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ISSUES AND PROBLEMS IN PLANNING AND IMPLEMENTING INDUSTRIAL LOCATION POLICIES IN KOREA: A PLANNER'S VIEW

by

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Abstract

The author, an active participant in urban and regional planning in Korea, summarizes the rationale behind the industrial decentralization policies pursued by the Korean government and illustrates key issues encountered by government officials in implementing the policies. Then, using the results of several sample surveys of firms relocated from Seoul the author analyzes the difficulties faced by the firms and draws some lessons from policy planning and implementation experiences.

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I. INTRODUCTION

This paper is intended to provide a realistic look at issues and problems associated with the industrial location policies in the Republic of Korea since the early 1960s. There is a considerable divergence between indsutrial location policy objectives and their implementation. There are also numerous barriers hampering successful implementation: the lack of institutional arrangements for efficient coordination among government bodies, and the failure to perceive the real situations faced by industries. In between, planners tend to encounter an insoluble dilemma.

The study will be divided into three parts. First, the policy objectives to relocate industries will be examined in close relation to those of population decentralization. Some rationales for decentralizing population from Seoul are described in an attempt to identify major policy fields and strategies. The remainder of the first part deals briefly with two aspects of planning efforts for the Seoul Region: decentralization from the region (inter-regional) and deconcentration within the region (intra-regional).

Second, main issues encountered in policy implementation are presented: institutional arrangements and legal provisions for policy implementation are examined; concerning policy instruments, the government emphasis on control measures is evaluated; the difficulties of selecting manufacturing establishments for relocation are illustrated; and finally, the lack of coordination with respect to such issues as zonal differentiation for land use and the treatment of vacated premises is discussed.

Third, as part of a study conducted by Korea Research Institute for Human Settlements (KRIHS, 1984), an ad hoc survey was performed in order to identify critical obstacles which may discourage industries from relocating. The survey results are intended to evaluate various policy instruments implemented and their effectiveness. Both qualitative and quantitative aspects are covered. In addition, the unexpected side-effects of industrial relocation policies are discussed by comparing situations after relocation with those before relocation.

Finally, concluding remarks are made with some policy implications and recommendations. Lessons from past experience should be valuable for future policy work in this area. Implementation of current policies is a beginning of future policy-making and can provide a relevant guidance to future planning activities.

II. BACKDROUP OF POLICY-MAKING

Urban growth, generally speaking, can be observed in terms of its size, speed, and spatial balance. During the last two decades (1960-80) the size of urban population in Korea increased by 15.8 million representing more than the total national population increase over the same period. This fact implies that urban growth was largely accounted for by migration from rural areas.

As shown in Table 1, the so-called urbanization speed was accelerated at a galloping rate of 4.4 percent per annum between 1966-70, accompanied by the rapid economic growth which was initiated by the First Five-Year Economic Development Plan (1962-66). However, rapid urbanization itself does not necessarily raise many spatial policy

TABLE 1. URBANIZATION SPEED IN TERMS OF ANNUAL POPULATION GROWTH RATE

Period	Urban Area(A)	Whole Country(B)	Urbanization Speed (A-B)
1960-66	5.0	2.6	2.4
1966-70	6.3	1.9	4.4
1970-75	5.2	2.0	3.2
1975-80	4.2	1.9	2.3

Source: Economic Planning Board, Population and Housing Census, 1960, 1966, 1975, and 1980.

issues. The policy problems in Korea arise from the speed of population concentration in the national capital, Seoul, leading to a skewed pattern of urbanization. For example, Seoul's share of the national population has increased from 7.3 percent in 1955 to 22.3 percent in 1980. The recent census estimate revealed that the Seoul population had already reached more than 9.5 million in 1984.

What were the underlyng forces to such a phenomenal urbanization process? The government efforts to modernize Korea via industrialization, of course, played a primary role in a remarkable economic growth since the early 1960s. Urbanization in Korea cannot be discussed without considering the rapid expansion of manufacturing sectors, which absorbed the cheap labor of rural immigrants. Historical evidence suggests that industrialization cannot be divorced from urbanization, although the latter proceeds even without the former. In the Korean case, urbanization and industrialization are highly correlated because they go hand-in-hand. Simultaneous urbanization and industrialization led to a high level of concentration of population and economic activities in Seoul. Put it another way, the primate city has functioned as a "development engine" for national economic growth. Ever since 1964, however, the alleviation of population concentration in Seoul has become one of the most controversial policy issues. The national government feared the unfavorable consequences of extreme primacy, and a series of strong measures have been taken to reduce this primacy.

1. Rationale for Population Decentralization from Seoul

Population decentralization policy may be justified on three primary grounds. The first is a regional disparity problem arising from

the uneven distribution of population and economic acitivity. The distorted spatial organization, due to the Seoul's predominance over the national urban system, has undeniably contributed to inter-regional inequality. Table 2 pictures vividly the Seoul's possession of the lion's share of everything, which often causes political problems as non-metropolitan dwellers speak of the "Seoul Republic." For instance, about a quarter of manufacturing firms are located in Seoul. Even when the high density of Korea is taken into account, Koreans believe it appears undesirable to accommodate more than one-fifth of her whole population within a urban area equivalent only to 0.63 percent of the total national land.

The second is the real and imagined diseconomies of the primate city itself, which affects both the internal efficiency of city management and population absortive capacity. Rapid population growth caused many serious urban problems, such as traffic congestion, land speculation, housing shortage and overcrowding, pollution, and infrastructure backlogs. Coupled with municipal financial difficulties, the provision of urban services has continued to be a critical problem.

The third, and sometimes emphasized as the most important, is a growing concern with respect to national defense from a strategical viewpoint. The locaiton of this excessive agglomeration within range of North Korean artillery is very disadvantageous for military security. In a similar vein, spatial concentration of large groups of the low income people is thought to be vulnerable to social turbulence, once ignited by the war.

TABLE 2. CONCENTRATION RATIO IN SEOUL

Ratio *	Indicators	Year	Indicators	Year
1 %	Area size(0.63)	1970	Area size(0.63)	1980
10 %			Value added in manufacturing (18.5)	1980
20 %	Total population(17.6)	1970	Employees in manufacturing(22.1)	1980
			Total population(22.3)	1980
	Number of manufacturing firms(23.7)	1970		
30 %	National wealth(26.3)	1968		
	Gross Regional Product (26.5)	1970	Number of manufacturing firms(24.8)	1980
	Employees in manufacturing (28.2)	1970	Gross Regional Product (29.3)	1980
	Revenues(32.1)	1970		
	Retail and wholesale volume(32.3)	1971	Revenues(33.3)	1978
	Construction workers (32.3)	1976	Mails transaction(33.9)	
			National tax collection(34.2)	1980
35 %	Value added in manufacturing(34.7)		National wealth(34.5)	1977
	Mails transaction (38.1)	1970	Retail and wholesale volume(36.5)	1979
	Urban population(42.4)	1970	Telephone(37.0)	1980
40 %	Telephone(42.9)	1970	Urban population(39.0)	1980
	Employment in finance and insurance(46.6)	1976	Colleges and university students(43.9)	1980
50 %	Automobile(49.9)	1970	Employment in finance and insurance(47.7)	
	National tax(50.1)	1970	Construction workers (56.5)	
	Bank loan(54.4)		Automobile(57.9)	1980
	Bank deposits(63.4)	1970	Bank loan(63.9)	1980
	Colleges and university students(66.6)		Bank deposits(64.9)	1980
70 %	Managerial jobs(77.0)	1975		
90 %			Managerial jobs(81.0)	1979

Note : * Ratio means Seoul's share, comparing with the national total.
Source : Kwon (1983), p. 5.

2. Spatial Redistribution of Jobs and People

National settlements policy, borrowing Richardsons's (1981, p. 267) definition, attempts to change the inter-urban distribution of population, slowing down the growth of some cities and accelerating the growth of others. Attention should be paid to all levels of the national urban hierarchy from the primate city to the smallest market and service centers.

The spatial goals of national settlement policy, however it may be termed as "national urbanization policies," or "national urban development strategies" include:

1) Reducing the primate city's growth;
2) Strengthening the intermediate cities outside the capital region; and
3) Minimizing rural outmigration.

The goals refered to above do not necessarily mean "population redistribution" based solely on migraiton policy because most of other national goals (e.g., economic growth) have spatial implications. Failure to recognize this can result in serious error in policy-making.

As shown in Figure 1, planners in Korea who were concerned with spatial equity principally wanted to influence the distribution of jobs. Population redistribution and migration (hence, the patterns of urbanization) are the result of the creation of new employment opportunities via some mechanisms for locating industries. In this regard, the government policy makers recognized the importance of industrial location, after the successful implementation of the First Five Year Economic Development Plan (1962-66).

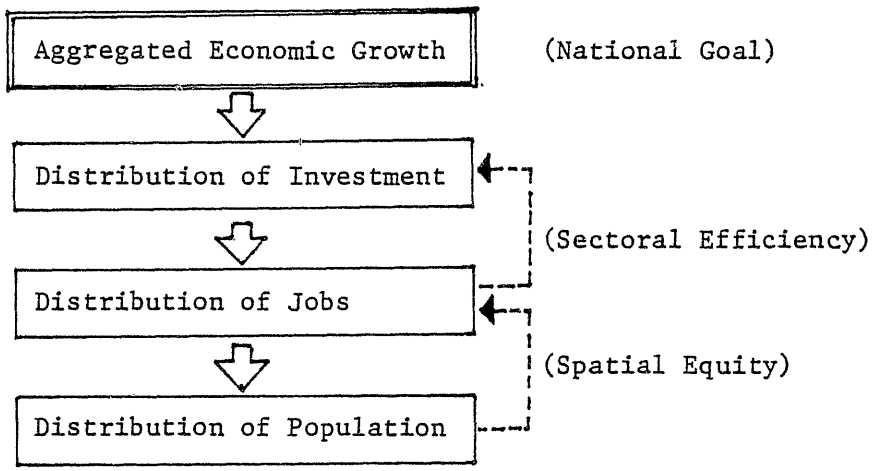


FIGURE 1. REDISTRIBUTION MECHANISM OF JOBS AND PEOPLE

As indicated earlier, control on the relentless growth of the primate city is a balancing leverage for redistributing the national population in Korea, and such a fundamental goal seems self-evident to Koreans. The key to policy formulation for population decentralization is how to reverse the tendency for people to move to Seoul. When population decentralization is an end, then, job availabiliy is inevitably the means. Emphasis was placed on transfering people to dispersed jos available outside of Seoul.

