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NOTE

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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PREFACE

This publication is one in a series of studies being prepared by the Population Division of the Department of International Economic and Social Affairs of the United Nations Secretariat that focus on the population policies and plans of some mega-cities in developing countries, a group of cities that are expected to have populations of at least 8 million inhabitants by the year 2000.

The object of the series is to examine the formulation, implementation and evaluation of the population policies of mega-cities from a broad perspective, emphasizing the reciprocal links between population and development in the spirit of the World Population Plan of Action. ^{1/} The development of population policies to improve the standards of living and the quality of life of the inhabitants of the world's largest cities is a highly complex and multifaceted activity. It involves, for example, not only the analysis of migration trends, the preparation of population projections, and the formulation of population distribution strategies but also the provision of cost-effective urban infrastructure (e.g., housing, water, sewerage, transportation, and health and educational facilities), the monitoring and creation of employment, the assembly of urban land for development projects, the improvement of municipal revenue-raising mechanisms and the establishment of effective institutional arrangements for planning and managing urban growth.

Each of the technical papers in this series follows a common format consisting of five major sections. Section I provides basic information on demographic trends and reviews the use of demographic data in planning for rapidly growing urban populations. Section II presents background information on the city's economic base, the spatial structure

^{1/} See Report of the United Nations World Population Conference, 1974, Bucharest, 19-30 August 1974 (United Nations publication, Sales No. E.75.XIII.3), chap. 1, and Report of the International Conference on Population, 1984, Mexico City, 6-14 August 1984 (United Nations publication, Sales No. E.84.XIII.8 and Corr. 1 and 3), chap. I, sect. B.

of the metropolitan region and the sectoral and spatial distribution of jobs, all of which are crucial to a proper understanding of how population distribution strategies operate. Section III reviews early decentralization strategies and how they were evaluated and revised by local planners and then examines current population distribution strategies for the metropolitan region. Section IV deals with a number of key issues and sectors - the labour market, urban land, housing, water supply and so on - from the perspective of planning for rapidly growing urban populations and managing urban growth. Wherever possible, attention is given in that section to the extent to which various sectoral policies may have served as implicit spatial policies that reinforced or perhaps counteracted explicit spatial goals. Finally, section V examines the sectoral distribution of public investment and how those investments have influenced the achievement of spatial goals, how individual cities have generated revenue for municipal projects, and what types of institutional arrangements have been established to plan for and manage urban growth.

To date, the only other report issued in the Population Growth and Policies in Mega-Cities series is CALCUTTA (ST/ESA/SER.R/61).

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EXPLANATORY NOTES

Where the designation "country or area" is used in the text, it covers, as appropriate, countries, territories, cities or areas.

The following symbols have been used in the tables throughout this publication:

A hyphen (-) indicates that the item is not applicable.

ABBREVIATIONS

The following abbreviations have been used:

| | |
|--------------|---|
| CBD | Central Business District |
| DMZ | Demilitarized Zone |
| ESCAP | Economic Commission for Asia and the Pacific |
| KDI | Korea Development Institute |
| KIST | Korea Institute for Science and Technology |
| KLDC | Korea Land Development Corporation |
| KNHC | Korea National Housing Corporation |
| KRIHS | Korea Research Institute for Human Settlements |
| MOC | Ministry of Construction |
| SMA | Seoul Metropolitan Area |
| UNFPA | United Nations Fund for Population Activities |

INTRODUCTION

Largely destroyed by war little more than 30 years ago, Seoul, the Republic of Korea's capital and major industrial and financial centre, experienced rapid population growth during the 1960s and 1970s as a result of massive in-migration from all regions of the country. As of 1983 the city had a population of 9,200,000, while the Seoul Metropolitan Area (SMA) had a population of over 12,000,000 and the Capital Region as a whole more than 14,700,000. According to the United Nations 1982 assessment, Seoul was the fifteenth largest city in the world in 1980 and is projected to be the seventh largest by the year 2000. The city has modernized rapidly, building up a diversified export-oriented manufacturing base and then moving into tertiary and, more recently, quaternary activities. As a result of its agglomeration economies and locational advantages, Seoul played the role of development engine in the national economy, increasing its share of GNP from 17.3 to 30.5 per cent between 1963 and 1977 (Kwon, 1981). In recent years, Seoul has emerged as one of the most dynamic metropolises in the Asian region as well as an important world-class city, a position that the Government hopes to draw attention to by acting as host to the Olympic Games in 1988.

Beginning in the early 1960s, initially in response to national security concerns (e.g., the fact that the country's major concentration of population and economic activity was located close to the Demilitarized Zone (DMZ) and was therefore within artillery range of the Democratic People's Republic of Korea), the Government devised a variety of policy instruments aimed at reducing the growth rate of the Capital Region, decentralizing population and economic activities out of the Central Business District (CBD) and the city as a whole, and promoting more balanced urban and regional development at the national level. Since the mid 1970s, there has been a marked slowdown in the city's rate of growth, the structure of the city has been shifting gradually from a monocentric to a polynucleated one, and there has been a deconcentration of population out of the central city into peripheral areas of the Seoul Metropolitan Area (SMA). Moreover, at the national level, there is evidence to suggest that polarization reversal is under way. ^{1/} However, it is still unclear how far the decentralization that has taken place has been a spontaneous process and to what extent it has been policy-induced.

Significant progress has been made in recent years in improving living standards in Seoul and in managing metropolitan growth. Real per capita income, for example, rose from \$87 in 1962 to nearly \$2,000 in 1985. Moreover, the pattern of income distribution is less skewed in Seoul than in many large developing country cities. In addition, Seoul

has little absolute poverty, nearly universal literacy, and high standards of public health. The municipal authorities have engaged in massive, rapidly completed infrastructure works (e.g., bridges, tunnels, a metro and suburban railways), while the private sector has constructed residential and commercial high-rise structures at an impressive rate.

Nevertheless, Seoul still faces many problems. As one of the world's most densely populated cities, there are nearly 300 persons per hectare in certain central wards. These high densities can be explained by the fact that about 46 per cent of the city's total land area consists of steep hillsides, river bed, green belt or land reserved for civil defense purposes. In the remaining area, much of which has been inhabited for the past six centuries, there is a shortage of land for new development, which has led to inflated land prices and considerable real estate speculation. In spite of large-scale housing construction in recent years, the housing stock/households ratio has not improved for the past two decades. Most of the city's raw sewage still flows untreated into the Han River, while air quality has worsened. Traffic congestion, which is now moderately severe at peak periods, is expected to be a major challenge for planners in future years because of the high rate of increase in automobile ownership.

Moreover, despite persistent regional disparities and profound regional rivalries, which have led the current Government to renew its commitment to reducing the dominance of Seoul, there is likely to be a continuing concentration of population and economic activity within the Seoul Metropolitan Area.

I. DEMOGRAPHIC CHARACTERISTICS

A. Population growth

Seoul has been the premier city in Korea for nearly six centuries. Historical records indicate that the population was 110,000 in 1428, the year its residents were transferred into a new fortified city. The population increased to about 200,000 by the 1660s and is believed to have remained at that level for the next two centuries. Korea was opened up to foreign influence in the 1870s and was colonized by Japan in 1910. While a large Japanese colony numbering 155,000 in 1940 settled in Seoul, as many as 1,900,000 Koreans from all areas of the country migrated to Japan or Manchuria, a movement encouraged by the colonial authorities. Overall, however, Seoul gained population during the colonial period, increasing from 250,000 in 1920 to about 900,000 in 1945.

The end of the Second World War and the dismantling of the Japanese empire was followed by the departure of the city's Japanese population and the repatriation of more than 1 million overseas Koreans, a majority of whom settled in Seoul and in other urban areas. During the Korean Conflict (1950-1953) a large number of residents of Seoul fled to the countryside: the city's population dropped from 1,690,000 in 1950 to 716,865 in 1952. However, following the cessation of hostilities, there was an influx of some 1,200,000 displaced persons from the North. Kwon (in Mills and Song, 1979) estimates that between 1949 and 1955 Seoul lost 165,500 residents because of wartime mortality or permanent out-migration, which represented a decrease of 24.5 per cent; with the inclusion of displaced persons from the North, however, Seoul experienced a net increase of 58.5 per cent.

With almost all return migration of displaced persons completed by 1960, migration assumed a more typical pattern, with Seoul becoming the predominant destination of rural out-migrants from most regions of the Republic of Korea. The population of Seoul more than doubled between 1955 and 1966, reaching 3,790,000, and grew by more than 80 per cent in the next decade, reaching 6,880,000 in 1975 (table 1). However, the pace of Seoul's population growth began to slow markedly in the early 1970s, dropping below the national urban average. Between 1980 and 1983 Seoul had an average annual rate of growth of about 3.2 per cent, compared to the national urban average of 4.5 per cent. As of October 1983 the population of the city was estimated to be 9,200,000, or 23 per cent of the total national population, located within 0.63 per cent of the national territory. The population of the Seoul Metropolitan Area (SMA) was about 12.1 million, while that of the Capital Region as a whole was 14.7 million. ^{2/} Since the late 1960s the six satellite cities in the Seoul Metropolitan Area (Incheon, Suwon, Seongnam,

Table 1. Population size and rate of growth of Seoul Capital Region, 1966-1983

| Cities and counties | Population (thousands) | | | | | Annual growth rate (%) | | | |
|-----------------------------|------------------------|---------------|---------------|-------|-------|------------------------|-----------|-----------|-----------|
| | 1966 | 1970 | 1975 | 1980 | 1983 | 1966-1970 | 1970-1975 | 1975-1980 | 1980-1983 |
| 1. Seoul | 3793 | 5525 | 6879 | 8351 | 9204 | 9.4 | 4.4 | 3.9 | 3.2 |
| CBD | 386 | 346 | 619 | 535 | 501 | -2.8 | 12.3 | -2.9 | -1.6 |
| Ring | 3407 | 5179 | 6260 | 7816 | 8703 | 11.0 | 3.9 | 4.5 | 3.6 |
| 2. Suburban districts | 1333 | 1717 | 2335 | 3230 | 3860 | 6.3 | 6.1 | 6.5 | 5.9 |
| Incheon | 526 | 643 | 797 | 1082 | 1220 | 5.0 | 4.3 | 6.1 | 4.0 |
| Suwon | 128 | 170 | 224 | 310 | 374 | 7.1 | 5.5 | 6.5 | 6.3 |
| Seongnam | 30 <u>a/</u> | 61 <u>a/</u> | 272 | 377 | 417 | 17.7 | 29.9 | 6.5 | 3.4 |
| Euijeongbu | 75 | 94 | 108 | 133 | 145 | 5.8 | 2.8 | 4.1 | 2.9 |
| Anyang | 54 <u>a/</u> | 91 <u>a/</u> | 135 | 253 | 292 | 12.9 | 7.8 | 12.6 | 4.8 |
| Bucheon | 41 <u>a/</u> | 56 <u>a/</u> | 109 | 221 | 340 | 8.0 | 13.2 | 14.2 | 14.4 |
| Namyangju | 99 <u>a/</u> | 124 <u>a/</u> | 153 <u>a/</u> | 191 | 210 | 5.6 | 4.2 | 4.4 | 3.2 |
| Sihung | 128 | 186 | 207 | 289 | 449 | 9.3 | 2.1 | 6.7 | 14.7 |
| Goyang | 94 | 133 | 143 | 156 | 165 | 8.8 | 1.4 | 1.7 | 1.9 |
| Kwangju | 73 | 81 | 95 | 107 | 142 | 2.6 | 3.2 | 2.2 | 9.4 |
| Gimpo | 85 | 78 | 92 | 97 | 106 | -2.1 | 3.2 | 1.1 | 3.0 |
| 3. SMA (1+2) | 5126 | 7242 | 9214 | 11581 | 13064 | 9.0 | 4.9 | 4.7 | 4.1 |
| 4. Outlying Kyonggi Area | 1769 | 1637 | 1700 | 1700 | 1718 | -1.9 | 0.8 | 0.0 | 0.4 |
| 5. Capital Region (3+4) | 6895 | 8879 | 10914 | 13281 | 14782 | 6.3 | 4.1 | 3.9 | 3.5 |

Sources: Jin Ho, Choi and Tae-Il Lee, "Attributes of metropolitan suburbanization in Seoul Capital Region and their policy implications", paper presented at the Korea/United States Seminar on Urban/Regional/Transportation Development Planning and Environmental Management, Seoul, 18-24 August 1985.

a/ Estimated population based on the current administrative boundary.

