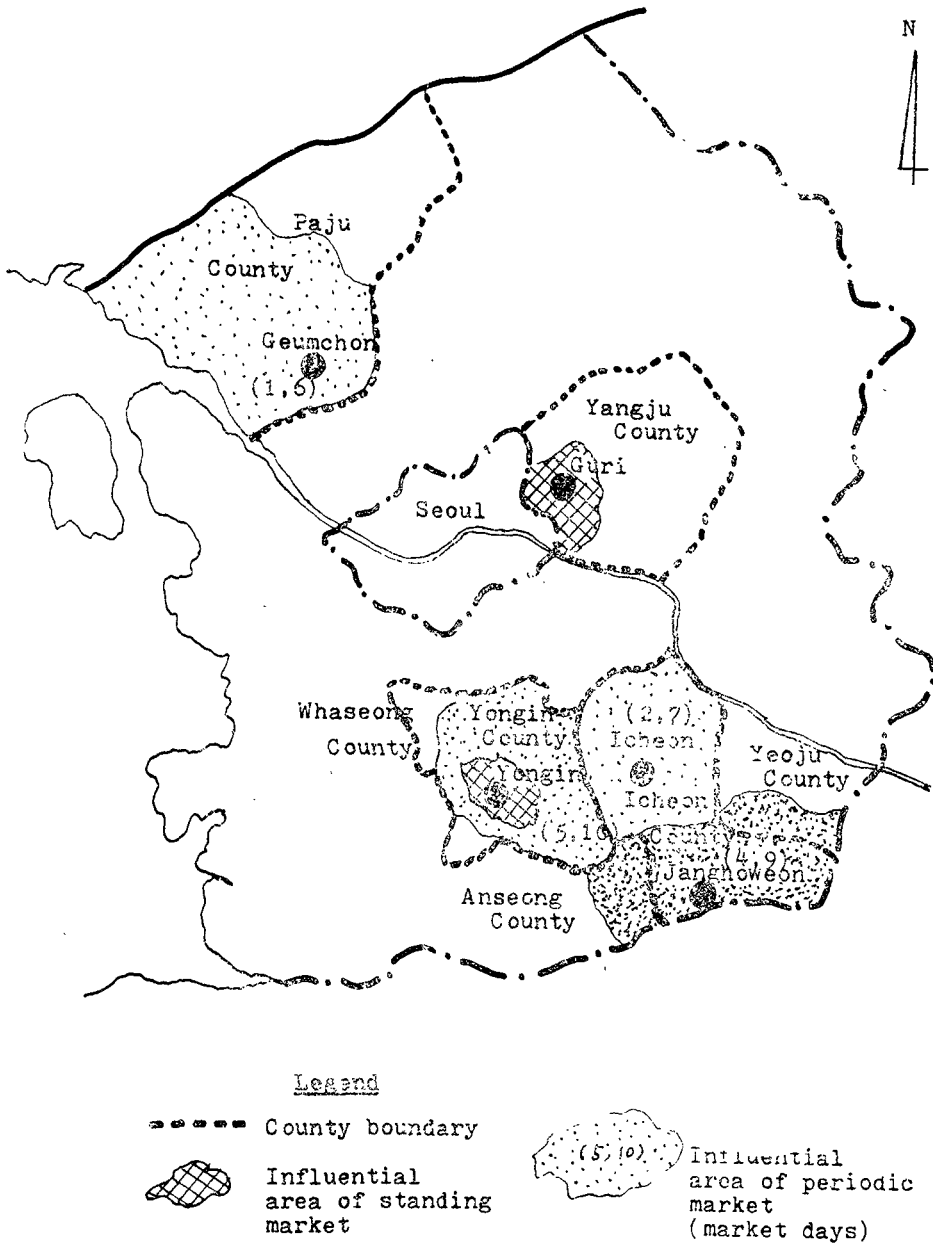


Fig. 3. Residential Distribution of Market Users, 1977.

wedding places. One or three libraries are used in each small-town with an exception of Janghoweon. Janghoweon requires not only library, but public information office. The collection of library books in every small-town is a very bad status.

In terms of mass media, small-towns show a relatively better situation than any other condition. The number of radio and television sets is at the rate of one set per household. The rate of metropolitan shadow regions is higher than the rate of rural dominant towns.

5. Relations with Other Regions

The first object to be seen is a market influential circle. Figure 3 illustrates the residential distribution area of persons who use each town's market.