Spatial redistribution of government power was anotehr aspect of the population dispersal policy. Under the government-guided economy of the last two decades, it would be very advantageous to locate close to the central administration. Seoul residents are benefited from a relatively high level of public service provision (e.g., water supply, social, educational, and cultural facilities), compared with other local cities. For political reasons, the government cannot but place emphasis on improving Seoul's infrastructure; one explanation is the size of the influential voices of the power elite residing in the capital city.

Table 3 identifies succinctly the three major policy fields and related goals. Given this conceptual framework (Sundquist 1975, p. 34), four basic approaches have been employed in Korea so as to translate these policy goals into appropriate plans and programs to be implemented:

1) Infrastructure measures;

   - to prepare industrial sites for manufacturing firms moving out of Seoul.

TABLE 3. POLICY FIELDS AND INDENTIFICATION OF GOALS

Aspects	Policy fields	Policy goals
Economic	Industrial Location	Spatial redistribution of economic activities, i.e., jobs
Social/Cultural	Housing and Education	Spatial redistribution of people
Political/ Historical	Administration	Spatial redistribution of government power

2) Incentive measures;

- to provide financial assistance and tax exemptions for relocated firms.

3) Controls and persuasion;

- to discourage fixed capital investment by zoning regulations and other mandates in the major metropolitan areas.

4) Direct action by the government;

- to locate and relocate its own activities, including the expansion projects of state-controlled corporations.

It is noteworthy that only "infrastructure measures" involve physical investment, whereas the others are related to, by and large, non-physical policy measures. These strategic approaches also shed much light on evaluating industrial relocation policy instruments discussed later in Chapter III.

3. Plans for Population Decentralization in the 70's and 80's

The implication of policy-making geared to population decentralization from Seoul leads to the two levels of planning: (1) intra-regional deconcentration and (2) inter-regional decentralization. The former is concerned with a region-wide population dispersal strategy to foster Seoul and its surrounding Gyeonggi Province as a "polycentric urban region." The latter is to stress a nation-wide population accommodation strategy via inter-regional decentralization. From a settlement policy perspective, both aspects of spatial strategies are two sides of the same coin, considering the national migaratory flows. Although this paper deals wtih intra-regional issues, the inter-regional aspects are briefly discussed below.

3.1 Inter-regional Level

Under the legal provision in 1963, the first Comprehensive National Physical Development Plan (1972-81) was prepared by the Ministry of Construction. Its primary goal was to alleviate the regional disparity by counteracting the trends of spatially imbalanced national economic growth. In particular, it carried a number of distinctive policy objectives focused on population decentralization from the Seoul Region. As for planning techniques, it was characterized by the introduction of the concept of planning region, even though its effectiveness remained questionable.

In an evaluative attempt, some positive outcomes of its implementation over this planning period are worth mentioning:

i) Infrastructure provision for industrial development, such as large-scale industrial estates;

ii) Expansion of arterial transportation networks like the Seoul-Busan express way;

iii) Water resource management via construction of multi-purpose dams; and

iv) Establishment of national land use and management system, e.g., designation of greenbelts and national parks.

By contrast, several critical policy failures of its implementation during the 70's can be pointed out as follows:

i) Bipolar urban development at the expense of the intermediate and local cities, i.e., overconcentration of the national population (30.8 percent in 1980) in two biggest cities, Seoul and Busan;

ii) The relative degradation of the quality of life compared with economic growth, i.e., lack of investment on housing, education, medical and other urban services;

iii) Increasing land speculation concomitant with implementing the Plan, i.e., social cost of "windfalls and wipeouts."

To perceive such unresolved planning problems, the newly prepared Second National Comprehensive National Physical Development Plan (1982-91) is accordingly tailored to promoting "growth centers" rather than "growth poles." Instead of growth pole concepts adopted implicitly by promoting new industrial cities over the past 15 years, growth centers are conceived more amenable to the logic of establishing loal "population dams." The basic idea is consistent with the goal of keeping the rural population as large as possible.

By growth center policy, we mean "decentralized concentration strategy" designed to bring about heavy investment on service provision as well as economic infrastructure, utilizing sizable local cities as points of attraction for migrants who otherwise would go to the congested large metropolitan area. The choice of cities was based upon four categories of criteria: economic development potential; centrality and hinterland relations; contributions to inter-regional equity; and political acceptability.

Among 15 designated cities, population size varied from 50,000 to more than one million. One constraint that does not limit them to the intermediate size is that each province insisted on having at least two growth centers within its boundary. The largest three cities, Daegu, Kwangju, and Daejun were selected to serve as the primary centers, while the remainder as the secondary centers. The former are

expected to follow up the present level of Seoul's service funciton; it means to accommodate some portion of dispersed "central mangerial functions" from the Seoul Region. The latter will be stimulated to play a substantive role as employment and service centers, but with a lower priority in the first half of the planning period (1982-86).

It is notable in Figure 2 that more than half of nominated centers were located in the four depressed provinces (Kwangwon, Chungbuk, Jeonbuk, and Jeonname), which virtually showed absolute decline in population during the last ten years (1970-80). Emphasis on such strategic formation of growth centers, against the traditional Seoul-Busan development corridor, is regarded as the policy objective of the future balanced spatial development (i.e., "X" pattern consist of two axes) in Korea.

Planning measures for implementing growth center policy, inter alia, should include:

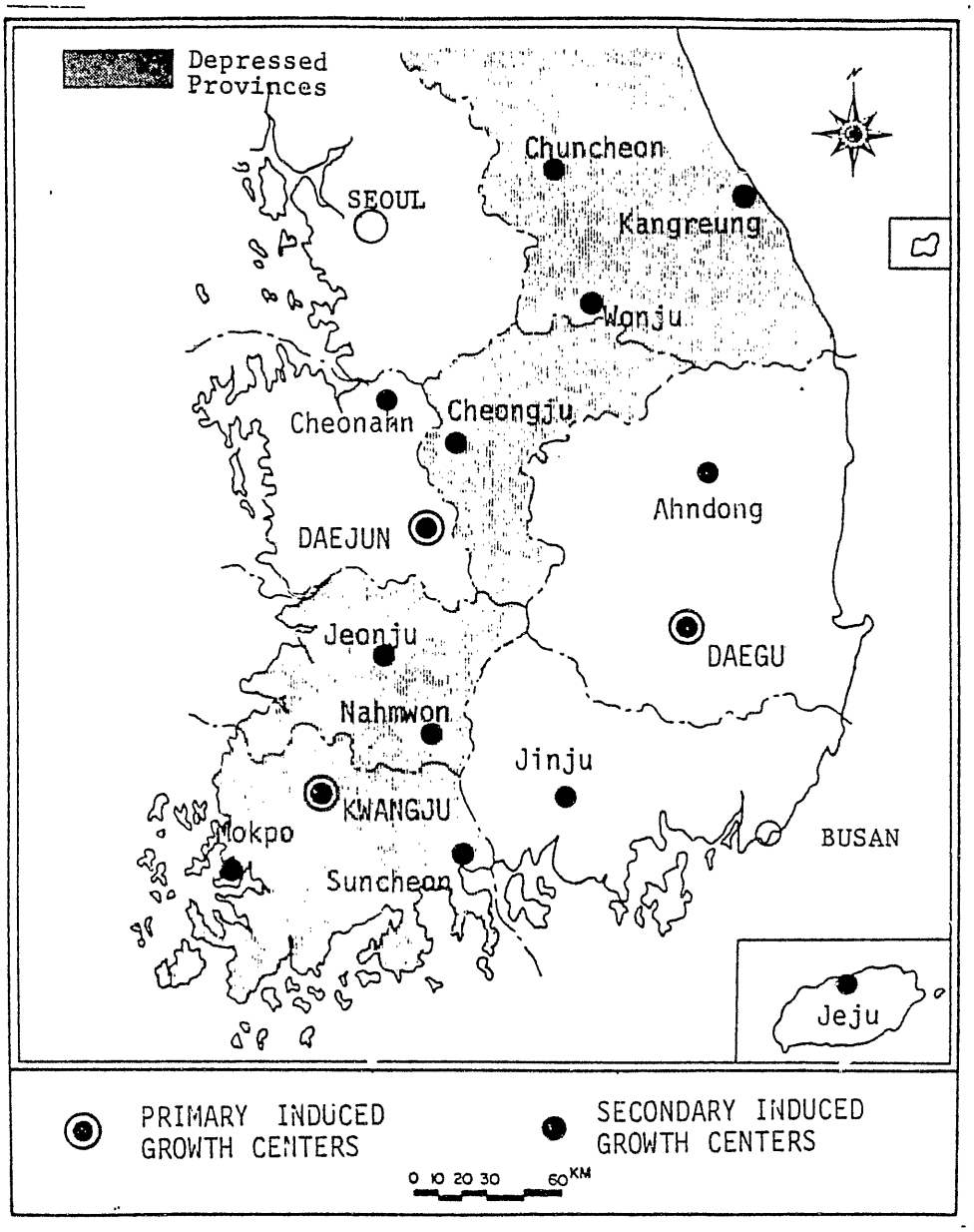
(1) Incentives for inducing labor-intensive manufacturing establishments, e.g., expansion of local industrial estates and tax exemption facilities;

(2) Priorities on site provision for relocated universities and research organizations from Seoul;

(3) Improving transportation networks among growth centers, and between each growth center and its hinterland;

(4) Considerable delegation of administrative power to localities; and

(5) Enactment of "Growth Center Promotion Law" to finance its implementation.



Source: The Second Comprehensive National Physical Development Plan(1982-91)

FIGURE 2. DESIGNATION OF INDUCED GROWTH CENTERS

Aside from the Second National Comprehensive Physical Plan, the tentative relocation of the capital was announced by the president in 1977. It appeared to be a final "one-shot" policy measure of the government which might reduce drastically the primacy of Seoul. Relocation of the central government administration can make strong influence on at least public institutions, universities, and corporation headquarters in Seoul. Several candidate locations were chosen in secret, and what we call "paper plans" designing a new town sized 0.5 million were made over a period of three years.