Eiujeongbu, Anyang and Bucheon) have expanded very rapidly, at average annual rates of around 6 per cent, indicating a gradual deconcentration of population from the central core (table 1).

With respect to the components of population growth, more than half of the population growth of Seoul since 1960 is attributable to net migration. However, the share of net migration in population growth has been steadily decreasing, from 82 per cent during 1966-1970 to 39 per cent during 1976-1979 (Kwon, 1981). Fertility has declined steadily as a result of the overall modernization process and such factors as rising levels of literacy, improvement in the status of women, the widespread accessibility of family planning services, and the introduction of information, education and communication (IEC) programmes in schools and factories. Between 1961 and 1980, for example, the total fertility rate in Seoul declined from 3.9 to 3.4 births per woman.

Because of the decline in fertility and the predominance of young adults among recent migrants, the age structure of the Seoul population exhibits an increasing share of economically active persons, particularly between ages 25-59, and a decreasing share of persons under 14 years of age. The percentage of children under 14 years of age declined from 31.2 per cent in 1975 to 27.9 per cent in 1983, while that of the economically active population (14-59) rose from 65.1 to 67.4 per cent (Seoul Metropolitan Government, 1984b). The percentage of persons aged 60 or older also increased, from 3.7 to 4.6 per cent, between 1975 and 1983. Average household size declined from 6.1 persons in 1955 to 4.8 in 1975 and to slightly more than four in 1983, reflecting both the decline in fertility and the increasing proportion of nuclear families among Seoul households.

With respect to population policies, the Government of the Republic of Korea has been implementing comprehensive population and development policies since the early 1960s. Beginning with the establishment of the high-level Population Policy Deliberations Committee in 1976, population distribution policies were assigned major importance within the Government's overall population policy. In the Fourth Five-Year Economic Development Plan (1977-1981), the Government placed major emphasis on strengthening population education and maternal/child health services, and developing medical insurance schemes. The Fifth Five-Year Economic and Social Development Plan (1982-1986) emphasized the importance of reducing aggregate rates of population growth, as well as reducing in-migration to the country's largest cities, which was reported to be a serious threat to national economic and social development. The Plan placed particular emphasis on policies designed to promote regional development and outlined new population control measures, including the strengthening of existing family planning

programmes, and the development of extensive social support policies, including various incentive and disincentive schemes, designed to promote the small family norm.

B. Migration

Migration data for Seoul are derived from several major sources. One is the Yearbook on Migration Statistics Based on Resident Registration, published annually (National Bureau of Statistics, 1983). Although persons who move are required to register in the new location, re-registration sometimes takes place after some delay, and there is a certain amount of non-compliance. As a result, the published registration data do not accurately reflect either the timing or the volume of population shifts. Another major source of migration data is the quinquennial national census, which collects data on usual place of residence and residence five years before (and, in the case of the 1980 census, on residence one and five years before). However, the measurement of migration using census data is thought to result in a sizeable under-estimation of actual moves, since multiple moves during the five years prior to the census and intra-district moves are not reflected.

To provide a more comprehensive picture of migration patterns, the National Bureau of Statistics and the Korea Institute for Population and Health conducted the Korean National Migration Survey in 1983. The Survey, a single-round inquiry of 9,300 households, of which 3,406 were located in the Seoul Metropolitan Area, followed a core questionnaire regarding mobility behaviour prepared by the Economic and Social Commission for Asia and the Pacific (ESCAP). As of mid 1985 the data had been tabulated and the Preliminary Report of the Korean National Migration Survey had been released. In a second phase, a series of technical working papers will be prepared on selected policy-relevant topics (e.g., causes and consequences of population concentration in the SMA, types and patterns of population movement, economic variables affecting population movement, interrelationships between population movement, family structure, and ecological variables). In the third and final phase, the findings of the technical papers will be utilized in policy formulation and programme development directly related to the control and management of population movement.

Examination of the reported migration patterns during the mid 1960s to mid 1970s reveals that Seoul absorbed about 500,000 migrants annually, which is roughly equivalent to the natural increase of the entire country. In recent years, however, migration to Seoul has been slowing down. During the five years preceding the 1983 migration survey, a total of 2,300,000 persons moved into or within the SMA. Of that number, some 953,000 persons moved into Seoul from rural areas and

621,000 from other urban areas; another 689,000 persons moved within the Seoul Metropolitan Area, in moves that Korean statisticians classify as commuting. Analysis of a 2 per cent sample tape of the 1980 population census by Choi and Lee (1985) revealed that, of the total of 83,500 households that moved into Seoul during 1979/80, 21.3 per cent came from the suburban districts (i.e., from the six satellite cities and seven counties in the periphery of the SMA), and 11.2 per cent came from the Outer Kyonggi Area, whereas 63.3 per cent had migrated from outside Kyonggi Province.

Whereas a large proportion of households moving into Seoul came from outside the Capital Region, sometimes from considerable distances, the situation was quite different in the suburban areas. Choi and Lee (1985) found that, of the 91,846 households moving into the suburban districts during 1979/80, 53.9 per cent of the suburban movers came from the city of Seoul, indicating a dispersal of population to the adjacent satellite cities and counties.

As a result of continuing migration to the Seoul Metropolitan Area, 55 per cent of the population consists of lifetime migrants. With respect to the characteristics of the migrants, the 1983 migration survey found that persons migrating to the SMA were predominantly unmarried young adults whose sex ratio was fairly balanced; that was in contrast to migration streams between rural areas, which were female dominant. Among lifetime migrants in the SMA, 66.6 per cent were in the 14-44 age group and 48.3 per cent had attended school to at least the high school level. Among recent - i.e., five-year - migrants to the SMA, 10 per cent of males and 17 per cent of females in the economically active ages (14-59) were unemployed.

Examining the major reasons for in-migration, the Migration Survey documented that economic reasons for moving were generally more important for migrants moving to the SMA than for those moving to other urban or to rural areas. Among Seoul-bound migrants, economic reasons were more important among males in all age groups and among women aged 15-24. At all other ages, however, family-related reasons (e.g., marriage, divorce or separation, nearness to family) were cited as being most important, with the major reason being to follow a male member of the family who had migrated in search of employment.

The 1983 Survey also confirmed the belief that prospective migrants obtained information on living conditions in Seoul not from the media but mainly from friends and relatives already living in the Metropolitan Area. That is not unexpected, since the Republic of Korea is relatively small and ethnically homogeneous; families typically have relatives in various parts of the country. Relatives were found to have provided a wide range of assistance to newly arrived migrants. Indeed, 27.9 per cent of migrants reported that they had received assistance in obtaining

housing, and 17.1 per cent had been helped with living expenses. Fourteen per cent acknowledged that they had received "psychological assistance", 12.6 per cent reported gifts of food, and 11.9 per cent reported that they had received assistance from relatives in obtaining employment.

When asked whether their current residence was preferable to their former residence, a majority of migrants in the SMA expressed overall satisfaction. They were most satisfied with their current employment situation and with Seoul's educational facilities, followed by marketing facilities and transportation services. However, 5.9 per cent of migrants in the SMA reported problems related to housing.

C. Population projections

In the aftermath of more than a decade of war and war-related migration, it was difficult for demographers and planners to prepare population projections for Seoul based on the extrapolation of past trends, since population growth had fluctuated widely, sometimes on an annual basis. The first population projections prepared for inclusion in the Master Plan of the Seoul Metropolitan Government (1966) targeted a population of 5 million for Seoul City by 1985. That represented the identification of a target city size at a time when Seoul had a population of 3.8 million and when only 18 cities in the world, including eight in developing countries, and more than 5 million inhabitants.

In the preliminary plan for the Capital Region prepared in 1970, the Government adopted a target figure of 7.5 million (for the Seoul Metropolitan Area) by 1980. However, following the announcement in that same year of the Development Restriction Zone (green belt), which was expected to curtail growth within the city, the Government scaled down its target to 6.3 million by 1981. In 1977, the more comprehensive population redistribution plan for the Capital Region adopted a population cap of 7 million for the Seoul Metropolitan Area by the year 1986.

During the mid 1970s a number of organizations - the Ministry without Portfolio, Seoul City Government, the Ministry of Construction (MOC), the Korea Development Institute (KDI), the Korea Research Institute for Human Settlements (KRIHS), and the Korea Institute for Science and Technology (KIST) - prepared population projections for Seoul up to 2001. The range of the projections was quite broad. The Ministry without Portfolio contrasted a trend population of 11,390,000 in 1986 with a target population of 7,000,000. Similarly, the MOC contrasted trend populations of 9,990,000 in 1986 and 11,340,000 in 2001

with target populations of 8,880,000 and 9,300,000, respectively. KRIHS projected a population of 9,900,000 in 2001, whereas the Seoul City Government, assuming the success of Government decentralization measures, projected a population of only 7,00,000 by the end of the century.

Recent projections have been higher. In its comprehensive plan for the Seoul Capital Region (1982), the MOC projected the population of Seoul to be about 9,000,000 in 1991 and that of the Capital Region to be 16,383,000. However, given what it determined to be the city's maximum population absorption capacity, it projected the population of the city of Seoul to be no more than 10,200,000 by the year 2001. The target population for the Capital Region as a whole was identified to be no more than 18,000,000 by the end of the century.

In 1983 the Korea Institute of Population and Health prepared a series of provisional projections of population by region, using four alternative assumptions: low fertility and zero net in-migration; high fertility and zero net in-migration; low fertility and declining net in-migration; and high fertility and declining net in-migration. The assumptions resulted in a population for the SMA within the range of 11.3 million to 14.0 million by the year 2000.

Projecting the population of Seoul is a complex exercise. A powerful central government and a strong municipal administration have intervened with a broad array of policy measures that have had a variety of direct and indirect effects on population movement. Moreover, fertility behaviour in Seoul, as well as age and household structure, have been changing quite rapidly. In addition to demographic changes and uncertainties, projecting the population of Seoul has been a somewhat politically sensitive activity, with policy makers and researchers being cautious about appearing too optimistic or overly alarmist.

The projections for Seoul that have been prepared to date consist either of trend projections that usually are based on relatively simple assumptions regarding fertility, mortality and net migration; target populations that either have been selected somewhat arbitrarily or correspond to some idea about desired city size; or "blocked populations," projections that assume zero net in-migration. In some cases, offices that have prepared projections (e.g., the Ministry without Portfolio and the MOC) have contrasted their trend projection with a target or blocked population, usually to underline the urgency of adopting decentralization measures.

II. THE ECONOMY

A. Historical background and development of the city's economic base

Seoul traces its origins to a small settlement that was capital of the Paekche dynasty, one of the three ancient kingdoms of Korea. Following the rule of the Silla dynasty, which conquered the Han River Basin area in the sixth century, the Koryo dynasty came to power and designated Seoul as one of its three minor capitals in 1067. With the founding of the Chosun kingdom in 1392, Seoul became the capital of a highly centralized administration, which built a walled city in the late fifteenth century patterned on Chinese principles of urban design. The city grew in a haphazard fashion, mainly inside the fortified walls, with the population fluctuating around 200,000 inhabitants from the mid-seventeenth to the late nineteenth century.

The opening of treaty ports in the 1870s and 1880s and the construction of the Seoul/Pusan railroad marked the beginnings of modern urban growth in Korea. During the period of Japanese rule (1910-1945) Korea developed as a colonial enclave, producing rice and other foodstuffs for the Japanese market and receiving finished consumer goods. Most industrial areas developed on the northwestern and southeastern coast, close to ports which connected them to Japan. Only a limited amount of light manufacturing (mainly served by female labour) developed in the Seoul area. During the 1920s and 1930s, however, there was a major expansion of the tertiary sector, particularly within the governmental and commercial sectors. While many of the managerial and other skilled positions were held by Japanese, who settled in Seoul in significant numbers, large numbers of Seoul's residents migrated to other parts of the Japanese empire for higher education or for temporary or permanent employment.

Following demobilization, the Japanese population departed and more than 1 million Koreans returned, mainly from Japan or Manchuria. Since most Korean expatriates had resided abroad in urban areas, and many were long-term emigrants who no longer had ties to their native villages, they exhibited a strong preference for resettling in the Seoul area (Mills and Song, 1979). During the Korean Conflict a significant number of Seoul residents fled the city, which was largely reduced to rubble, its economy destroyed. However, Seoul grew rapidly after 1953, partly due to the influx of 1.2 million displaced persons from the north, who were drawn partly by the concentration of wartime relief efforts in the city.