Guri and Yongin have their own standing market, and the four small-towns excluding Guri have their periodic markets which are five day interval markets. The users of a standing market are the residents who are living in a small-town, and the users of a periodic market come over a town boundary. It is peculiar that the periodic market of Janghoweon has a coverage of users in the southern area of Icheon County and the partial areas of the two counties of Yeosu and Anseong. The average number of users of a periodic market is almost 100,000 persons. The closer to Seoul, the narrower the market influential circle of the small-town.

Table 29. Residential Distribution of Medical Facility Users, 1977

(in person)

Town	Number of users	Residents in town				Residents outside town
		Within 1km	1km~2km	2km~4km	Over 4km	
Guri	67,870(100)	25,791(38.0)	14,931(22.0)	6,108 (9.0)	4,073 (6.0)	16,967(25.0)
Geumchon	32,321(100)	4,137(12.8)	2,585 (8.0)	2,068 (6.4)	1,553 (4.8)	21,978(68.0)
Yongin	5,605(100)	561(10.0)	527 (9.4)	547 (9.8)	205 (3.7)	3,765(67.1)
Icheon	10,028(100)	3,454(34.5)	142 (1.4)	522 (5.2)	173 (1.7)	5,737(57.2)
Janghoweon	6,368(100)	1,188(18.7)	370 (5.8)	479 (7.5)	1,309(20.6)	3,022(47.4)
(Average)	24,410(100)	7,027(28.8)	3,711(15.2)	1,945 (8.0)	1,463 (6.9)	10,294(42.1)

The second object is residential distribution of medical facility users. From Table 29, we can easily find the fact that the 42.1% of users of the small-town's medical facilities are living outside the town's boundary on average. The rural dominant towns have more comers from other areas for using their medical facilities than the metropolitan shadow towns.

The third object of inter-regional relations is the number of the town's students enrolled at other regions' school. This is an aspect of town's dependency, while the

Table 30. Number of the Case Town's Students Enrolled at Other Regions' School, 1977
(in person)

Town	Total	Primary school	Middle school	High school	Regions enrolled
Guri	993	24	650	319	Seoul, Yangju
Geumchon	350	19	156	175	Seoul, Incheon
Yongin	91	—	—	91	Suweon
Icheon	—	—	—	—	
Janghoweon	36	7	9	20	Yeoju, Eumseong
Total	1,470	50	815	605	

above two objects are the aspects of town's independency. Table 30 shows that the metropolitan shadow regions have a more strong dependency on other regions than the rural dominant regions in student enrollment, and that the higher level of school shows a more strong dependency than the lower level of school.

IV. NEW DIMENSION OF SMALL-TOWN DEVELOPMENT

1. Goals of Small-Town Development

The majority of small-towns in Korea has been on the status of stagnancy or under-development because of a high growth of big cities and a depression of development on small-town itself. As shown already in the analysis of the case areas, necessary infrastructure and facilities are not relevant for a daily life of residents in small-towns, although the residents' income has been increased so far.

The main goals of small-town development should be put on their focus on the following three directions:

First, small-towns should be developed in order to provide a balanced growth of national space through an increase of local residents' income, especially non-farming income, and by a supply of facilities being necessary for daily life.

Second, small-towns should have and fully carry out a pivotal function of rural areas, a growth pole function for regional development, a nodal function of regional economic activities, and a bridging function between urban and rural areas.

Third, each of small-towns should be developed to an agropolitan area with self-sufficiency in economic, social and public activities by strengthening economic bases and by providing a termination circle of life in a town.

Two short-term problems for achieving these three goals would be a solution of utility shortage and an expansion of employment opportunity. The shortages of housing, educa-

tion, culture and welfare facilities encourage local residents to leave their home towns for big cities, and discourage their will of town development and their desire for fixing themselves in their home towns. Therefore, at least a minimum level of facilities for their life and children education should be guaranteed.

As we knew already from the findings of the former analysis, the cultivated land of small-towns is very small-towns in comparing with population. Since farming income has a limit in its growth, non-farming income should be increased. For this, non-farming activities should be encouraged in small-towns.

2. Preconditions for Planning of Gyeonggi Small-Town Development

The development plan of Gyeonggi small-towns should be built under given preconditions. The important preconditions would be the national policies for a reduction of Seoul and the provincial plan of Gyeonggi development.

As the national policies for a control of Seoul growth, there are the Seoul Metropolitan population redistribution plan, the five growth poles development plan, a new capital program and the industrial relocation act, which are on acting or under planning.