The new capital city plan was not implemented as yet, regardless of its legal provision and intensive background studies. The economic risks are apparently envisaged with the needs of the enormous amounts of investment, not to mention the political repercussions. However, under a highly centralized government system as in Korea its impact on the distribution of population will be tremendous.

3.2 Intra-regional Level

Very recently, a Growth Control and Management Plan for the Seoul Region (1982-91) was prepared by the Ministry of Construction. There are two problems to be taken into consideration. First of all, the region has begun to show a dispersive tendency since the late 1970s at the intra-regional scale. The city of Seoul has experienced decreasing shares of manufacturing jobs and population in the Seoul Region, while the neighboring satellite cities in the Gyeonggi Province have gained a great deal of employment and population. The spillover phenomenon was partly influenced by the government's dispersal policy and the improved commuting railroad networks by electrification linked directly with the Seoul subway system after 1974. More

TABLE 4. DISTRIBUTION OF MANUFACTURING EMPLOYMENT AND POPULATION BETWEEN SEOUL AND GYEONGGI PROVINCE, 1973-83

	1973	1978	1983
Manufacturing employment			
Seoul	70.6 %	52.3 %	45.7 %
Gyeonggi	29.4	47.7	54.3
Total	100.0	100.0	100.0
(Number)	580,844	1,031,328	1,019,413
Population			
Seoul	63.2 %	63.7 %	62.3 %
Gyeonggi	36.8	36.3	37.7
Total	100.0	100.0	100.0
(Number)	9,959,396	12,274,866	14,782,854

Note : Manufacturing establishiments with 5 or more.
Source: EPB, Mining and Manufacturing Census, 1983.
Seoul & Gyeonggi, Statistical Yearbooks, 1984.

importantly, planners have encountered changing sources in the population growth. Table 5 confirms that the capital city's expansion will increasingly rely on natrual population growth rather than on in migration in the future.

It is apparent that the Seoul Region reached the level of "relative decentralization" (Vanhove and Klaassen, 1980, pp. 187-188) in the sense that the population increases in the outlying areas much faster than the central city. At this stage of urban development, Seoul alone cannot deal with its various metropolitan problems; i.e., industrial relocation, increased commuting distance, environmental degradation, and rising demand for recreation. The Plan called for guiding orderly settlements of population and economic activities both within and away from the region.

The most important aspect of the Plan is to reorganize the spatial structure on the basis of a multi-nuclei design concepts. The overall planning strategies are formulated focusing on region-wide land use control. The greenbelt surrounding Seoul, for example, will be maintained in effect during the planning period, despite the rapidly increasing demand for housing land. In the light of intra-regional decentralization, the Seoul Region is subdivided into five subregions, which reflect different growth management strategies for subregions (see Figure 3 and Table 6). The basic strategy is that the Special Development and the Environmental Protection Subregions are to be reserved as open space for the future use and the southwestern part of the Seoul Region will be extensively developed to absorb the population and industries dispersed from the Restricted and the Controlled Development Subregions. The total size of the Seoul Region is 11,676

TABLE 5. CONTRIBUTION OF NET-MIGRATION TO SEOUL'S POPULATION GROWTH

Periods	Total population increase(A) (1,000's)	Net migrants(B) (1,000's)	Share (B/A)
1960-66	1,203	784	65 %
1966-70	1,733	1,422	82 %
1970-75	1,326	631	48 %
1975-80	1,628	684	42 %

Source: Kwon(1981b), p. 80.

Km^2, and 13.4 percent of it was established as green belts in 1972, for checking the further sprawl of the built-up areas in Seoul and preventing neighboring cities from merging into another.

In sum, the following policy objectives and broad guidelines are established for the implementation of the Growth Control and Management Plan for the Seoul Region (Kwon, 1981a, pp. 328-329).

1) To relieve Seoul's primacy without hampering national and regional prosperity, by decentralizing selectively the non-essential functions such as research complex and some government agencies located in Seoul;
2) To preserve the area north of the Han River as it is now for national security reasons, and to develop extensively the southern halt by letting it absorb the population from Seoul;
3) To deconcentrate international trade and central managerial functions in Seoul, reinforcing linkages with satellite cities;
4) To protect the upper Han River basin from pollution in order to maintain water quality and promote recreational and outdoor activities;
5) To develop a small-scale industrial complex in the Ahsan Bay Area southwest of the Seoul Region including the new industrial city of Banwol, so as to accommodate small and medium manufacturing firms dispersed from Seoul;
6) To establish growth centers, such as university campus towns in the southeastern part of the Seoul Region, avoiding pollution problems and conversion of agricultural land;

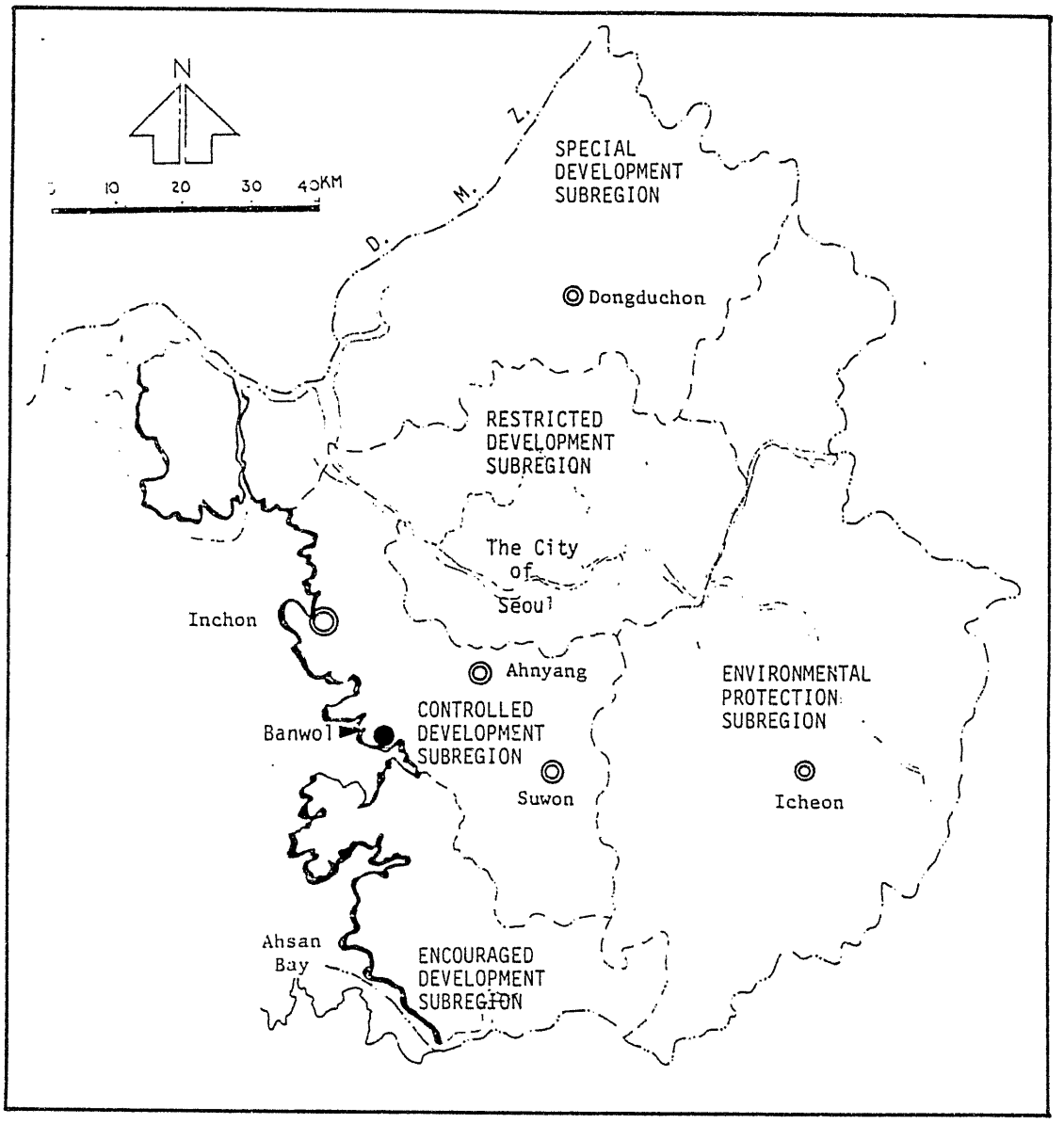


FIGURE 3. THE SEOUL REGION AND ITS STRATEGIC DIVISION BY FIVE SUBREGIONS

TABLE 6. GROWTH MANAGEMENT STRATEGIES AND PROGRAMS FOR SUBREGIONS IN THE SEOUL REGION

Subregion	Major Cities and Towns	Location	Growth Management Strategies and Programs
I. Restricted Development Subregion	Seoul, Euijongbu Kuri, Wondang	Core areas and inner ring with radius of 15 Km, located North and South of the Han River.	Dispersal,decongestion, and decentralization 1. denial of new factory construction 2. relocation of pollution-causing manufacturing establishments 3. dispersion of population and prevention of immigrants 4. selective dispersal of education facilities
II. Controlled Development Subregion	Incheon,Suwon, Ahnyang, Banwol	Suburban areas South of Seoul ring with radius of 35 Km, Suwon as the Subregion's center	Population growth control, and avoidance of urban sprawl 1. limitations on new factory construction 2. accommodation of portions of displaced industries from Seoul 3. suspension of diorderly land use practices 4. manageable density development with green belt
III. Encouraged Development Subregion	Pyeongtak,Yicheon Anjung, Ahnsung	Southern part of the outer ring with radius of 70 Km, New growth potentials for peripheral development	Intensive and extensive development 1. new town development such as a campus town 2. expansion of existing cities and towns as growth centers 3. development of industrial estate in Ah San Bay

TABLE 6. (continued)

	Subregion	Major Cities and Towns	Location	Growth Management Strategies and Programs
				4. minimization of pollution problem and of loss of agricultural land 5. inland light and clean industries
IV.	Environmental Protection subregion	Gapyeong, Yangpyeong, Yeoju	The fringe areas of the outer ring located on the basin of upstream Han River	Preservation, conservation,and Protection 1. prevention of upper Han River basin from pollution to maintain water quality 2. water resources development 3. natural resources preservation and promotion of recreational and outdoor activities 4. promotion of dairy and vegatable farming including industrial-crop
V.	Special Development Subregion	Gangwha,Munsan, Dongducheon, Pocheon	The fringe areas of the outer ring located North of Seoul and South of DMZ.	Reserved for future development 1. buffer for national defense 2. limited development of agro-industries 3. conservation of forestry and other natural resources 4. promotion of truck farming and livestock farming

Source: Korea Research Institute for Human Settlements(1981)

7) To promote office parks and commodity distribution centers in the outlying areas of Seoul, reducing people and freight movement into Seoul; and

8) To construct a second international airport and an express way along the west coast, supporting a regionwide transportation system and dispersal of people and industry.