In the wake of the territorial division and locational disruption brought about by the Korean Conflict, the Government in the south had to make major structural adjustments, owing to the fact that the north had

been the country's major supplier of electricity and site of heavy industry, whereas manufacturing in the south had mainly consisted of small-scale consumer industries (Choe and Song, 1984). During the period of post-war reconstruction, the Government of the Republic of Korea placed primary emphasis on the construction of basic industries for import substitution and on the expansion of social overhead capital. By the mid 1960s, the Government began to pursue an outward-looking industrialization strategy, promoting labour intensive light manufacturing industries. Looking at the city's industrial profile as of 1983, of the total of more than 8,000 registered manufacturing firms, the industries which were relatively highly concentrated in Seoul were metal products, machinery and equipment (31 per cent), followed by textiles, apparel and leather goods (17 per cent); paper, printing and publishing; chemicals and petroleum products (roughly 13 per cent each); non-metallic mineral products (6 per cent); timber products; and food, beverages and tobacco (4 per cent each). The share of Seoul in manufacturing has been declining, however, as industries have moved out to contiguous Kyonggi Province. Seoul is rapidly becoming a post-industrial city whose major functions are in the areas of international trade, banking and finance, communications and information processing.

B. Recent performance of the economy

Following the economic difficulties experienced by the economy of the Republic of Korea in 1980 and 1981 (brought about by chronic inflation and structural weaknesses in the economy and exacerbated by rising oil prices and political unrest), the Government issued an unfavourable economic forecast in the Fifth Five-Year Plan (1982-1986), predicting a trade deficit of \$4 billion and an inflation rate of 10 per cent. However, the lower-than-anticipated rise in oil prices, combined with the effects of the Government's economic stabilization programme, led to economic recovery as early as 1983. Since the economy was performing far better than anticipated, with GNP growing at a rate of 9 per cent and domestic prices holding stable for the first time in many years, the Government issued a revised Fifth Five-Year Plan for the remaining years of the plan period (1984-1986). The Plan emphasized the need to sustain price stability and outlined a new economic management policy designed to encourage private initiative and to promote open market competition. Among other steps, the Government announced that it would implement an "open door" policy designed to sharpen the international competitive edge of the Korean economy through foreign competition. By 1988, some 90 per cent of the nation's 1,000 major industries, and particularly those in high technology sectors and in activities related to the 1988 Olympic Games, will be opened to foreign investment.

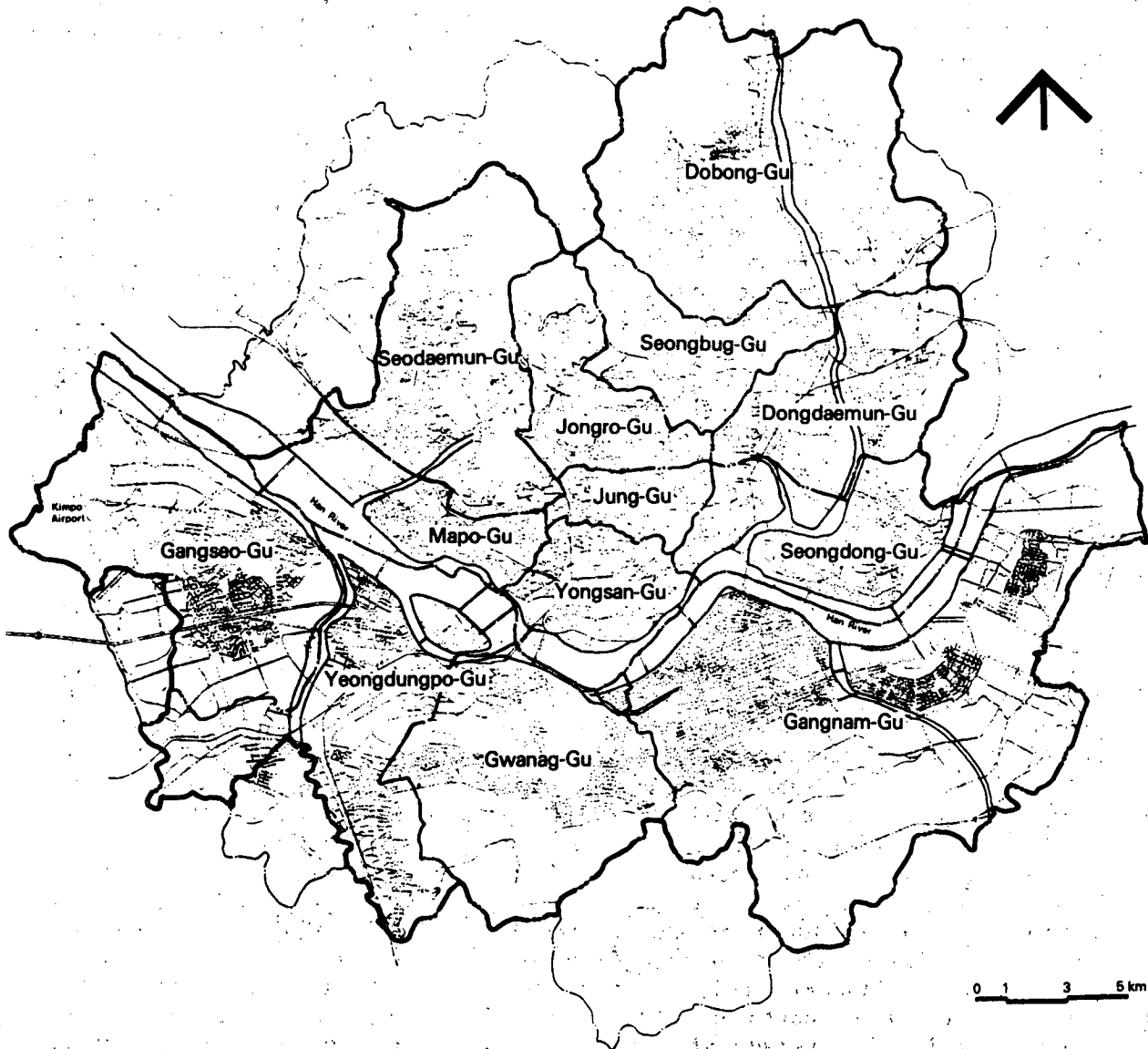
Despite the Republic of Korea's impressive economic recovery, it faces a number of serious issues. Rapid wage increases have eroded the competitiveness of its exports. Moreover, the country is facing stiff competition in international markets from Japan and various Southeast Asian countries. The nation's gross national product grew by 4.1 per cent per annum in the first three months of 1985, the lowest quarterly growth rate in nearly four years and 8.4 percentage points below the rate for the first quarter of 1984.

C. Spatial structure of the metropolitan region

Located in the west central part of the Korean peninsula, the Seoul Capital Region covers an area of 11,697 square kilometres. It is bounded on the north by the truce line with the Democratic People's Republic of Korea, on the south by the estuary of the Anseong river, on the east by mountain ridges, and on the west by the North China Sea. More than 60 per cent of the population of the Capital Region and 70 per cent of the population of the SMA is concentrated within the city of Seoul, an area of 627 square kilometres that is bisected along an east/west axis by the Han River.

Beginning in the 1920s, the population of Seoul began to spill out beyond the city walls; it continued to spread outward in a concentric pattern during the 1930s and 1940s. Following the destruction of much of the city in the Korean Conflict, it was rapidly re-built, with little planning. Mass in-migration from rural areas during the 1960s led to re-adjustment of the administrative boundary (from 268 square kilometres in 1949 to 613 in 1963 and to 627 in 1973) to accommodate the continuing urban sprawl. In 1970, in an effort to limit further horizontal urban growth, the Government established a green belt around the city's periphery. That artificial constraint of a city that was growing by more than 9 per cent per annum led to continuing growth in an over-saturated pattern within the green belt and resulted in an intra-urban population shift. Given the shortage of land north of the Han River, developers began to construct massive high-rise apartment blocks south of the river, an area roughly equal in geographical size to the part of Seoul north of the river (fig. I). Moreover, a number of Government offices and corporations moved from the central city to Yoido island and to Gangnam ward, which began developing as a secondary CBD. Although densities north of the river were almost double those to the south in 1978 (182 versus 96 persons per hectare), the gap had narrowed significantly by 1983 (167 in the north and 127 in the south). According to one survey, the number of households moving from north to south was 2.3 times greater than those moving in the opposite direction (Kwon, 1984). The south's share of the city population rose from 23.3 per cent in 1973 to 43.8 per cent a decade later. Moreover, four

Figure 1.
Administrative boundary, City of Seoul



Source: Korea Planners Association and the City of Seoul, *Planning Maps of Seoul* (1980).

southern wards (Dongjag, Gwanag, Yeondeungpo and Guro) had already attained population densities higher than the city average, while the highest density ward in the city was Dongdaemun, in the east. That suggests that the monocentric structure of Seoul is gradually beginning to break down.

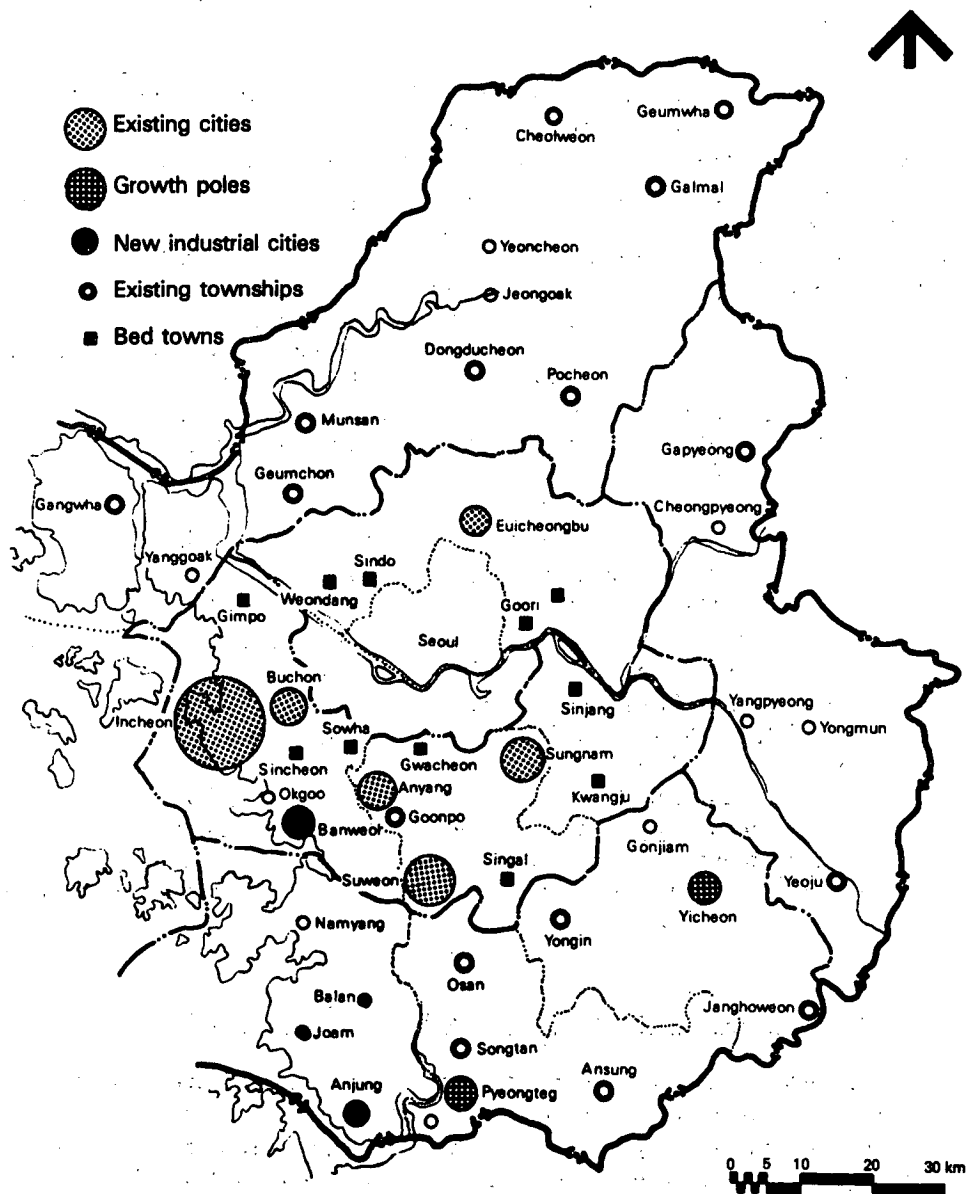
The CBD, which consists of Jung and Jongro wards and is roughly co-terminous with the inner part of the walled city constructed during the late fifteenth century, is an area of 34.2 square kilometres located within the inner ring road. Its size is small relative to its employment density: as of 1976 it contained 74 per cent of all governmental institutions within the SMA, 73 per cent of public enterprises, 88 per cent of the mass media, 94 per cent of financial institutions, 77 per cent of tourist hotels, 84 per cent of department stores and 51 per cent of shopping arcades. (Korea Planners Association and the City of Seoul, 1980). Because of urban renewal and escalating land prices there has been a loss of residential population in the CBD, whose share of the total population of the city of Seoul declined from 15.4 per cent in 1960 to 93.6 per cent in 1980 (Choe and Song, 1984).