The fundamental direction of Gyeonggi Province for its future development is that a negative development policy would be applied to the northern area of the province over Han River for stabilization, and a positive development policy would be acted in the southern area over Han River for growth. In the northern area, recreational industry, special crops and suburban farming products will be encouraged. The south-eastern area will be developed to a market and suburban farming area and in some towns to recreational centers. The south-western part of Gyeonggi province will be grown by heavy and light industries.

3. Strategies for Development of the Five Small-Towns

(1) Functions

The main directions of development of the five case small-towns would be different each other by individual location and characteristics. The following table shows a desirable direction of each town for the future development.

Table 31. The Future Direction of Small-Town Development: A Proposal

Town	Functional relations with other regions	Countermeasure on population	Key industry
Guri	dependent on and cooperated with Seoul	control of increase	<ul style="list-style-type: none"> • suburban agriculture • service industry • light industry

Geumchon	cooperated with Munsan Town	speeding up increase	<ul style="list-style-type: none"> • suburban agriculture • service industry • light industry • public center of a county
Yongin	cooperated with Suweon City and partly independent	speeding up increase	<ul style="list-style-type: none"> • light industry • agriculture • service industry • public center of a county
Icheon	independent	speeding up increase	<ul style="list-style-type: none"> • market agriculture • education and service industry • light industry • public center of a county
Janghweon	cooperated with Icheon Town and partly independent	speeding up increase	<ul style="list-style-type: none"> • market agriculture • service industry

(2) Market

The market function of small-towns should be strengthened in order to serve to both of town itself and its surrounding area. Necessary facilities should be maintained for each town's market in order to supply market function to the catchment area which is shown in the following table.

Table 32. The Desirable Catchment Area of Small-Town's Market: A Proposal

Town	Span of catchment area		Population in catchment area, as of 1975 (in person)
	Area	Farest distance	
Guri	1 town & 5 townships	15km	95,000
Geumchon	1 town & 5 townships	13km	51,000
Yongin	6 townships	24km	90,000
Icheon	1 town & 9 townships	16km	93,000
Janghweon	1 town & 4 townships	15km	58,000

(3) Population

Population planning is fundamental for an establishment of infrastructure and facility plans. The following population of each small-town was planned under spatial and economic characteristics of town and the national and provincial policies.

Table 33. The Planned Population of Small-Towns, 1981-2001: A Proposal
(in thousand persons)

Town	1 9 7 6	1 9 8 1	1 9 8 6	1 9 9 1	1 9 9 6	2 0 0 1
Guri	54	59	63	65	66	67
Geumchon	22	24	26	29	32	34

Yongin	23	30	38	47	57	66
Icheon	23	31	40	50	65	80
Janghoweon	18	22	27	33	40	46
Total	140	166	194	224	260	293
Average per town	28	33	39	45	52	59

(4) Facility

Every small-town requires many facilities for its residents and hinterland people. Some of them are immediately required and others are necessary in a view of long-term. The following items in the last table are the kind of necessary facilities for each small-town.

Table 34. Additionally Required Facilities of Small-Towns: A Proposal

Town	Immediate requirements	Long-term requirements
Guri	repairing place of agricultural machinery, housing, water supply facility, bus terminal, telephone lines, post boxes, school rooms, medical facility, physical facility, children play ground, road pavement, road widening, middle and high schools, pumping facility, park facility, sewerage system	fire fighting equipments, public market, public information office, wedding place, library, sanitation facility
Geumchon	light industrial site, market for agricultural products, bank branch, expansion of standing market, water supply facility, fire fighting equipments, vehicle maintenance place, post boxes, school rooms, automobile accessories firms, physical facility, children play ground	enlargement of a provincial hospital, sanitarian facility, athletic stadium
Yongin	housing, school rooms, hospital, water supply facility, fire fighting equipments, market expansion, light industrial facility, granary, processing factory of agricultural products, garbage disposal equipments, bus terminal, car washing place, vehicle maintenance place, telephone lines, medical facility, old folks' home, physical facility, children play ground, occupational guidance institute	road pavement, orphanage, athletic stadium
Icheon	expansion of bus terminal, road widening and pavement, expansion of standing market, technical school, processing factory of agricultural products, granary, water supply facility, fire fighting equipments, old folks' home, orphanage, occupational guidance institute, physical facility, children play ground	medical facility (general hospital), athletic stadium
Janghoweon	road widening and pavement, improvement of houses, automatic telephone lines, processing factory of agricultural products, bus terminal, sanitary facility, fire fighting equipments, car washing place, post boxes,	bridge widening, garbage disposal equipments, construction firms, electricity and water/gas service firms

medical facility, automobile accessories firms, library, physical facility, children play ground, granary, light industrial factory (such as Saemaul factory)