These guidelines seem acceptable as far as physical planning is concerned. But the planner faces two main stumbling blocks. First, how can the Plan objectives be reconciled with those of the National Economic Development Plan? The focus of national policies is primarily nonspatial in nature, but nevertheless, they have impacts upon the spatial distribution of people and economic activities. The Seoul Region can be easily affected by macro economic policies, because of its dominance over the national economy. Second, how can more effective administrative coordination be achieved among local governments? To manage regionwide problems of such magnitudes, special efforts should be made to create an appropriate form of regional organization.

III. SELECTED ISSUES IN POLICY IMPLEMENTATION

The population dispersal plans described in the previous Chapter heavily focus on industrial location. As Renaud (1979, pp. 82-84) indicated, there are three reasons for singling out industrial movement as a major tool in implementing the population decentralization policy: amenability to location control, greater mobility relative to service sector, and substantial multiplier impact on local economy.

For implementing the industrial relocation policy, in response to the population decentralization goals as described in Chapter II, appropriate programs need to be identified and prepared. The purpose of this Chapter is to delineate and describe the strategy for relocating industries, to explore briefly the institutional arrangements that should enable the government to implement various programs, and to discuss issues in selecting policy instruments as well as target groups for policy implementation.

1. Institutional Arrangements and Legal Provisions

The first major step in implementing the relocation policy is to create an administrative agency or agencies to be responsible for the various legal provisions. Figure 4 describes the institutional framework within which the policy instruments have been implemented in Korea. As discussed below, this is a dual system in the light of institutional arrangements and legal provisions for industrial relocation in Korea. Both the Ministry of Construction (MOC) and the Ministry of Trade and Industry (MOTI), under their own jurisdictions, used to have the Bureaus in charge of industrial location as well as industrial estate development. During last few years the government abolished such Bureaus and lowered such functions to the Division level.

The Local Industrial Development Law (LIDL) was initially designed to disperse population from Seoul to local cities and to curb the rapid concentration of manufacturing industries in the Seoul Region. The LIDL was put into operation by the MOC as a legal basis for government's assistance program for local industries: site provision; development of such basic infrastruture as access roads, water and energy supply; tax exemptions and subsidies to newly housed

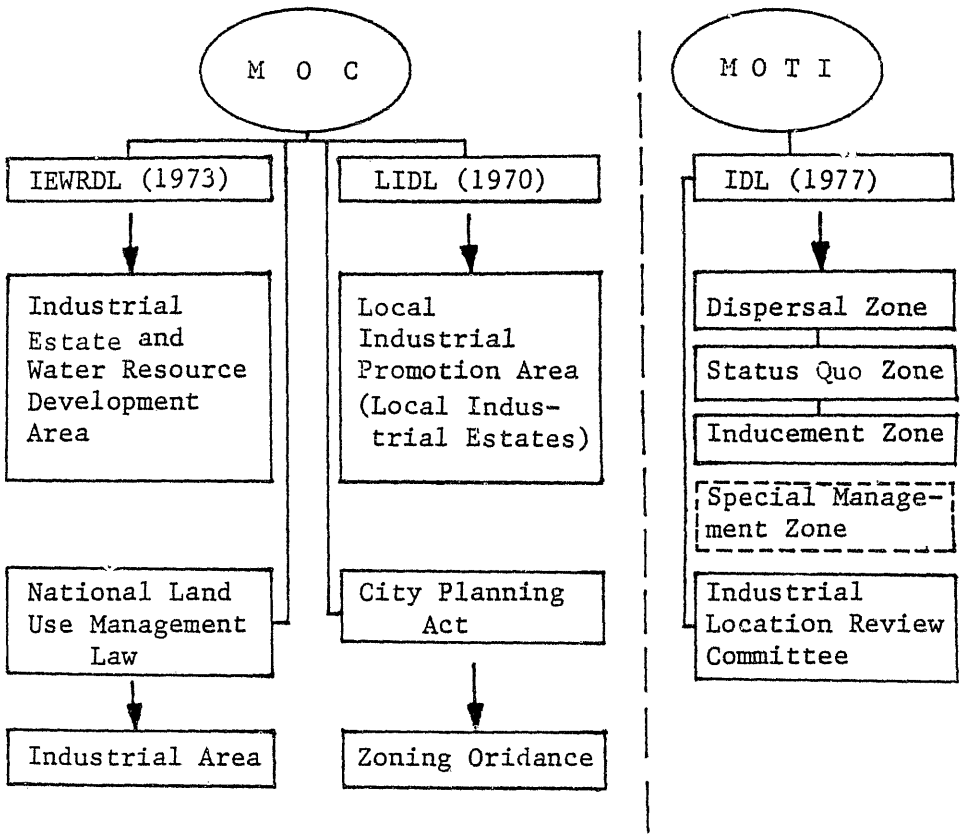


FIGURE 4. LEGAL PROVISIONS RELATED TO INDUSTRIAL RELOCATION POLICY IMPLEMENTATION

industries. Along with these infrastructure and incentive measures, a "standard land price" system [1/] was adopted as a policy tool for purchasing land for industrial site development. The LIDL was amended in 1973 to provide the similar benefits to firms and branch factories relocated from the Seoul Region. In the same year, the MOC enacted the Industrial Estate and Water Resource Development Law (IEWRDL) to support the location of large-scale heavy industries and new industrial estates intended to support the growth pole development strategy.

On the other hand, the Industrial Distribution Law (IDL) of MOTI directed its attention toward more comprehensive approach, preparing a master plan for industrial location. There are at least three salient features compared with the LIDL of MOC:

(1) Specification of industrial location/relocation by sector (e.g., urban type vs. non-urban type);

(2) Establishing sectoral criteria for optimal size of industrial sites intended for land use efficiency and preventing land speculation; and

(3) Introduction of zonal differentiation as a policy tool (e.g., dispersal zone, inducemet zone, special management zone).

With the advent of the IDL (1977), the government was in fact empowered to order the compulsory relocation of manufacturing industries. Its ordinances stipulate in detail the degree of spatial discrimination regarding industrial location, and specific administrative measures to be enforced. As indicated in Table 7, for instance, two non-inducement zones, (1) and (2), would be under strict restriction on new

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1/ It is a method of land price freeze for public use by the government, to regulate land speculation as well as price hike.

Table 7

TABLE 7. ZONAL DIFFERENTIATION FOR INDUSTRIAL LOCATION CONTROL

Zones	Strategy	Designated Area*
(1) Dispersal Zone	Relocation Encouragement	Seoul, and its northern proximity
(2) Status Quo Zone	Expansion Discouragement	Busan, and its vicinity; Seoul's satellite cities
(3) Inducement Zone	Location Encouragement	The rest of the country

* Note: Refer to Figure 6 in detail.

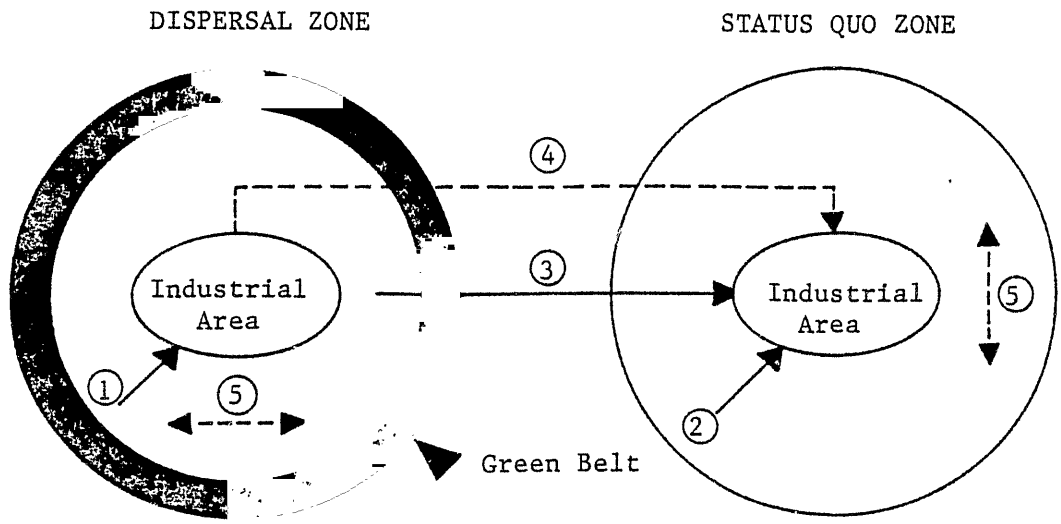
establishment and/or expansion of industries. However, relocation is permitted for those occurring within the same zone (see Figure 5).

As for control measures in the Dispersal Zone, the amount of land for industrial use in Seoul has been reduced drastically from 66.3 Km^2 to 30.9 Km^2 by rezoning since the early 1970s. The IDL prohibits any kind of new establishment and expansion of manufacturing industries in the Dispersal Zone. But exceptions are made for urban service-type industries such as printing and some food producing items of daily consumption.

Another important issue in policy implementation is how to regulate the industrial movement between the Dispersal Zone and the Status Quo Zone. Figure 5 shows the relocation pattern allowed by the IDL. Two factors are distictively taken into consideration; one is the land use control by city planning law, and the other is the type of industries classified by the extent of "urban-orientation".

The duality existing within the government's legal and institutional framework, however, cannot escape discords between MOC and MOTI in implementing the relocation policy. Sometimes they developed conflicting situations in achieving the population decentralization objectives. The MOCI is more concerned with a balanced spatial development, whereas the MOTI has more interest in industrial growth by promoting export-oriented manufacturing for the national economic development. Thus, it would have made more sense to place the IDL under the MOC rather than the MOTI so far as the goals of population dispersal were concerned.