In addition to Seoul City, the urbanized area of the SMA stretches south-westwards along the Seoul/Incheon suburban railway corridor, in which the satellite cities of Bucheon (which had a 1980 population of 195,700), and Incheon (a population of 1,040,000), are located, and southwards along the Seoul/Suwon railway corridor, which contains the satellite cities of Anyang (population, 216,200), and Suwon (population, 290,300). The remaining satellite cities are located to the north - Euicheonbu (population, 124,700) - and the southeast - Sungnam (population 345,300), while the newly developing industrial town of Banweol (planned population, 200,000), is located to the south. There are also a number of residential towns - so-called bed towns - under construction, such as Gwacheon, which has a planned population of 63,000 (fig. II).

D. Sectoral and spatial distribution of jobs

Seoul employed 2,560,000 workers as of 1980, roughly three out of 10 in white-collar jobs and seven out of 10 in blue-collar occupations (table 2). White-collar occupations grew faster than blue collar jobs between 1966 and 1980, 9.4 per cent per annum compared to 7.2 per cent. Moreover, the average annual rate of growth of white-collar jobs during 1975-1980 was 7.7 per cent, compared to average annual growth of 3.8 per cent in total employment. The percentage share of white-collar jobs in Seoul in the national total increased from 37.3 per cent in 1970 to 39.9 per cent in 1980, indicating that white-collar jobs agglomerated in Seoul over that period (J.S. Lee, 1985). The business sector accounted

Figure II.
Planned urban development in Seoul Capital Region



Source: Korea Planners Association and the City of Seoul, *Planning Maps of Seoul* (1980).

Table 2. Total number employed and growth rate by occupational category in Seoul, 1966-1980

| Occupational category | 1966 | 1970 | 1975 | 1980 | Average annual growth rate (1966-1980) |
|-------------------------------|------------------|-------------------|-------------------|-------------------|--|
| Office-related | 203740 (23.1) | 381378 (23.5) | 527805 (24.8) | 764471 (29.9) | 9.4 |
| Professional/technical | 52610 (5.9) | 97876 (6.0) | 132944 (6.2) | 198478 (7.7) | 9.5 |
| Administrative/ managerial | 29600 (3.3) | 46537 (2.9) | 51095 (2.4) | 80986 (3.2) | 7.2 |
| Clerical/related | 121530 (13.7) | 236965 (14.6) | 343766 (16.2) | 485007 (19.0) | 9.9 |
| Other | 679770 (76.9) | 1240310 (76.5) | 1597040 (75.2) | 1794036 (70.1) | 7.2 |
| Sales | 198720 (22.5) | 334465 (20.6) | 428564 (20.2) | 541879 (21.2) | 7.2 |
| Services | 120450 (13.6) | 230601 (14.2) | 245638 (11.6) | 291474 (11.4) | 6.3 |
| Production/related | 335870 (38.0) | 621357 (38.3) | 864389 (40.7) | 937949 (36.7) | 7.3 |
| Agri/fishery/ forestry | 24520 (2.8) | 31068 (1.9) | 42347 (2.0) | 22574 (0.9) | -0.6 |
| Unclassified | 210 (-) | 22818 (1.4) | 16102 (.7) | 160 (-) | - |
| Total | 883510 | 1621688 | 2124845 | 2558507 | 7.6 |

Source: Jeong-Sik, Lee, "The impact of office employment on urban growth: the case of Seoul", paper presented at the Korea/United States Seminar on Urban/Regional/Transportation Development Planning and Environmental Management, Seoul, 18-24 August 1985.

for a majority of white-collar jobs in Seoul and was the sector with the most rapid average annual rate of growth. Lee (1985) has estimated that the total employment effects generated by office employment in Seoul as of 1980 were around 1.3 million, which constituted more than half of total employment. Moreover, assessing the impact of office employment on population growth by using a population-attracting coefficient (obtained by multiplying employment multipliers and the dependent population), one study concluded that total population attracted by white-collar jobs in Seoul was more than 4 million as of 1980, nearly one-half of the total population. (Lee, 1985). With respect to the spatial distribution of employment, office employment and retail commerce is concentrated mainly north of the Han River (particularly in Jung and Jongro wards) and south of the river in Gangnam ward. In 1983 those three wards contained 42 per cent of the city's 928 banks, for example, and more than half of its 62,000 stores (table 3).

More than one-third of the labour force in Seoul is employed in production and related activities. Of the more than 400,000 workers employed in manufacturing as of 1983, nearly 30 per cent were employed in plants producing machinery and equipment, 23 per cent in textile plants, and about 11 per cent in chemical plants. Data on registered manufacturing employment reveal significant variations among individual wards - ranging from 3,491 manufacturing workers per square kilometres in Guro and 2,172 in Yeongdeungpo to only 31 in Gangnam and 91 in Gwanag (table 3). Manufacturing job densities are higher in the south (806 workers per sq kms compared to 482 in the north), while 64 per cent of the total jobs are concentrated in three wards (Guro, Yeongdeungpo and Seongdong), implying two major industrial areas, one on each side of the river. That cannot be taken to imply a bi-polar spatial structure because the spatial distribution of non-manufacturing activities is quite different, with banks and shops (and to a lesser extent restaurants) heavily concentrated in two wards, Jung (part of the CBD) and Gangnam, which is developing as the second major office location in Seoul. Thus, there are currently at least three major employment centers in addition to the CBD (two manufacturing, and one tertiary) in the city of Seoul itself, as well as a number of satellite cities (e.g., Incheon, Suwon and, in the future, Banweol) with strong economic bases, mainly in manufacturing. Construction activity is heavily concentrated south of the river, with the southern part of Seoul accounting for 63 per cent of the city total. On the other hand, a much lower level of new construction was being undertaken in the CBD (table 3).

E. The city in the region

The city of Seoul continues to exercise great weight in the economy of the Capital Region, as well as in that of the country as a whole. In recent years, however, there is some evidence that polarization reversal

Table 3. Distribution of population and economic activities, by ward, 1983

| Ward | Population | Density (population/ hectare) | | Registered mfg. employment | Employ- ment density (per km ²) | Private Banks stores | Restaurants and tearooms | Constr- uction (in billions of won) | |
|--------------|------------|-------------------------------------|------|----------------------------------|--|-------------------------|--------------------------------|--|--------|
| | | 1978 | 1983 | | | | | | |
| <u>North</u> | | | | | | | | | |
| Jongro | 276.9 | 130 | 115 | 5422 | 225 | 5243 | 96 | 3797 | 7620 |
| Jung | 224.5 | 258 | 223 | 10126 | 1003 | 17695 | 184 | 5230 | 5034 |
| Yongsan | 334.8 | 161 | 157 | 9142 | 427 | 1137 | 38 | 2260 | 2730 |
| Seongdong | 737.5 | 162 | 181 | 60204 | 1476 | 1639 | 56 | 3049 | 6244 |
| Dongdaemun | 914.1 | 253 | 292 | 19301 | 617 | 3988 | 58 | 3297 | 5987 |
| Seongbug | 589.4 | 239 | 237 | 8507 | 343 | 1900 | 37 | 1706 | 6720 |
| Dobong | 813.0 | 86 | 99 | 21439 | 262 | 2965 | 34 | 1901 | 9564 |
| Eunpyeong | 422.2 | 113 | 129 | 4799 | 146 | 1122 | 24 | 1342 | 7886 |
| Seodaemun | 422.7 | 223 | 236 | 2569 | 144 | 1272 | 29 | 2333 | 4059 |
| Mapo | 439.2 | 183 | 184 | 7458 | 313 | 1027 | 33 | 1369 | 4882 |
| <u>South</u> | | | | | | | | | |
| Gangseo | 634.8 | 41 | 105 | 34348 | 571 | 2053 | 38 | 2308 | 18006 |
| Guro | 629.7 | - | 160 | 137534 | 3491 | 1247 | 33 | 2735 | 14202 |
| Yeongdeungpo | 446.2 | 142 | 162 | 59960 | 2172 | 2806 | 58 | 3231 | 11373 |
| Dongjag | 400.3 | - | 239 | 7590 | 452 | 791 | 22 | 1615 | 15669 |
| Gwanag | 539.8 | 176 | 196 | 2501 | 91 | 1790 | 24 | 2226 | 7155 |
| Gangnam | 651.7 | 68 | 75 | 2724 | 31 | 10723 | 112 | 4161 | 16076 |
| Gangdong | 727.5 | - | 121 | 11589 | 193 | 4150 | 53 | 2535 | 19872 |
| | 9204.3 | 139 | 147 | 405213 | 646 | 61548 | 928 | 44995 | 163080 |

Source: Seoul Metropolitan Government, Seoul Statistical Yearbook (1984).

is taking place. For example, Renaud (1979) has cited as evidence the convergence of regional growth indicators, the declining share of GDP absorbed by Seoul gross regional product (GRP), a narrowing in interregional and inter-urban indicators, the diversion of migration flows away from Seoul towards other urban areas, and a weakening of the positive relationship between income and city size. In addition, Hwang (1979) has referred to a different, although overlapping, set of variables as evidence of polarization reversal: physical constraints on development and high land prices in Seoul; a decline in the capital's locational advantages for manufacturing (reflected in a fall in Seoul's share of national manufacturing output), combined with the development of large-scale industry in the south of the country; a fall in the population and GRP growth rates of Seoul; and, again, a convergence in interregional income disparities.

However, the major redistribution of population and manufacturing employment which has taken place during the past decade has been within the Seoul Metropolitan Area (SMA). The reasons for the rapid increase in the population of the periphery of the SMA are complex. A major impetus to population growth outside the city was the designation of the green belt in 1970, which led to leap-frogging development across the belt and into the satellite cities. According to a recent survey, that movement was accelerated by the construction of cheaper housing in peripheral areas, which attracted lower-income households, and by a better living environment, which attracted higher-income households (Korea National Housing Corporation, 1983). Other major forces behind suburban growth were the completion of the two suburban rail lines (Seoul/Incheon and Seoul/Suwon) in 1974, which facilitated commuting and led to rapid urban development along the corridors, to the development of industrial estates and new towns such as Banweol, and to the construction of bedroom communities such as Gwacheon. As a result of those factors, the satellite cities and suburban counties have expanded rapidly in recent years (table 1). Whereas the city of Seoul grew at an average annual rate of 3.2 per cent during 1980-1983, the satellite cities of Bucheon, Suwon, Anyang and Incheon grew at 14.4, 6.3, 4.8 and 4.0 per cent, respectively, while the average annual rate of growth for the suburban districts as a whole was 5.9 per cent.

The rapid growth of the suburban districts has been accompanied by a measurable shift in manufacturing employment. Indeed, whereas the city's share of employment in manufacturing in the metropolitan region declined sharply, from 70.6 per cent in 1973 to 47.1 per cent in 1981, the share of selected satellite cities in Kyonggi Province increased from 22.2 to 34.7 per cent, and that of the rest of Kyonggi increased from 7.2 to 18.2 per cent (table 4).

In spite of the decentralization of manufacturing employment to outer parts of the Seoul Metropolitan Area (SMA), part of the shift of population is merely a residential shift, with more than half a million

Table 4. Changes in manufacturing employment in the Seoul Capital Region, 1973-1981

| | 1973 | | | 1978 | | | 1981 | | | Annual average growth rate (%), 1973-1981 |
|---|---------|------------|--------------------------------|---------|------------|--------------------------------|---------|------------|--------------------------------|---|
| | Number | Percentage | Mfg. share in total employment | Number | Percentage | Mfg. share in total employment | Number | Percentage | Mfg. share in total employment | |
| 1. Seoul | 409916 | 70.6 | 33.7 <u>a/</u> | 539192 | 47.7 | 22.9 <u>a/</u> | 433493 | 47.1 | 21.2 <u>a/</u> | 0.7 |
| 2. Selected suburban districts | 129314 | 22.2 | - | 340615 | 33.0 | - | 319442 | 34.7 | - | 12.0 |
| Incheon | 67825 | 11.7 | 68.0 | 166576 | 16.2 | | 148391 | 16.1 | 77.0 <u>b/</u> | 10.3 |
| Suwon | 15746 | 2.7 | - | 33838 | 3.3 | | 34766 | 3.8 | 69.0 | 10.4 |
| Seongnam | 12118 | 2.1 | - | 43217 | 4.2 | | 40214 | 4.4 | 72.0 | 16.2 |
| Euijeongbu | 5862 | 1.0 | 13.0 | 11788 | 1.1 | | 6855 | 0.7 | 37.0 | 2.0 |
| Anyang | 20616 | 3.6 | 83.0 | 40184 | 3.9 | | 31361 | 3.4 | 72.0 | 5.4 |
| Bucheon | 7147 | 1.2 | 67.0 | 45012 | 4.4 | | 44394 | 4.8 | 71.0 | 25.6 |
| Banweol | - | - | - | - | - | | 13451 | 1.5 | 94.0 | - |
| 3. Rest of Kyonggi | 41614 | 7.2 | | 151521 | 14.7 | | 167084 | 18.2 | | 19.0 |
| 4. Capital Region <u>c/</u> total (1+2+3) | 580844 | 100.0 | 47.8 <u>a/</u> | 1031328 | 100.0 | 48.0 <u>a/</u> | 920019 | 100.0 | 45.0 <u>a/</u> | 5.9 |
| 5. Korea, total | 1216389 | | | 2150971 | | | 2044269 | | | 6.7 |

Sources: Sang-Chuel, Choe, Dong-Hoon Chun and Won-Yong Kwon, "Intrametropolitan industrial location in the Seoul Region: facts and issues, paper presented at the Korea/United States Seminar on Urban/Regional/Transportation Development Planning and Environmental Management, Seoul, 18-24 August 1985.

Sang-Chuel, Choe, and Byung-Nak Song, "An evaluation of industrial location policies for urban deconcentration in Seoul Region", Journal of Environmental Studies, vol. 14, pp. 73-116.

- Note: a/ Percentage of national total.
b/ Manufacturing share data refers to 1980.
c/ Categories 2 and 3 do not correspond exactly to categories 2 and 4 in table 1. Whereas selected suburban districts are included in category 2, the remainder are aggregated under category 3.

suburban residents continuing to commute daily to Seoul. Indeed, Choi and Lee (1985) found that nearly half of recent suburban movers retained their jobs in the central city, a commuting rate that did not show a declining tendency over time. Their study concluded that the overall socio-economic status of the suburban movers from Seoul was lower than the remaining population in Seoul, which contrasts to the situation in most developed countries, where suburban movers tend to be higher-income households. Many of the suburban movers were young heads of households employed in production or clerical work who had been forced to move out to suburban districts because of the high price of housing in Seoul. Because the housing shortage was expected to continue, it was assumed that other young households would continue to move out to suburban districts, and many would retain their jobs in the central city.

In spite of the process of suburbanization and deconcentration of manufacturing employment, many of the urban functions of Seoul have not been redistributed. The deconcentration of manufacturing employment has been largely offset by the rapid growth of white-collar jobs, particularly in the business sector, as well as in high technology and research and development activities. As of 1980, 95 of the country's 100 largest trading companies and 42 of the 46 family-based industrial conglomerates were concentrated in the central city, mainly in the CBD, as were 62 per cent of the head offices of manufacturing firms with equity capital of over 10 million won (Hwang, 1982). Whereas Seoul accounted for 45.6 per cent of the country's total employment in 1983, it accounted for 90 per cent of employment in trading companies, 55.8 per cent of employment in export industries and 40 per cent of employment in the civil service. The situation is not likely to change in the near future, partly because of the need for face-to-face contacts in business dealings. Moreover, although more than a dozen secondary Government agencies have re-located in peripheral areas of the Capital Region, political power continues to reside in Seoul. Likewise, the major colleges and universities, the largest banks (accounting for 63 per cent of total deposits and 64 per cent of loans), insurance firms, the stock exchange and the media continue to be concentrated in the central city.

III. DECENTRALIZATION AND LOCATION

A. The evolution of spatial strategies

In response to the rapid horizontal growth of Seoul during the 1920s and 1930s, the Act on Planning of Korean Cities was passed in 1936, establishing land-use controls and designating planning districts. Following the destruction and subsequent rapid rebuilding of the city after the Korean Conflict, the City Planning Act and Building Act were passed in 1962. Beginning around 1964, partly in response to fears over the proximity of Seoul to the Demilitarized Zone (DMZ), the Government formulated a broad array of policy measures designed to reduce the dominance of Seoul and to promote the decentralization of industry, additionally as a means of stepping up economic recovery. Over the next two decades, a broad array of spatial distribution strategies, national land-use plans and industrial location policies were adopted, along with a range of policy instruments aimed both at enterprises and at individuals and households. For purposes of clarity, those strategies, policies and instruments will be discussed by topic rather than in chronological order. However, a chronological summary of the major policy measures adopted since 1964 is provided in the Annex.

From an early date, the growth of secondary cities (growth poles) was seen as an important means of reducing the dominance of Seoul and creating a balanced pattern of urban growth and regional development. Beginning in the early 1960s a number of policy measures aimed chiefly at promoting the growth of heavy industry (e.g., petro-chemicals and steel) reinforced the growth of Pusan, the country's second largest city, which had begun developing in the early 1900s as one of the country's major ports. Beginning in 1964, with the unofficially published Preliminary Plan for the Seoul Metropolitan Area, the Government proposed the development of new towns and growth poles within a 45-120-kilometre radius of Seoul. Subsequently, the First Comprehensive National Land Development Plan (1972) proposed the development of regional industrial growth poles and core cities within major planning regions, while the contemporaneous Development Plan for the Capital Region outlined plans for the development of 10 satellite cities within a 30-kilometre radius of Seoul. The latter plan was greatly modified, however, since policy makers concluded that it was not practical from a national defence standpoint to develop satellite cities north of the Han River (Kwon, 1981). Several of the satellite cities - e.g., Suwon, Anyang, Sungnam and Euicheongbu - did develop but were located close to Seoul and were eventually engulfed by it as its boundaries continued to expand (fig. II).

Several years later, the National Plan for Population Redistribution from Seoul Capital Region (1977) outlined plans for relocation of the national capital and the Government secretly chose

several possible locations. However, the proposed new capital, which had a planned population of 500,000 by 1986, lost political backing following the assassination of President Park and the idea now seems to have been abandoned. The Plan also proposed the development of all cities with populations over 50,000 that met certain infrastructure criteria and cities within a 100-kilometre radius of Seoul that were capable of serving as regional growth centres. Most recently, the Second Comprehensive National Physical Development Plan (1982-1991) identified three primary and 12 secondary growth centres, selected on the basis of their potential to accommodate industry and to absorb rural migrants who might otherwise go to Seoul.

Beginning around 1970 the Government began to place increasing emphasis on developing the country's rural areas, partly as a means of reducing out-migration but mainly as a means of strengthening the country's social fabric. One of the major programmes was the New Village Movement (Saemaul Undong), an integrated community development movement which aimed at improving the physical environment in rural areas, changing traditional values, mainly through massive publicity campaigns, and raising rural incomes, partly through the establishment of more than 450 rural industries. Although it is difficult to evaluate the overall impact of Saemaul Undong on population distribution, it is known to have contributed to some narrowing of the income gap between rural and urban households and is believed to have deterred a certain amount of out-migration.

In addition to strategies aimed at developing secondary cities, relocating the national capital, and promoting rural and regional development, the Government adopted a number of policy instruments that were enterprise-oriented. Specifically, it made extensive use of direct restrictions and controls on industrial location. Beginning in 1964 the Government tried to prohibit the establishment of new industries in Seoul and the expansion of existing industries, mainly through land-use zoning laws. A decade later the Government began to place greater emphasis on tax disincentives, levying a discriminatory tax on new factories located in Seoul and other large cities. In 1977 the Government enacted the Industrial Distribution Law, which divided the country into four broad types of industrial regions: a relocation region consisting of Seoul and parts of Kyonggi Province (specifically, Euicheongbu City and areas of Goyang and Yangju counties); a consolidation region consisting of Incheon, Suweon, Sungnam, Anyang, Yongin, Yangpyong, Gwanju and Kimpo; inducement regions; and other regions. Inducement regions were to be identified according to the criteria of low industrial density, capacity to absorb population and industry, linkage with existing industry and convenience for supplying industrial land, water and power (Park and Wheeler, 1982). In the relocation and consolidation regions, the establishment of new plants or

expansion of existing plants was strictly prohibited, as was land development for industrial use. Under the terms of the Industrial Distribution Law, a number of industries located within the relocation region were ordered to move outside the zone within a two-year period. In 1979 the Government issued relocation orders to 1,813 firms, increasing the number to 3,058 in 1980. However, following the change of Government in 1980, there was a delay in the enforcement of those relocation orders. To date, 822 factories have relocated to Banweol, an industrial town constructed beginning in 1977 and specifically designed to accommodate industries relocating out of Seoul. The Government has also employed a number of indirect disincentives to induce industries to move out of Seoul, including strict enforcement of anti-pollution measures and withholding loan endorsements.

Grants, loans and tax incentives to new industries and relocatees have been also employed to encourage their relocation. Up to the mid 1970s Government grants and loans were applicable only to export industries and to heavy and chemical industries and not to small industries, which were offered only tax support. However, the Industrial Distribution Law (1977) stipulated that loans could be made for partial costs of either plant site provision costs, plant relocation costs, plant construction costs or equipment costs.

With respect to tax incentives, under the terms of the Local Industrial Estates Law (1967), industries relocating out of Seoul to a local industrial estate were granted a number of tax exemptions: exemption from all corporate and transfer taxes for a three-year period and from 50 per cent of those taxes for the following two years, and exemption from property, registration and acquisition taxes for a five-year period. Firms relocating to local industrial estates were also allowed a tax credit for the cost of relocating buildings and machinery. New industries setting up for the first time in a local industrial estate were granted property tax exemption for a five-year period, a one-time exemption from the registration tax, and exemption from the acquisition tax for a two-year period.

A decade later the Industrial Distribution Law (1977), which was patterned after the Industrial Location Law of Japan and the Industrial Development Act of the United Kingdom of Great Britain and Northern Ireland, provided that firms under orders to relocate from Seoul should be granted a number of tax exemptions if they relocated in an inducement region - e.g., a reduction of corporate income tax amounting to 10 per cent of the cost of constructing a new plant, exemption from capital gains taxes of the proceeds from the sale of land and buildings, and permission to use an accelerated depreciation rate. Firms relocating into other regions were allowed a tax deduction amounting to 5 per cent of the cost of new plant construction.

Although the industrial estates policy in Korea was initially a sectoral policy designed to promote economic growth, it later assumed a spatial dimension, as the Government became increasingly aware of the spatial distortions of past industrial development. The Local Industrial Estates Law (1967) had the dual objective of dispersing industries out of Seoul and encouraging new industrial development at the local level.

As part of its programme to encourage relocation of firms out of Seoul, the Government established about 1,000 plant sites for small and medium-sized firms in the new industrial town of Banweol, which is located within the Seoul Metropolitan Area (SMA), some 35 kilometres from Seoul. Initially, Banweol had difficulty attracting firms and many of the firms that relocated there suffered excess capacity and financial losses. Banweol has so far attracted more than 820 firms and is now considered to be beginning to take off.

The Government has also attempted to reduce the dominance of Seoul by promoting administrative decentralization. As early as 1964 the Government announced its intention to transfer a number of secondary governmental agencies outside of Seoul. That was followed by a 1970 decision to delegate some of the authority of the central Government to the local level and to relocate the head offices of a number of Government corporations - e.g., the Agricultural Development Corporation and the Water Resource Development Corporation. Over the past two decades, 29 Government agencies have been moved out of Seoul, although 18 of them are still located in the Capital Region.