Uncoordinated efforts by the two ministries often resulted in confusion and distrust among people and industrialists who have vested



Note: ① Only for urban-type industries
② , ③ For any kind of industries
④ Expansion possible, if the same kind of operation
⑤ Only for a limited number of urban-type industries (revised later)

FIGURE 5. RELOCATION PATTERN ALLOWED BY INDUSTRIAL DISTRIBUTION LAW

interests in the dispersal zone or reception area. For example, there is an inconsistency in zoning even though the relocation strategy is undeniably identical: The Status Quo Zone of the IDL does not coincide with the Controlled Development Subregion of the Growth Management Plan for the Seoul Region (1982-91). Comparing Figure 3 with Figure 6, considerable differences can be seen in zoning and such inconsistencies would hinder effective implementation of policy measures.

2. Choice of Policy Instruments

A wide range of policy instruments are available for implementing industrial relocation policies. Borrowing Townroe's (1979, pp. 107-108) classification, these instruments are divided into two groups: fiscal instruments and non-fiscal instruments. As shown in Table 8, the former group includes tax exemption and reduction, subsidies to the cost of establishing a new plant, and loans for moving costs. On the other hand, a variety of negative measures and mandates such as construction licences and occupancy permits fall into the latter group.

By and large, the industrial relocation policy implemented in Korea has focused more upon non-fiscal instruments. In particular, the provision of industrial estates, accompanied by preferential sale of land, has been a policy tool sought by the government since the early 1960s. Among non-fiscal instruments, control measures such as the issuance of relocation orders and the restriction of on-site expansion were not employed until the late 1970s. Grants were rarely paid for removal expenses, training expenditure, and relocation costs.

In order to influence locational choice, the government provides a mixture of incentives and disincentives aimed at promoting

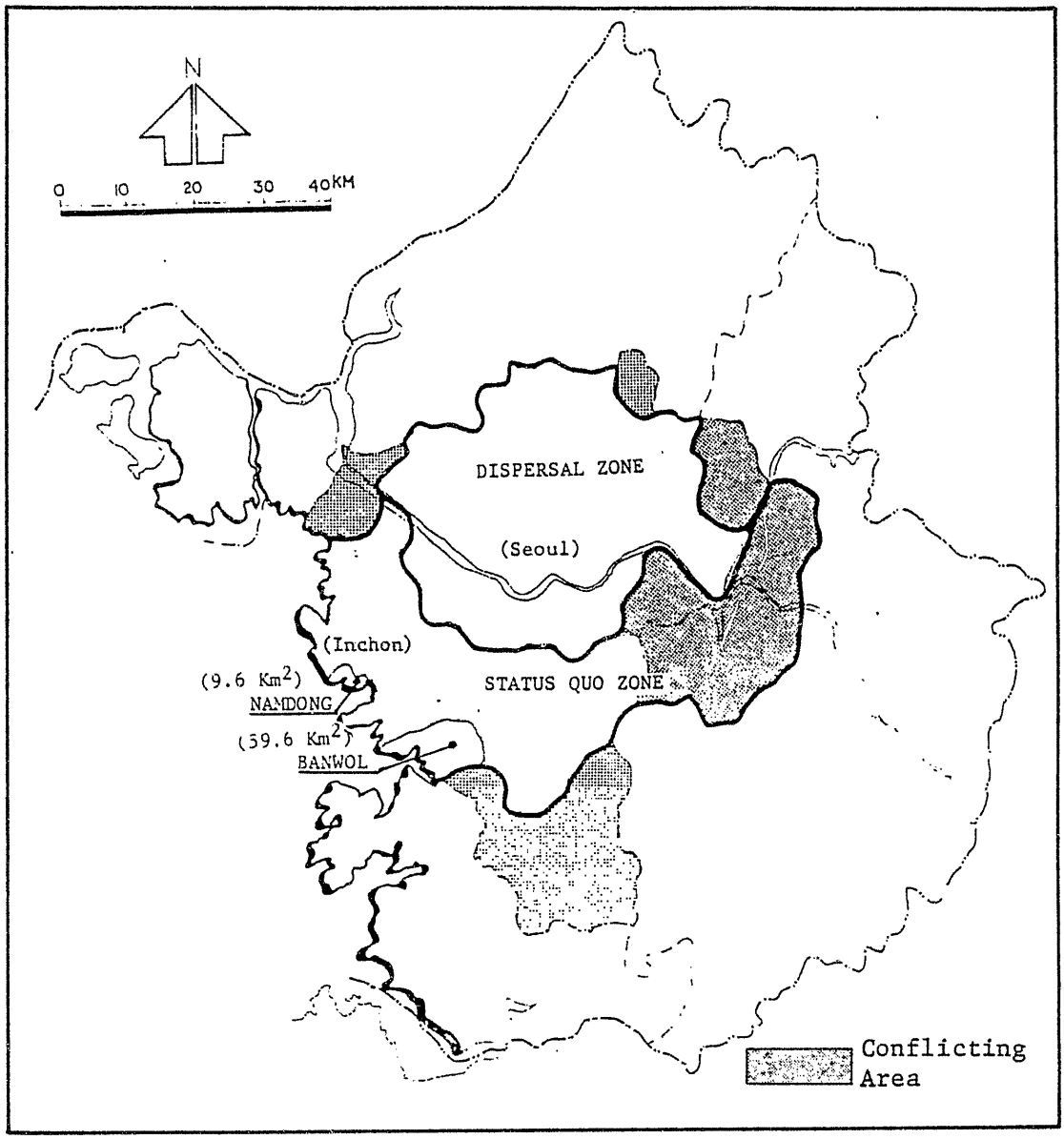


FIGURE 6. INCONSISTENCY IN ZONING FOR INDUSTRIAL RELOCATION BETWEEN MOTI AND MOC (Compare with Figure 3)

TABLE 8. CHOICE OF POLICY INSTRUMENTS IN KOREA

Fiscal Instruments	Non-Fiscal Instruments
. Tax exemption and reduction - Corporate tax - Transfer tax - Property tax - Registration tax - Acquisition tax - Capital gain tax	. Provision of basic infrastructure - Access roads - Water supply & sewerage - Electric power - Communications, etc
. Building and machinary subsidy	. Preferential sale of land
. Accelerated depreciate rate	. Issuance of relocation order
. Providing Loans for moving costs	. Restriction of on-site expansion
. Witholding loan endorsements by the government	. Strong administrative support - Land price freeze . Strict enforcement of anti-pollution law

movement from the Dispersal Zone. Tax exemptions up to five years is one of the most widely implemented incentives for industrial relocation. But the 5-year tax exemption period may be too short to recover the firm's initial investment; it may be desirable to grant a longer exemption period as long as 10 years. As an alternative, in some countries, the period of exemption begins not in the first year of operation but in the first year that profits are earned (Galenson, 1984, p. 9). However, since the property tax is a main source of local finance in Korea there is a growing opposition against such tax exemption from local government.

According to a recent KRIHS survey (1984), the increase in operating cost after relocation was 20-30 percent (see Table 9). However, most of the relocated firms in the Banwol industrial estate benefited from tax concessions: 25 percent of them from acquisition tax, 23 percent from registration tax, and 19 percent from property tax, respectively. About two-thirds of them responded that the current tax incentives appeared to be of considerable help. By contrast, 86 percent of the firms in Seoul ordered to relocate complained that it would not be enough to compensate for the additional expenses arising from relocation.

There is an apparent gap between their needs and the government's financial support. Among relocated firms from Seoul to Banwol, about 60 percent and 80 percent of them received some kind of loans for operating cost and equipment investment. The amount of loan, on the average, was equivalent to 20 to 50 percent of the total cost. As suggested in Table 10, it is not surprising that financial support remains the prime instrument to influence the moving decision of

TABLE 9. ESTIMATES OF ADDITIONAL OPERATION COST DUE TO RELOCATION

Responses	Number of firms	Percentages
No difference	2	1.3
10 % increase	5	3.3
20 % increase	53	35.3
30 % increase	56	37.3
Others	4	2.7
Total	150	100.0

Source: KRIHS (1984)

TABLE 10. THE RELOCATION-ORDERED FIRMS' PREFERENCE TO GOVERNMENT'S INCENTIVES

Rank	Government Incentives	Weight*
1	Bank loans at a low rate of interest	24.4
2	Provision of industrial sites at low price	23.7
3	Financial assistance on industrial equipment & buildings	16.9
4	Financial assistance on interest payment	11.4
5	Assistance with skilled manpower recruitment	7.0
6	Subsidies on employee's welfare facilities	6.6
7	Wage subsidies on job creation	5.3
8	Establishment of information center	3.0
9	Financial assistance on the cost of training/ retraining	0.9

* Note: The weight is based on the percentage of firms responded in the survey conducted by KRIHS(1984).

relocation-ordered firms in Seoul. In reality, the relocation-ordered firms surveyed in Seoul asked for loans covering more than half of the expenses for movng, expansion, and modernization of production line.

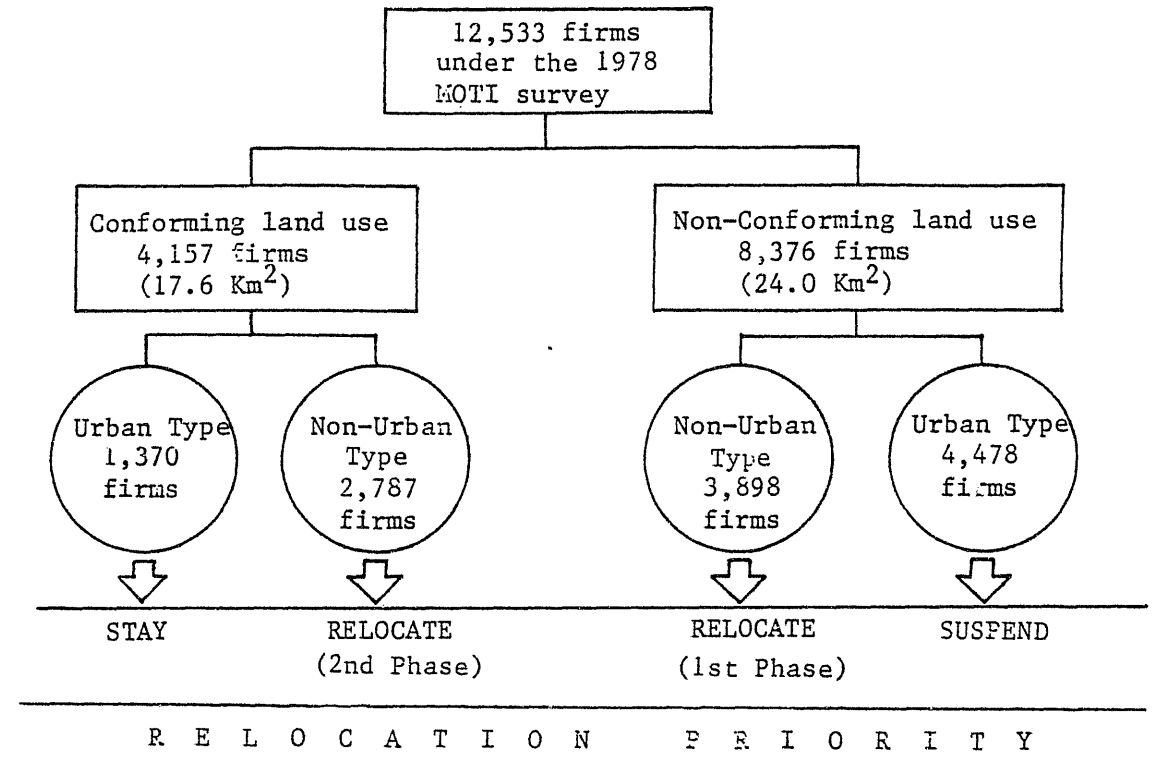
Apart from loans and subsidies, industrialists tend to try to secure more land than they actually needed because sites were usually provided at subsidized prices. For this reason, the Industrial Distribution Law (IDL) prohibits the ownership of extra land according to a lot size criterion stipulated as well as standards laid down for each industry.

Along with providing adequate infrastructure with industrial sites, other potential instruments could be considered, for example, a decentralized public investment in state owned industries, government offices, and research institutions. Also, the provision of amenities for relocated employees is important. A high priority should be given to investment in housing, schools, and hospitals, along with industrial site development.

3. Selection of Firms for Relocation

In the process of implementing relocation policy, selecting industrial firms for decentralization was a challenging task (Kwon, 1981b, p.88). The key issue was to set the criteria by which certain industries will be subject to relcoation orders (Choe and Song, 1982, p.95). As a result of extensive debates, the following three criteria were chosen for selecting the types of industry to be relocated:

(1) Land use conformity with respect to zoning ordinances by city planning laws;



Note : The figures in the parenthese are the sum of individual lots.
Source : Adapted after KID (1980), p. 154.

FIGURE 7. CLASSIFICATION SCHEME OF FIRMS TO BE RELOCATED FROM THE DISPERSAL ZONE

(2) Degree of pollution hazardous to living environment stipulated by the Environmental Conservation Act; and

(3) Urban-type industry classified according to the degree of linkages to the final consumption by households.

Both the first and the second criterion are discernible without difficulty, compared to the third one. Particularly, the degree of pollution has become an urgent factor that influences the relocation priority. Defining so called "urban type industries", however, is extremely difficult. It goes without saying that industrialists have a deep interest in this criterion because an urban type industry can be excluded from the list of firms scheduled for industrial relocation. Due to the relocation-order priority as demonstrated in Figure 7, the designation of urban type industries guarantees the avoidance of immediate relocation from the Dispersal Zone.

The IDL initially designated 14 types of industries as urban type which would make the majority of firms as potential movers. The 14 types of industries belong to the same category of "residentiary plants" that can be permitted by zoning ordinance (see Table 11). The purpose of adopting this system for zoning ordinance, however, was quite different from the aims of industrial relocation. The zoning ordinance regulates permission and prohibition of plant-like buildings in order to protect residential districts. The poor conceptualization of urban type industries stipulated by IDL (1977) assumed the system to fail from the very beginning. In other words, there were too many firms to be relocated.

In 1978, MOTI undertook a plant registration survey for all manufacturing establishments in the country. The survey captured 36,264

TABLE 11. RESIDENTIARY PLANT LOCATION CONTROL BY ZONING ORDINANCE

	Exclusively residential area (R_1)	Residential area (R_2)	Commercial area	Green area
1. Grain-milling	x	x	o	o
2. Bean curd	x	x	o	x
3. Printing and publishing	x	o	o	x
4. Cement products	x	o	o	x
5. Rice wine manufacture	x	o	o	x
6. Ready-made concrete	x	o	o	x

Note: o denotes permission and x does prohibition.

industrial establishmetns of which one-third (12,533 firms as in Figure 7) were located in the Dispersal Zone. After one year of IDL enforcement, MOTI made a careful investigation to broaden the urban type categories based on the 385 five-digit manufacturing industries. A background study (KID, 1980, p.117) suggested that the selection criteria for urban-type industries should be as follows:

i) Those products that are daily consumed by urban households (e.g., foods and beverages);

ii) Manufactured items that are closely linked with the service indsutry (e.g., beauty aids, sporting goods and office supplies);

iii) High technology industry (e.g., electronic apparatus, medical instruments);

iv) Workshop-like small scale manufacturing (e.g., knitting, toys, and mounted arts);

v) Fashion and communication-oriented industry (e.g., women's apparel, furniture, jewellery, and printing & publishing).

By several revisions of the enforcement ordinance of IDL in 1979 and 1981, the categories of urban type industries increased from 14 to 146 as shown in Table 12. Industrialists still put much pressure on the government to redefine urban type industries so that it could include more industries.

Such arbitrary measures as expanding the list of urban type industries would undermine the basic objective of population dispersal from Seoul. More detailed analysis and better criteria were deemed necessary to make distinction between two types of industries.

TABLE 12. INCREASING TRENDS OF EXPANDING THE CATEGORIES OF URBAN-TYPE INDUSTRIES

(Number of five-digit industries)

	1977	1979	1981
. Food, drinks and tabacco	5	5	20
. Textile, clothing and leather	2	13	28
. Woodworks and furniture	2	7	14
. Paper, printing and publishing	1	8	18
. Chemicals and allied industries	2	1	1
. Non-metalic goods	2	2	3
. Machinery and equipment	-	-	43
. Other manufacturing	-	-	19
Total	14	36	146

The size of firms should be taken into account in implementing the relocation policy. A thorny problem was involved in selecting the lower limit of target groups. According to the IDL, manufacturing firms employing more than five workers were subject to the government's relocation order. The smallest group (say, with employees less than 9) constitutes more than 45 percent of the total number of firms to be relocated. Such establishments are not able to move and if the government's relocation orders were issued, they would disappear or manage to go underground. It seems desirable to exclude this group from the list forms with relocation orders. An empirical test of the "incubator hypothesis" by Lee (1982) supports the hypothesis that small firms start business in central locations and move to the periphery as they grow larger and need more space for expansion (Hoover and Vernon, 1959).

4. Use of Vacated Premises

The elimination of non-conforming land uses and pollution-causing manufacturing firms by the relocation policy is an important aspect of urban development from the city planner's viewpoint. The objective of the planner should be to balance the purely economic considerations with the need to preserve and improve the quality of the environment and the living conditions (Smith, 1971, p.487). In this respect, one of the controversial policy issues is how to utilize the vacated premises after firm's relocation.

The government (MOC) also strongly urged the conversion of vacated premises into parks, public open space, or low-density housing land. The city government of Seoul, however, suffering from a chronic financial burden cannot afford to purchase those premises. Instead,

large business firms bought most of them to be used as sites for their office buildings. Ironically, those office buildings on vacated premises would attract more daytime population and aggravate traffic congestion. A close coordination is urgently needed between the MOC and the city government of Seoul in the proper utilization of vacated premises.

Due to the city's financial problem, vacated industrial premises and school yards in the CBD are unlikely to be changed into parking lots or public parks for the population. As shown in Table 13, the 1983 survey of IEWRDC indicated that two-thirds of vacated premises after industrial relocation were occupied by residential area. Surprisingly enough, some portion of them were used again for other manufacturing.

Despite strong criticism by the planners, it is not easy to set a guiding principle for the conversion of vacated premises into other adequate land uses. Some premises may not be suitable to public use due to their locational disadvantages. Their size or conditions vary from stie to site. But it does seem necessary to establish some operational criteria for possible uses in harmony with existing zoning ordinances (see Table 14).

Another complicated problem stems from the pattern of land ownership. When rented factory premises are vacated after relocation, it is natural that the land owner would desire to use the sites more profitable; thus leading to more intensive land use after relocation. Renters are mostly small firms and reluctant to relocate unless there is considerable financial assistance for moving. They may have to close down without having vacated premises to sell.

TABLE 13. AN EXAMPLE OF CONVERTED USES OF VACANT PREMISES IN SEOUL

Unit : m^2

	Housing	School	Ware-houses	Commercial facilities	Office	Manu-facturing	Total
Area (firms)	62,612 (13)	10,777 (1)	5,808 (6)	6,605 (3)	4,628 (1)	4,397 (3)	94,827 (27)
% of land use	66.0	11.4	6.1	7.0	4.9	4.6	100.0

Note: Numbers in parentheses denote relocated manufacturing establishments from Seoul to Banwol.

Source: IEWRDC (1983), p. 11.

TABLE 14. RECOMMENDED GUIDELINES FOR POSSIBLE USES OF VACATED LAND

Land use by zoning ordinance	Possible uses
• Industrial area	• location of urban-type industry
• Residential area and Commercial area	• road, parking lot, small parks & open space, hospital, school, post office, bank, etc.
• Green area	• no buildings, green space, recreation and sporting facilities

Provision of industrial estates in areas outside Seoul does not meet the needs of those small industries wihtout the kinds of externalities that they can find in central locations in Seoul. One feasible solution is to provide "collective sites" in order to accommodate small firms of the same kind. As for some urban-type industry (e.g. garments), it may be possible to build multi-story factories in a vacated land. Land price is extremely high in the CBD and demolition of existing buildings tends to be costly; they could be renovated and converted into space for small firms or laboratories for research and development.