Governmental policy instruments aimed at individual households are employed to a lesser extent than those aimed at firms. Nevertheless, the government has imposed taxes on metropolitan living. In 1973 it amended the local tax law and passed a residence tax, a flat tax levied on the residents of Seoul and other large Korean cities. The residence tax, which is now about 5,000 won in Seoul, is widely acknowledged to have been too small to have affected household location decisions or to have deterred prospective migrants from moving to Seoul. Nevertheless, the tax has been retained by the Seoul government because it is an important source of municipal revenue, generating 16 per cent of local tax revenue in 1980 and constituting the third most important source of local revenue.

Worker relocation assistance has been provided on a fairly small scale. Under the terms of the Industrial Distribution Law, workers employed by firms forced to relocate outside of Seoul were exempt from a portion of the capital gains taxes from the sale of their homes in Seoul, and from acquisition and registration taxes on a new home purchase for a one-year period.

Controls on the expansion of educational facilities have been the major policy measures directed at individuals and households. The Government has long been aware that large numbers of parents in all income groups have migrated to Seoul for the higher education of their dependent children. Indeed, according to a study conducted in 1972/73, 50 per cent of migration during that academic year took place at the beginning of each semester. During the 1960s the Government was primarily concerned with improving educational facilities outside of Seoul. Beginning in 1970, however, the Ministry of Education began to employ controls, restricting the transfer of middle and high school students into Seoul (except in cases of family moves) and imposing higher school fees in Seoul and other large cities. In 1973 the Ministry announced regional quotas for college enrolment and prohibited the expansion or creation of new academic departments in universities in Seoul. In the following year a moratorium was declared on the construction of new middle and high schools in Seoul north of the Han River. The Government also employed a number of incentives to increase university enrolment outside of Seoul, including the construction of branch universities with relaxed admissions standards and the establishment of a faculty-exchange programme between universities in Seoul and regional universities.

Currently, the Government's emphasis is on equalizing education throughout the country and thereby reducing the incentive to migrate to Seoul to obtain a superior education. Equalizing education is also seen as a means promoting intra-urban equity, since it has been found that moves within the city are highly correlated with a household's perception of superior educational facilities in the new location.

B. Current spatial strategies

Following the assassination of President Park in 1980, there was a period of political and economic readjustment, as well as an overall liberalization of the economy, during which the non-CBD dispersal programme was, for a period, virtually abandoned. There was continuing concern, however, over the implications of Seoul's rapid population growth - from the standpoint of interregional inequality, urban diseconomies, the threat to national security and possible social and political unrest. Consequently, a Seoul Metropolitan Region Development Plan (1982-1991) was prepared by the Korea Research Institute for Human Settlements (KRIHS) and was widely publicized beginning in 1981.

One of the means of controlling development within the Seoul Metropolitan Area was the establishment in 1982 of a Capital Region Management Deliberations Committee. Chaired by the Prime Minister, the high-level ministerial Committee has convened annually to determine on a

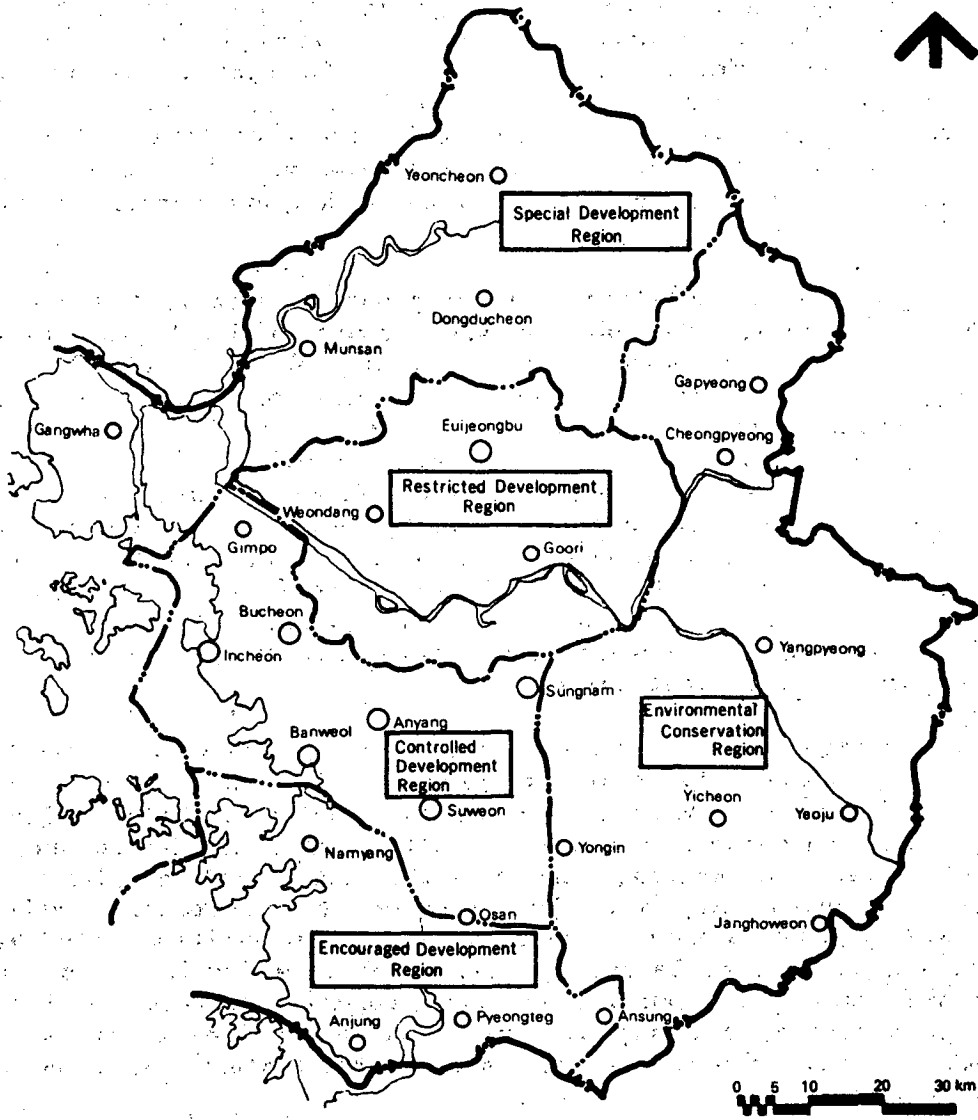
case-by-case basis which construction projects should be approved or denied planning permission. Although the Committee has focused to date on projects proposed for the CBD, it is charged with conducting population impact assessments of all large-scale projects (including land reclamation, housing estates, industrial estates, and urban renewal) within the Seoul Metropolitan Area (SMA). To facilitate their work, the Committee recommended that an economic/demographic model be developed to assess the direct and indirect impacts of each proposed project: e.g., to what extent would the project create new jobs and increase the daytime population within the CBD?, to what extent would the project stimulate the economy and generate more investment, leading to more growth and attracting more population at some future date?

In 1982 the Government enacted the Growth Management Planning Law for the Capital Region, dividing it into five "improvement regions": a restricted development sub-region; a controlled development sub-region; an encouraged development sub-region; an environmental protection sub-region; and a special development sub-region (fig III). In 1984 the Ministry of Construction issued the related Comprehensive Plan for the Improvement of the Capital Region, which aimed at selectively dispersing functions of the Capital Region.

Among its major objectives were: to reduce Seoul's primacy without damaging national and regional prosperity, mainly by decentralizing non-essential functions such as research complexes and some governmental agencies; to preserve the area north of the Han River for national security reasons; to develop extensively the southern part of the Capital Region by improving its capacity to absorb population and economic activity moving out from Seoul; to deconcentrate international trade and central managerial functions, reinforcing linkages between Seoul and the satellite cities; to protect the upper Han River basin from pollution in order to maintain water quality and promote recreational activities; to develop growth centres, such as university campus towns, in the south-eastern part of the Capital Region, avoiding the conversion of agricultural land; to promote office parks and commodity distribution centres in outlying areas, as a means of reducing the movement of people and freight movement into the city; and to construct a second international airport and an expressway along the western coast, as a means of supporting a region-wide transportation system and dispersal of population and industry.

Specifically, in the restricted development sub-region, which basically encompasses central Seoul, no further expansion of industrial estates will be allowed. Enterprises that have large population inducement effects or that are environmentally harmful will be relocated, beginning with large polluting industries. Balanced urban development will be promoted by developing various sub-centres within the

Figure III.
The Seoul Capital Region and its division by five sub-regions



Source: Korea Planners Association and the City of Seoul, *Planning Maps of Seoul* (1980).

city. For example, the Seoul government has already announced plans to develop four nucleated centres - the existing CBD, Yeongdeungpo, Jamsil and Yeongdong - and 13 sub-centres, which will be high-density mixed-use clusters grouped around key nodes of the newly constructed subway system. The number of districts zoned for industry will be reduced, and further urban renewal will be undertaken. Land which becomes vacant after being cleared of existing buildings will be purchased by the Seoul government and put into use as parks, public squares and open spaces. As a means of reducing core-area congestion, connectivity with outlying areas will be the primary consideration in the spatial allocation of urban highways and rapid transit. Control of the spread of squatter areas within the city will be reinforced by means of aerial photography and a policing system. Finally, a moratorium will be imposed on the establishment or expansion of institutions of higher learning above the junior-college level.

In the controlled development sub-region, an area with a radius of 35 km which encompasses the suburban areas south of Seoul, including the satellite cities of Incheon, Suwon, Anyang and Banwoel, the chief policy objective will be to control population growth and avoid excessive urban sprawl. Limits will be placed on new factory construction (although some small and medium-sized industries moving out from Seoul will be accommodated). Greater attention will be given to promoting orderly land use and to managing densities within the green belt. The cities of Incheon and Suwon will be encouraged to absorb a greater number of urban functions formerly performed by Seoul. The development of housing estates and industrial estates and other activities involving the conversion of farm land, forests, green spaces, or public parks will be restricted.

The encouraged development sub-region, an area with a radius of 70 km which encompasses the southern part of the outer ring, will be intensively developed. Whereas large-scale factories under relocation orders will be encouraged to move to another part of the country, the cities of Balan and Anjung, and a small industrial complex in the south-west at Ahsan Bay, will be developed to accommodate small and medium-sized industries moving out from Seoul. In addition, a number of new towns (e.g., Anjung, Balan, Pyeongteg) will be developed to promote the deconcentration of population and economic activity within the region. In addition, priority will be given to developing and expanding local public high schools and to encouraging students from Seoul to transfer to them.

The environmental protection sub-region will be reserved as open space for future use. Large-scale housing construction, development of industrial land, expansion of industrial plants, and any activities possibly causing water pollution will be prohibited in the area.

Limited dairy, vegetable and industrial-crop farming will be permitted, although the major emphasis will be on preservation of natural resources and development of water resources. Small garden towns will be developed at Ichon, Kojiam and Yongin in the south-eastern part of the area, whereas leisure and recreational facilities will be promoted at various points along the Han River.

The special development sub-region, which encompasses the fringe areas of the outer ring located north of Seoul and south of the DMZ, will serve as a buffer for national defence and will also be reserved for future development. Restrictions will be placed on any activities that might promote the process of urbanization, including land readjustment, and the development of housing or industrial estates. However, Dongducheon will be developed as a regional service centre based on its strategic position as a military base. Limited livestock breeding, truck farming and agro-industry will be permitted, although the major emphasis in the area will be the conservation of forest and other natural resources.

IV. ISSUES AND SECTORS

A. The labour market

Partly due to the high degree of Government control, the urban labour market has worked quite efficiently in Seoul, with the growth of employment generally keeping pace with the growth in the labour supply. The city has high participation rates (nearly 47 per cent in 1983, with a breakdown of 70 per cent for males and 25 per cent for females) and low open unemployment by developing country standards (8.4 per cent in 1983, down from 10.3 per cent in 1980). According to the 1983 migration survey, there was a slightly higher rate of unemployment among recent migrants than among the non-migrant population, although the rates converged over time.

The structure of the Seoul labour market has been changing rather rapidly. Between 1981 and 1983 more than 1,500 manufacturing firms left the city, resulting in a loss of more than 80,000 manufacturing jobs (Seoul Metropolitan Government, 1984b). The largest number of jobs were lost in the textiles and clothing industry (nearly 18,000), followed by machinery manufacturing (14,800) and chemicals (8,400).

Overall, there was an 11.3 per cent rise in total employment between 1980 and 1983. Manufacturing employment rose by 8.9 per cent, less than total employment, as did clerical jobs (8.3 per cent) and sales (3.7 per cent). In contrast, administrative and managerial jobs rose by 77.4 per cent, professional and technical jobs by 34.6 per cent and service jobs by 24.7 per cent.

Men occupy nearly all administrative and managerial positions in Seoul, and women are concentrated in traditionally female-dominated occupations such as nursing, midwifery and teaching. The highest proportion of women, however, are employed as service workers (40 per cent). Men hold two thirds of professional and technical positions, nearly three fourths of clerical and sales positions and more than three fourths of positions in industry, with women employed mainly in light manufacturing. The participation of women in the labour force has been increasing, a trend that the Government intends to encourage by eliminating discrimination in the workplace, identifying types of employment suitable for women and encouraging employers to offer part-time jobs.

To forestall future labour absorption problems, the Government has formulated a manpower development policy which aims at co-ordinating manpower policies in such areas as the adjustment of college enrolment quotas and vocational training. It also plans to forecast changes in the labour market by regularly monitoring labour force demand and supply

by industry and by type of occupation, and by conducting a detailed annual employment prospects survey. In addition, the Government intends to expand overseas employment by exploring new markets and diversifying from construction into consultancy, service management and other special areas.

B. Urban land

Seoul has a long history of relatively successful intervention in the urban land market. The Government's land readjustment programme was enacted in 1937 to deal with the problem of unplanned urban growth on the city's hillsides and on valuable agricultural land. Land readjustment involved the public assembly of small parcels of undeveloped land on the urban fringes, without monetary compensation to the owners. Typically, the land was subdivided and the portion needed for streets, recreational areas and other public uses was set aside. Some of the land was retained by the authorities and sold at market prices in order to cover the infrastructure costs. Finally, a parcel of land in proportion to the landowner's share and located as close as possible to the original holding was returned to the landowner, who was then able to make a substantial profit on the sale of the remaining land, which was now improved.

The scale of the country's land readjustment programme has been quite impressive. A total of 138.4 square kilometres were developed between 1937 and 1983. Currently, some 43 per cent of the city's total built-up area is covered by completed or ongoing schemes. The pace of land readjustment has been declining, however, with about 45 per cent of the schemes having been undertaken during the 1960s, 30 per cent during the 1970s, and 10 per cent during 1980-1983. Although the Korea National Housing Corporation (KNHC) has had some involvement in the programme, 94.4 per cent of the land that has been developed to date has been by Seoul municipality.

The land readjustment programme is widely considered to be an example of successful intervention in the urban land market, as it involves only short-term holding of land by the public sector and results in significant improvements. The programme is not necessarily transferable to other developing countries since it requires a considerable administrative infrastructure, a well-designed legal framework, an effective political consensus and speed in its implementation. However, its efficiency has been unquestionable, although it has been criticized on the grounds that it has led to land price inflation. Moreover, it could be argued that the very efficiency of the programme contributed to urban sprawl during the 1960s, since nearly 1,500 hectares a year were rapidly converted to urban uses.

In response to the steady encroachment of urbanization on peripheral land, the Government established the Development Restriction Zone in 1971. Roughly patterned on the concept of the British green belt, the Restriction Zone consisted of a ring 1 to 9 kilometres wide (and 463.8 square kilometres in area) located 15 kilometres from the central core. Over the past decade the prohibition of construction within the green belt (with the exception of guard houses and some public facilities) has been strictly enforced. Government authorities detect violations by means of routine aerial surveillance, ordering the removal of illegal structures. In 1984, for example, the Government ordered the removal of 1,549 buildings in green belts nationwide. Whereas the Seoul green belt, which by 1979 had been expanded to 1,566.8 square kilometres, achieved its primary objective of containing urban sprawl, the sudden restriction of the supply of land pushed up land prices and led to increased speculation in the urban land market. Residential land prices rose gradually between 1963 and 1973, more rapidly between 1974 and 1977 and very rapidly since the late 1970s (using 1963 as the base year the index of residential land price rose to 27,694 by 1979). It also brought about major changes in the housing market, with developers shifting from the construction of single-family dwellings to high-rise residential blocks, a type of housing that was relatively uncommon in Seoul before 1971.

The construction of large-scale residential blocks and housing estates required the assembly of larger parcels of vacant land than were possible to assemble under the land readjustment programme and consequently led to the development of new approaches to land acquisition. The Land Development Promotion Law (1980), for example, has enabled land to be expropriated by the public authorities from landowners at lower-than-market prices. Following development, all of the developed parcels are sold to private or public developers. Although that method has provided a supply of somewhat cheaper land than the land readjustment programme and has been used with growing frequency to avoid land price inflation, it has been unpopular with landowners.

In order to increase the efficiency of urban land and to reduce the number of non-conforming areas, the city has been extensively engaged in urban renewal since the issuance of the Law on City Redevelopment in 1976. Under that law, 1.8 square kilometres in the central city have been identified as renewal districts. Recently, with a view to improving the image of the city prior to the 1988 Olympic Games, the Seoul government has lifted all regulations impeding the re-development of blighted areas.

Given the scarcity of vacant land for new development, the Seoul government may have to make a number of hard choices regarding future land development. Such choices might involve eliminating a portion of

the green belt by allowing for planned urban sprawl out to a new green belt limit (a policy option that seems quite unlikely) or perhaps promoting corridor-type development along the already highly developed suburban rail line corridors to Incheon and to Suwon, and along the less urbanized Sungnam, Nam Yangjoo and Euicheongbu corridors, which would partially penetrate the green belt area (G. Y. Lee, 1985a).

C. Housing

Whereas there has been significant improvement in the supply of many public services in Seoul, the housing stock/households ratio has remained basically unchanged for the past two decades. The shortfall is mainly the result of the inability of new construction to keep pace with the city's rapid population growth. However, it also reflects the high rate of household formation due to the emergence of the nuclear family as the predominant family type, the demolition of many older housing units in recent years, and the lower than planned level of new construction due to the effects of the post-1979 recession.

In 1983, the most recent year for which data are available, the city had an inventory of 1,140,000 housing units, approximately one for every 1.8 households. As of 1980 more than three-quarters of the city's housing units still consisted of detached houses. However, since the designation of the Development Restriction Zone (green belt) in 1971 there has become a dramatic acceleration in the construction of high-rise housing. Whereas there were only 30 high-rise residential buildings in the country in 1961, between 1968 and 1978 some 120,000 high-rise apartment buildings were constructed. Most recently, as land for large-scale housing estates has become exhausted and land assembly for large building sites has become more difficult, there has been a shift to the construction of attached townhouses, often of substandard quality.

Another trend has been the growing importance of rental housing. Whereas most households in Seoul traditionally owned their dwellings, home ownership has been declining in recent decades, to the point that 57 per cent of individual houses, 43 per cent of tenement houses and 27 per cent of apartment units are occupied by renters, mainly from lower-income groups (Seoul Metropolitan Government, 1984a). 3/

Another significant trend in the housing sector is the fact that, although 45,000 housing units have been built annually during the past six years, living space remains scarce. By official count some 40 per cent of the city's households, or roughly 600,000 families, are doubled or even tripled up. However, a recent study by the Korea Research Institute for Human Settlements (KRIHS) concluded that a higher share of

rental units might have a room and kitchen for exclusive use than previously believed, since dwellings were recorded as shared solely on the basis of whether they had an independent entrance (Struyk, 1983).

With respect to policies being adopted to deal with the city's acute housing shortage, the Seoul government has announced that it will attempt to slow the growth of housing demand by continuously pursuing its decentralization policies and by discouraging further in-migration. However, in managing the growth that will inevitably occur, the Government aims to construct high-density housing estates and residential blocks, mainly in peripheral areas. Support will be given to the private sector for the construction of a majority of the 1 million units targeted for Seoul by 1991. When completed, they would increase the share of home-owning households in the city from the current 54 per cent to 75 per cent. The Government also plans to construct a large number of small public dwellings for low-income households and to assist in expanding sources of housing funds. Finally, it aims at upgrading some of the existing housing stock, partly to improve the visual image of the city prior to the Olympic Games. (In April 1985 the Ministry of Home Affairs urged owners of high-rise buildings and individual houses to repaint the buildings in bright colours in order "to help foreign visitors develop good impressions of the country".)

One of the most salient features of the urban housing market in Seoul is the high degree of residential mobility, with first-time homeowners purchasing a starter house and then trading up to upgrade their housing situation. According to a study by KRIHS in 1983, the average time in a unit was 3.7 years for owner occupants, 2.1 for a household renting an entire unit and 1.6-2.2 years, depending on the type of tenure, for households renting part of a unit (Struyk, 1983). Since households were more or less continuously in the market, they were well informed about prices and their participation in the market was sensitive to expectations about the rate of return. Hence, the study concluded that the Government's imposition of a number of anti-speculation measures and uncertainties with regard to the taxation of capital gains (the laws regarding capital gains were revised three times between 1979 and 1983) may have resulted in a dampening of demand (Struyk, 1983).

Anti-speculation measures such as price freezes also have created uncertainty among developers concerning the rate of return on housing investment and have caused some developers to stay out of the Seoul housing market. Moreover, little assistance has been given to private developers in obtaining financing for initial site development costs. More importantly, developers have received little assistance in

assembling parcels of land for new development projects, a task that is difficult even for the Korea Land Development Corporation and the Korea National Housing Corporation.

Another factor that explains Seoul's housing deficit is the fact that the housing finance system is not well developed. Institutional financing accounted for only about 25 per cent of total purchase funds in 1983. As a result, purchasers are heavily dependent on their own capital - e.g., personal savings, proceeds from the sale of existing property, and non-institutional borrowings. On the positive side, the volume of mortgage lending by the Korea Housing Bank has increased in recent years, with an average of 120,000 households being assisted during 1981 and 1982. Moreover, loan-to-value ratios have been raised as high as 40 per cent, placing home ownership within the range of a larger number of households. In addition, the National Housing Fund, established in 1981, will be the major vehicle through which funds will be mobilized to bring stability to public housing finance.

Although the overall goal is to increase individual ownership to as high as 75 per cent by 1991, the Government is committed to constructing some new rental housing under the terms of the 1984 Rental Housing Construction Promotion Act. Also, in recognition of the fact that many households must currently sublet part of their unit to meet their housing costs, the Government is constructing 4,000 experimental housing units in the Mokdong housing estate. They will consist of one housing unit divided into two separate units that could be sublet or used to accommodate extended family members.

Although the Government is continuing to build some public housing, a number of projects originally targeted for lower-income groups have been scaled upwards, because profits from the construction of larger apartments have been needed to offset increasing development costs. In Mokdong, for example, the minimum size of apartments was raised from 49.5 to 66 square metres, pricing out many prospective lower-income buyers. Overall, there has been a trend toward higher standards in housing construction. Floor space has been increasing, and the number of persons per room declined from 2.67 in 1970 to 2.15 in 1980, although that is partly a result of declining household size.

The housing situation for lower-income households is far better in Seoul than in many other mega-cities, where there are large numbers of pavement dwellers and vast slums inhabited by second- and third-generation slum dwellers. Seoul currently has 100,000-150,000 squatters, compared to well over 1 million some 25 years ago, or nearly a third of its population. Historically, the city's illegal squatter settlements developed to accommodate successive waves of migrants from different areas of the country. The city's earliest squatter

settlements, which were located in the central city near the present-day East and South Gate markets, were populated by refugees from the north after the Korean Conflict. Those migrants moved on rapidly to improve their situations, usually within less than a decade. They were followed during the 1970s by large numbers of job seekers from the home region of President Park, who generally were able to find jobs but were unable to enter the tight housing market, and most recently by migrants from the depressed south-west region of the country.

The city's remaining squatter settlements consist of stable communities of fairly long standing, whose occupants generally have paid land rent and taxes to the Government for many years yet who are considered to be illegal because they reside in buildings that do not have permits. Problems have arisen because many of the communities are located in peripheral areas where there is new construction (e.g., Mokdong) or which are slated for re-development. Given the high degree of political organization (resulting from the fact that some of the squatters were previously forced to move once before), the Government has agreed to compensate the occupants by allowing them to purchase newly constructed units in the same area at a subsidy of 100,000-150,000 won per square metre or to sell their purchase rights. However, conflict has arisen because the high standards of new housing in an area such as Mokdong have priced the original occupants out of the market.