IV. PROBLEMS IN RELOCATING INDUSTRIES: SURVEY EVIDENCE

Two surveys were undertaken in August 1984 by the Korea Research Institute for Human Settlements (hereafter, KRIHS) to identify problems faced by firms relocating from the Dispersal Zone. One survey dealt with the individual firms under the government relocation order to assess their reactions. As will be described later, the other survey focused on those firms already moved from the Dispersal Zone to compare their situations before relocation with those after relocation.

1. Obstacles to Relocation Decisions

As of May 1984, there were at least 2,738 manufacturing establishments ordered by the government to relocate from Seoul. The assessment in this section is based upon interviews with 195 randomly sampled firms in Seoul with an average of 70 employees. About 70 percent of them represent the category of clothing, chemical, and machinery manufacturing industries. The purpose of the survey was to

investigate what problems might be involved in implementing an industrial dispersal program, and which obstacles were hampering firms' relocation decisions.

Of the 195 sample firms, 77 percent were subject to relocation orders due to non-conforming land use or pollution problems. The remainder belonged to the non-urban type industry category as stipulated by the IDL. On receipts of the government relocation orders, the surveyed firms showed mixed reactions to moving out of Seoul. One third of 157 responded firms, as presented in Table 15, had a plan to move for own business reasons. Half of them felt that the government should compensate enough for the possible loss stemming from their relocation.

According to the enactment of IDL, a maximum two-year probation period was given for the firms to be relocated from the Dispersal Zone. After the probation period, the firms should pay five times more of local taxes than usual. Moreover, the government is empowered to disconnect utility services such as power, telephone, and water supply. Some of the sample firms continued to stay in Seoul despite heavy pressure imposed upon them. The most important underlying reason for the delay in relocation was financial problems. Table 16 shows that the lack of funds for site purchase and for plant expansion jointly accounted for 50 percent of cases. Out of 145 establishments responded, 44 firms had still failed to find new sites for relocation. Most of surveyed firms mentioned that site provision and excellent infrastructure such as water supply, sewerage, and communication facilities were important. Their locational choices evidently influenced by the advantages derived from the government's provision of industrial estates.

TABLE 15. FIRMS' RESPONSES TO THE GOVERNMENT RELOCATION ORDERS

Responses	Number of firms	Percentage
. Plan to move for business reasons	52	33.1
. Cannot move unless government financial support available	79	50.3
. Close down	13	8.3
. Stay by converting into other industry	7	4.5
. Others	6	3.8
Total	157	100.0

Source: KRIHS (1984)

TABLE 16. REASONS FOR DELAYING RELOCATION

Reasons	Number of firms responded (%)	
1. New site undecided	44	(28.9)
2. Lack of funds for site purchase	43	(28.3)
3. Lack of funds for plant expansion	33	(21.7)
4. Linkage with clients and marketing	11	(7.2)
5. Employee recruitment	8	(5.3)
6. Factory premises and machinery unsold	6	(3.9)
Total	145	(100.0)

Source: KRIHS(1984)

The disposal of factory premises was a negligible barrier to firm's relocation. Land is scarce in Seoul, and there would be little difficulty to find potential purchasers. Of corse, disposal is not a problem for renters.

Almost all of surveyed firms with relocation orders have very strong linkages to local suppliers and services. For instance, they purchase more than 85 percent of raw materials from the Seoul Region (in particular, from the city of Seoul). Also the importance of marketing problem cannot be overlooked. The Seoul Region generates more than 80 percent of total demand for their products. The transport cost does not appear to be a crucial factor to the firms however, so far as they are located in the region.

There exist enormous locational advantages in the primate city, Seoul, which tend to be major obstacles to firms' decision to move. The survey results in Table 17 provide some insight into this issue.

From an entrepreneur's standpoint, the reasons ranked from 1 to 4 in Table 17 are associated with "economies of agglomeration", occupying more than 70 percent of the total. The other reasons ranked from 5 to 7 are related, to some extent, the government relocation policy instruments. Taking the future "development prospects" together, those reasons accounted for 26 percent. The reasons of the future development prospects is included in this category, for many government development plans tend to result in unintended side effects -- e.g., land price hikes. It is undeniable that some industrialists speculated on land by exploitng the government relocation programs; thus, bought larger industrial sites than needed.

TABLE 17. REASONS FOR LOCATING NEAR SEOUL

Rank	Reason	Percentage		
1.	Market access	26.0		
2.	Raw material supply	21.2		
3.	Labor availablity (unskilled)	15.2		
4.	Localization economies	10.4		
				% 72.8
5.	Site provision	8.5		
6.	Tax & credit benefit	7.7		
7.	Adequate infrastructure (water supply, etc.)	5.4		
8.	Development prospects	4.4		
				% 26.0
9.	Miscellaneous	1.2		

Source: KRIHS(1984)

The findings above suggest that the effectiveness of government policy instruments to relocate manufacturing firms out of Seoul must inescapably be limited by the advantages owing to agglomeration economies prevailing in Seoul. It implies that the government should financially compensate for the agglomeration benefits that firms have to sacrifice when relocate somewhere outside Seoul, which could be prohibitively costly.

The barriers to industrial relocation from the employee's standpoint were quite different from those of the entrepreneurs surveyed. Another questionaire was thus included in the KRIHS survey, with a random sample of 295 employees working for the surveyed firms. They pointed out three critical problems faced when mvoing out of Seoul:

1) Housing (29.0%)

2) Children's education (27.3%), and

3) Public services and amenities such a medical facilities (21.7%).

The housing problem is coupled with children's education. When high-ranking employees move from Seoul, they tend to live in lodgings in new locations, while their family members remain in Seoul. Children's education seems to be a principal reason for keeping two households. The surveyed employees responded that their family size might be reduced from 4 to 2 if moving occurred since they would want to leave their children behind in Seoul. However, about 80 percent of employees did not want to resign or change jobs because of their firm's relocation.

The employee's response to industrial movement at the intra-regional level (i.e., within the Seoul Region) was significantly different from that at the inter-regional level. In the former case a majority demanded commuting buses, rather than company housing. In the

latter case they showed more interest in a sufficient increase in wages to compensate for their moving expenses as well as the provision of company housing.

2. Comparisons of Before-Relocation with After-Relocation: The Case of Banwol

Banwol, a new industrial city, is located at 35 Km southwestwards from Seoul (see Figures 3 and 6). The city has been under construction since 1977, in order to accommodate small and medium-size firms to relocate from the capital city. As of September 1984, 648 manufacturing establishments were housed in the large-scale industrial estate (size: 5.73 Km^2). A total of 415 plants came into operation at that time, producing mostly textiles, chemical products, and machinery.

Since 1978, the Industrial Estate and Water Resource Development Corporation (IEWRDC) has begun to sell industrial lots to individual firms only from Seoul and neighboring satellite cities with a maximum limit of 1.65 ha. But the economic recession of 1980-81 accompanied by political instability made little progress in attracting firms. The government, concerned with low occupancy, had to remove the above-mentioned size limit to induce industries. As the business cycle recovered gradually later in 1982, all industrial lots were sold out. To date, Banwol contains 32,000 manufacturing employees and continues to grow steadily to reach a planned population size of 77,000.

In May 1983, an ad hoc fact-finding survey was implemented by IEWRDC to probe the on-going situations already located in Banwol. Out of 215 firms responded, about a half (110 firms) were satisfied with the condition after relocation, while 87 firms reserved the judgment on their relocation decisions. The remainder of surveyed firms found the relocation from Seoul to be unsatisfactory (IEWRDC, 1983, pp.14-15).

To study firms' operational characteristics after relocation, the KRIHS conducted another survey in August 1984 sampling 155 firms which were operating in Banwol. The average firm size, in terms of employees, increased from 70 to 80 after relocation. More importantly, the average size of industrial sites expanded abut 3.1 times; those firms relocated from Seoul owned sites 3.8 times more than before.

According to the KRIHS survey, the first and foremost cause for moving to Banwol was "plant expansion." The government's provision of industrial estates at low prices itself was regarded as the most powerful incentive for "plant expansion," acknowledging the fact that in Korea land is very scarce resource. Such locational behavior of the profit-seeking entreprenuers showed their responses to price incentives.

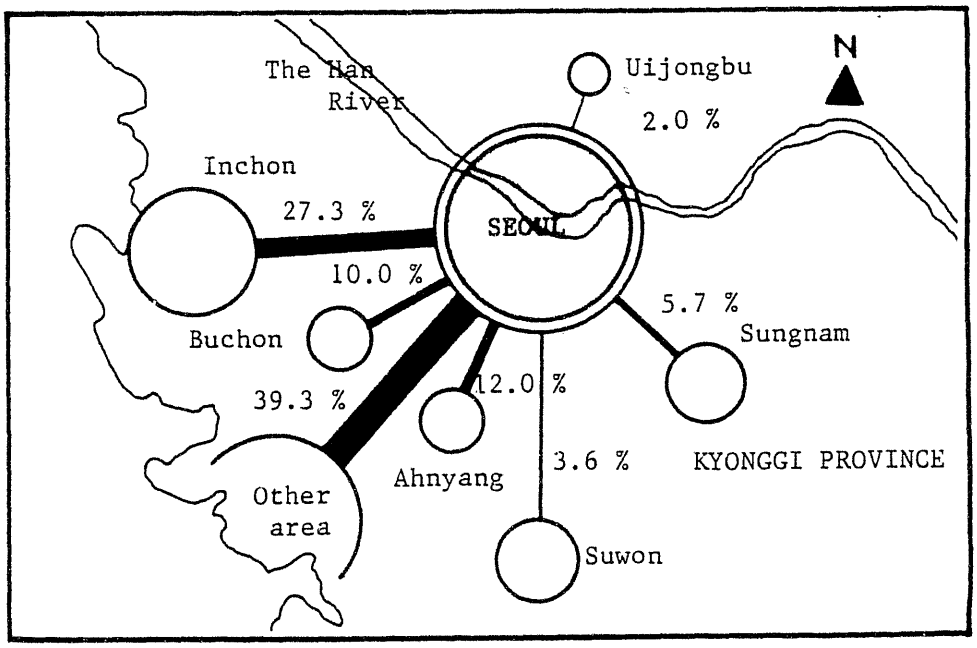
As given in Table 18, for about 37 percent of establishments the relocation was forced by the government relocation order. It is remarkable however that only 6.5 percent of them cited government incentives such as "tax exemption" and financial support. The second and third items, main government policy instruments, represent rather a smaller portion of firms than one might have expected.

The survey also disclosed that 22 percent of the firms had their headquarters offices in Seoul and 67 percent their liaison offices in Seoul. Thus nearly nine out of ten firms had a linkage with so called the central managerial function in Seoul. Figure 8 illustrates how factory and headquarters locations were distributed within the Seoul Region. It shows that Seoul dominates the spatial organization among satellite cities and the surrounding Gyeonggi Province including Banwol. In Korea, the authority of important decision making is mostly in firm headquarters and is almost negligible at the plant level (Park,

TABLE 18. MAIN CAUSES FOR RELOCATION

Rank	Motivations	Percentage
1	Plant expansion	50.6
2	Relocation order by the government	36.9
3	Government incentives	6.5
4	Industrial linkages	3.6
5	Heavy tax imposed in Seoul	1.8

Source: KRIHS (1984)



Source: Korea Productivity Center(1983).

FIGURE 8. PLANT AND HEADQUARTER OFFICE LINKAGE IN THE SEOUL REGION

1984, p.17). Besides, the separation of production units and decision-making units would be imperative so as to overcome any difficulties of interacting with government agencies in Seoul. Also importance of face-to-face contact between managers and foreign buyers cannot be understated.

In addition to the locational disadvantages mentioned above, the relocated firms have experienced a 20 to 30 percent increase in operating cost. The entrepreneurs in Banwol complained most about the additional burden arising from the commuting services for employees. Figure 9 shows about 40 percent of employees are commuters from Seoul and neighboring cities (e.g., Inchon, Ahnyang, and Buchon). Under such circumstances, almost all of firms operate commuting buses. Housing is another serious problem. Amongst the employees residing in Banwol, more than one quarter of them used company-provided dormitories.

Finally, Table 19 shows specific problems from the entrepreneur's viewpoint, comparing those expected before relocation and those actually faced after relocation. The financial burden, caused by moving, ranks first as the most critical problem, which includes expenditures for new plant and dormitory construction, commuter buses, and so forth. In general, the firms subject to relocation orders worried much about the marketing problem, but it turned out to be far less serious than they expected in case moving within the Seoul Region. Rather, skilled manpower and housing, as well as the lack of community facilities in the new industrial city tend to general more harassing problems. Lack of information services or poor access to managerial and technical information pose another vexing problem.

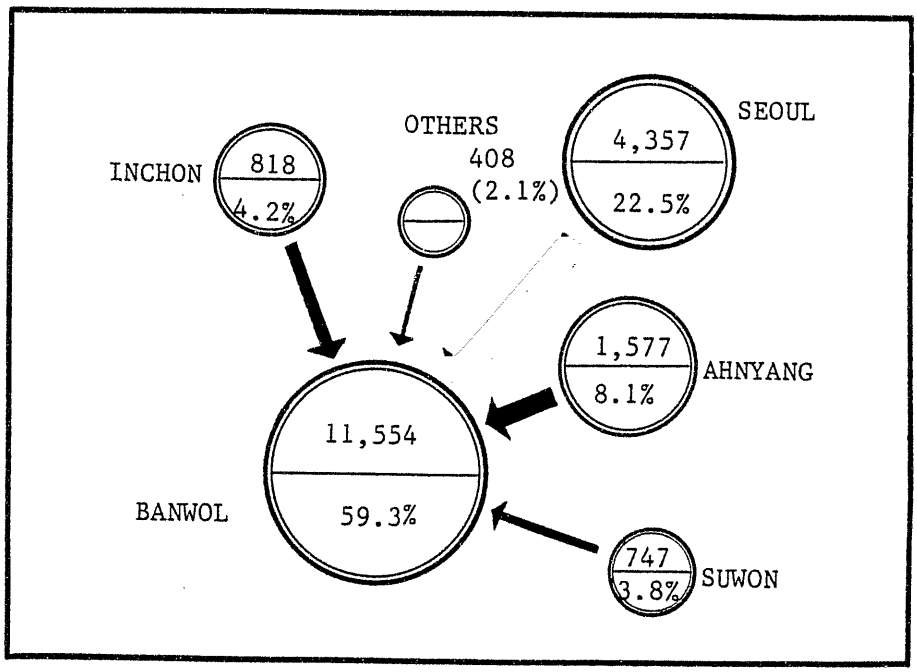


FIGURE 9. DISTRIBUTION OF COMMUTERS TO BANWOL

TABLE 19 COMPARISONS OF BEFORE- AND AFTER RELOCATION

Major Problems	Expected Before Relocation	Encountered After Relocation
. Financial burden	37.0 (1)	32.8 (1)
. Marketing	20.3 (2)	8.6 (4)
. Skilled manpower recruitment	16.9 (3)	23.8 (2)
. Lack of housing and community facilities	13.0 (4)	23.3 (3)
. Raw material supply	9.4 (5)	-
. Information service	3.4 (6)	9.0 (5)
. Infrastructure	-	1.9 (6)
. Others	-	0.6

Note: The numbers in the parentheses refer to respective ranks.

Source: KRIHS (1984)

V. CONCLUDING REMARKS

With the advent of its legal provision in 1982, the Growth Control and Management Plan for the Seoul Region was able to adopt industrial location as a predominant means to achieve the population decentralization from Seoul. Nevertheless, any government agency in charge of industrial location and related programs encountered with a maze of coordination problems among the Economic Planning Board, MOC, MOTI, the Ministry of Finance, the Ministry of Home Affairs, the city government of Seoul and various levels of local governments.

On the surface they agree upon the basic policy goals, but implementation has another story due to their conflicting interests. MOC, for instance, was in a strong position to control further creation and expansion of manufacturing plants in the Dispersal Zone. On the other hand, MOTI seemed very reluctant to promote industrial relocation. Besides, the Gyeonggi provincial government did not want to accommodate relocated plants which may cause pollution problems within its jurisdiction. Since the enforcement of the Industrial Distribution Law in 1977, there have been growing complaints among entrepreneurs against the industrial relocation policy itself. After years of monitoring, it was found to be almost an impossible dream to implement the industrial dispersal program forcefully.

The second problem is that the government put too much emphasis on control measures. Thus, a "more carrot, less stick" policy is preferable. It was acknowledged that government directives and administrative orders were easily mustered simply because they do not incur any financial resources. But such compulsory measures would often

distort the market mechanism, reducing the efficiency of individual choice of industrial location. As Mills (1982, pp.12-13) relevantly pointed out, government programs to control industrial location should be regarded as a "second best" strategy:

> Typical attempts to control city sizes, by deciding which industries should locate where, may even make existing situations worse instead of better. Governments are maladroit at deciding which locations have comparative advantages for which industries. In the end, the result of government location regulation is likely to be to stifle industrial growth.

Direct government intervention could be justified only when it is necessary to alleviate "market failure." With limited government financial resources, it may be more efficient to induce private investment to some high technology industries and small-scale new town development linked with suburban commuting railroads in the Seoul Region.

The third problem is how to incorporate "firm size" considerations into industrial relocation programs. Program selection and implementation should eventually provide a benefit-cost framework for the manufacturing firms of various sizes. This problem is directly related to the question of who must be relocated. The current industrial relocation policy in Korea admittedly discriminated against the small and medium sized industries. Large firms are able to exploit government relocation programs at their advantages, enjoying the economies of scale. In contrast, smaller firms existing in metropolitan sites, are unable to survive by government control measures, because

most of them suffer chronically from financial plight. In devising a dispersal policy, the government financial incentives barely arrived at the small scale manufacturig or workshop-like units. The "incubator hypothesis" indicated that small firms start up in central locations that provide necessary services and infrastructure until they grow strong enough to move for expansion (Lee, 1984, p. 12). Moreover, the relocation of small firms hardly occurs at the inter-regional level.

The fourth problem is that the government policy tends to focus mainly on moving industries themselves, without due considerations to employees and their households. It is more important to compensate the welfare loss of the relocated. In this sense, plans and programs should include the appropriate provision of social infrastructure; e.g., housing, educational and medical facilities, commercial service, and entertainment and recreational facilities. Ignorance or neglect on this may jeopardize the success of policy implementation itself.

Fifth, the implementation of industrial relocation policy can be effectuated with non-economic means. Under a highly centralized government system in Korea, non-monetary policy measures are of more significant importance. Increasing the autonomy of local government, coupled with administrative decentralization schemes, can undoubtedly mitigate the regional disparity problem. A related issue is the redistribution of government power in administering industrial location, which means transfer of rights to localities. By doing so, local governments could compete with each other to attract plans and people by a combination of infrastructure provision and taxes and user charges

to finance the required expenditures. What they need is the ability to collect taxes and improve the local administrative capacity.

It may be premature to conclude that the governent's policy goal to disperse the population was not attained with the industrial relocation. But the lessons learned from the policy-making and implementation can be valuable to other developing countries under the similar conditions. In brief, the following recommendations are suggested to guide future industrial location policies in Korea.

1) For the effectiveness of policy implementation regarding industrial location, it seems mandatory to consolidate the current dual system of institutional arrangements and their legal provisions at the ministerial level.
2) The government's effort to provide adequate industrial sites should be continued as one of the most powerful policy instruments, while avoiding land speculation by industrialists. Also, an information service center on the availability of industrial sites should be established.
3) Advantages of agglomeration economies in Seoul is so immense that it cannot be a feasible solution to issue the relocation order to non-urban type industries solely by zoning. Some interim measures should be taken to balance the disadvantages arising from the abrupt change of land use control. Alternative policies can be implemented by either imposing heavy locational surcharge (e.g. congestion tax) or reinforcing environmental protection standards.
4) The incubator hypothesis demonstrates that it may go too far to regulate relocating small firms (i.e. plants with five to twenty

employees), which seem essential for the viability of urban economy. Instead, newly born small-scale and pollution free industries could be accommodated using the vacated premises in the Dispersal Zone.

5) At the intra-regional level, the survey confirms that the relocated firms were hampered with financial burden due to moving expenses, increase in operating cost, and manpower recruitment. This fact implies that a priority of financial support should be given to the relocation-ordered firms in need of "plant expansion."

6) At the inter-regional level, the main target group of industrial relocation should be large enterprises which have potentials to establish branch plants away from the Seoul Region.

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