D. Water supply and environmental problems

Unlike the situation in many other mega-cities, where water supply shortages have reached near-crisis proportions, the volume of water supply in Seoul has increased steadily and kept pace with population growth. In 1983, the most recent year for which data are available, 3.67 million cubic metres of water (328 litres per inhabitant) were supplied daily, reaching 94.4 per cent of the total population, with the exception of persons residing in outlying areas.

The Government's current plans for the water-supply sector include maintenance and repair of the existing system, improved distribution, expansion of production facilities and improved control of water quality. In an effort to lower system leakage, which has been a long-standing problem, worn-out pipes are replaced periodically (steel pipes after 35 years and galvanized pipes after 20 years). The Government's four-year distribution improvement plan (1984-1987) targets the replacement of 1,562 kilometres of pipes by 1987. The reduced system losses are expected to contribute to raising coverage from the current 94 per cent to 99 per cent. Future plans also call for periodic increases in the production capacity of the upstream P'aldang Water Plant, which was constructed during 1976-1982 at a cost of 49.5 billion

won, working towards a goal of providing a larger per capita supply (606 litres daily) and complete coverage for a target population of 11 million inhabitants in 1995.

With respect to sewage treatment, as of mid 1984 only about 15.5 per cent of the 2.32 million tons of sewage generated daily in Seoul was being treated. The remaining raw sewage flowed directly into the Han River and its tributaries, which have become increasingly polluted by industrial effluents, including heavy metals. The city's sewerage network, which displaces sewage and rainwater through the same culverts, is fairly adequate. Indeed, the present 7,286 kilometres of culvert are estimated to constitute 85.9 per cent of the required total. The Government is currently constructing separate culverts for rainwater and sewage displacement in new development areas, as well as along the Han River and its tributaries, to ensure that sewage and industrial waste will be kept from reaching the river. In addition, a tunnel is being constructed under the Han River reclamation area, which will carry sewage and industrial waste out to Incheon, where a new treatment plant is being constructed. Several other new sewage treatment plants will be constructed and existing plants expanded, working towards a goal of treating all sewage generated in Seoul by 1987. The large capital outlays needed for those projects have been recovered partly from sewerage fees that were levied beginning in October 1983.

Although Seoul's solid waste discharge trend has been increasing (from 5,700 tons per day in 1970 to more than 22,000 tons in 1983), collection has more or less kept pace with the waste generated. By means of traditional forms of service collection - e.g., a door-to-door collection system using handcarts - the 22,000 tons of solid waste generated daily are collected on a 100 per cent coverage basis. Nightsoil, which is also collected door-to-door in a number of the city's older areas, is treated in three treatment plants and used as fertilizer on farms in outlying area, whereas solid waste, 80 per cent of which consists of ash from household briquet coals, is used as landfill in low-lying areas downstream of the Han River. In the future, the Government plans to use small mechanized vehicles for refuse collection and to construct four solid-waste disposal plants in outlying areas, because the existing landfill areas are rapidly filling up. As a short-term measure, the Seoul Government is studying the possibility of mounding the existing Nanjido landfill site to extend its life for another decade. It is also considering a number of intermediate processes such as incineration, composting and resource recovery in order to reduce the load on landfills (Yu, 1985).

The Government is tackling the problem of water pollution through the Han River development project and the relocation of industries that discharge heavy metals.

The Government's efforts to combat worsening air pollution include expanding the supply of low-sulfur oil, which has already been supplied to all industrial facilities subject to the Environmental Protection Act; increasing the number of households using natural gas rather than environmentally harmful briquet coals as household fuel; reducing hazardous automobile emissions; and exercising stricter control over the city's 3,840 polluting industries.

E. Power

As a country that imports all of its petroleum supplies, the Republic of Korea's ambitious energy planning was upset during the late 1970s following the series of price rises by the Organization of Petroleum Exporting Countries. In response, the Seoul government instituted a number of conservation measures (e.g. restrictions on the use of air conditioners) and raised the price of fuel by 59 per cent during 1979. In recent years, the consumption of gasoline actually has fallen, mainly because the Government has passed along price increases to consumers. Three-quarters of Seoul households continue to use anthracite briquets as their major source of domestic fuel, although the number of households using fuel oil and natural gas rose from 9.7 to 12.2 per cent and from 1.0 to 2.3 per cent, respectively, between 1977 and 1983. The Government is currently investigating alternative sources of household fuel and has constructed a number of model solar houses.

In spite of the rapid rise in demand both from industrial and domestic consumers, the energy grid is considered to be adequate. There are five principal generators within Seoul, to which variable amounts of hydroelectric power are fed in from dams outside the city. Moreover, the Government has recently purchased and installed two nuclear power stations.

Overall, the Republic of Korea has been able to achieve its large increases in productivity because it has managed to provide a dependable supply of power. What is impressive is that the capacity expansion was planned and the capital committed a number of years earlier when the economy was much smaller than its present size.

F. Health and education

Seoul has a pattern of mortality similar to that of a metropolis in a developed country (i.e., very low mortality from preventable diseases) and a well-developed health care infrastructure. The city has 46 general hospitals (11 located south of the Han River), 82 hospitals and 2,350 clinics, as well as 1,149 "oriental medical clinics" and 164

birthing clinics run by midwives. In 1983 the city had 7,913 physicians, 1,246 oriental medical doctors, and 6,851 pharmacists (Seoul Metropolitan Government, 1984b). The latter reflects the widespread custom in the Republic of Korea of seeking medical advice and purchasing over-the-counter medication from pharmacists. As a means of providing for the health needs of the urban poor, the Government outlined a special programme in the Fifth Five-Year Plan to promote urban primary health care, including family planning. In Seoul the programme covered a target population of 61,000 migrant slum dwellers.

Contraceptives are readily available in pharmacies throughout Seoul, and family planning services are provided through a network of citywide clinics. Statistics on family planning acceptors reflect a high level of contraceptive practice, and perhaps a saturation of the market. The Government offers a wide range of incentives and disincentives to promote the small family norm (e.g., tax exemptions are granted on education allowances for the first two children; government workers receive family and education allowances only for the first two children; the medical insurance delivery allowance covers only the first two deliveries) and to increase the number of sterilization acceptors (e.g., priority in housing loans is given to sterilization acceptors with two children or less; primary medical services are provided free of charge to young children of those acceptors). Between 1977 and 1983 there was a slight drop in the number of vasectomies and a slight increase in the number of tubal ligations. The number of new acceptors of intra-uterine devices declined from 30,000 in 1977 to 23,200 in 1983, as did the number of first-time users of oral contraceptives (from 170,000 to 148,400). However, there was a significant rise in the number of couples using condoms, possibly reflecting concern over the relative safety of other contraceptive methods. In addition, there has been a steady increase each year in the number of abortions, which are legal in the Republic of Korea within the first six weeks of pregnancy with the husband's consent, with more than 55,000 abortions having been performed in Seoul in 1983.

The Government is continuing a project initially financed by the United Nations Fund for Population Activities (UNFPA), which provides family planning services to low-income women on the urban fringes. In order to reach that target group, who go to work early in the morning and return late at night, the Sameul Women's Organization has organized travelling teams which provide services after normal working hours.

Seoul has a widely literate population, which assigns a high priority to education. Indeed, illiteracy in Seoul declined from 10.7 per cent in 1960 to 2.1 per cent in 1980, while the proportion of the adult population with 12 or more years of schooling increased from 11.4

to 17.9 per cent over the same period. Although a majority of the country's children attend public schools, a network of 694 private kindergartens has developed in response to changing social patterns, such as the increased participation of women in the labour force and the decline of the extended family. In addition, a number of nurseries operated by voluntary agencies provide pre-school education for children from lower-income families. The city has 365 primary schools, with an average class size of 58, and 243 middle-schools, with an average class size of 69. A large-scale expansion of middle-school facilities is currently under way, that aims at reducing the number of students per classroom to 60 by 1986 and at preparing for the extension of compulsory education from six to nine years beginning in 1985. Seoul also has 180 high schools, 80 per cent of which are private, with an average class size of 64, 10 technical high schools and 20 junior vocational colleges. It also has 36 colleges and universities and 90 graduate programmes.

Since the Government is well aware that the location of superior higher educational facilities in Seoul has been an important reason why families have migrated to the capital, the Government has attempted to re-focus its educational policy to bring it more in line with its decentralization goals. During the 1970s there was a moratorium on school construction in Seoul, while enrolment in universities in Seoul was frozen. Branch universities were constructed in other urban areas and admissions standards to those schools were relaxed to the point that they admitted most students who applied. However, the Government's restrictive higher educational policy was relaxed following the change of Government in 1980, and enrolment in colleges and universities in Seoul began to climb. Indeed, the number of students enrolled in colleges and universities in Seoul doubled between 1977 and 1983 (from 140,600 to 282,200), while the number of students enrolled in graduate programmes tripled (from 13,000 to 40,500). However, the share of Seoul in the nation-wide total of university enrolment declined from 63.5 to 45.8 per cent between 1966 and 1980. Although the Government is continuing to expand university facilities outside Seoul, it is now focusing mainly on "equalizing education" - i.e., attempting to reduce the competitive edge of students from elite secondary schools in Seoul by such measures as strictly prohibiting private tutoring. Such measures have resulted in a somewhat higher proportion of students from outside the region, but have led to some discontent in Seoul.

G. Transport

Transport problems are less acute in Seoul than in many other of the world's mega-cities, mainly because of the still moderate levels of automobile ownership, the rapid pace of road and bridge construction,

reasonably good traffic management, and an efficient bus and subway system. However, traffic problems are perceived by the residents of Seoul to be very serious, whereas the current situation of moderate congestion during peak periods is expected to deteriorate in coming years. Whereas the current number of daily trips per capita, 1.7, is comparatively low, the Government is questioning how it will handle the projected increases in person trips that will occur as a result of rising household incomes, higher levels of automobile ownership, and the widening commuting radius. Indeed, the daily cumulative total of transportation users is expected to increase from the present 16.6 million to 25.4 million by 1991 and to 30.2 million by 1996.

Looking at the modal split, the city's fleet of 8,116 buses, which are operated quite efficiently by a total of 90 private companies, carry the largest proportion of passengers, 65 per cent in 1983. However, that represents a decrease compared to 1970, when buses carried 88.7 per cent of the total passenger load. In recent years, the use of personal modes has been increasing. The fleet of 30,470 taxis accommodates 18 per cent of all passengers and accounts for 12 per cent of vehicular traffic. Private automobiles carry only 8 per cent of passengers but account for 85 per cent of vehicles. The partially completed subway network (line 1 was completed in 1974 and line 2 in 1984) carried about 15 per cent of the passenger load in 1984.

In terms of policies, the Government foresees using the subway network not only to relieve surface congestion and cope with future passenger volume but also to stimulate sub-centring within the CBD and to promote decentralization to the satellite cities. Following the opening of lines 3 and 4 (scheduled for August 1985) the completed 116.5 kilometre system is expected to carry about 5 million passengers daily, increasing its share of the passenger load to 37.2 per cent and shifting the burden from the private buses. Current bus routes, 64 per cent of which are aligned radially, will then be re-routed, with many of them converted to feeder routes linking up with the subway system. The subway is already connected to the suburban rail lines which link Seoul/Incheon (38.9 kms) and Seoul/Suwon (41.5 kms).

Although steep rises in fuel costs and high automobile taxes have slowed the rise in automobile ownership, which is much lower in Seoul than in most cities at a comparable level of development, a sharp increase is expected. Indeed, some experts project that within a decade the number of registered vehicles will increase to 1.5 million (Lee, 1985b). The problem arises less from the number of vehicles on the road than from the disproportionately high number of trips across the Han River to the CBD; of the estimated 3 million trips weekly to the CBD, about 30 per cent are by private vehicle. One of the major aims of a package of governmental policies - e.g., construction of new office

space south of the Han River; re-location of inter-city bus terminals to the Gangnam terminal, south of the river; construction of large parking lots in peripheral areas to encourage commuters to use the subway; and promotion of employment in the satellite cities - is to minimize trips to the CBD. However, to accommodate the traffic that continues, the Government's response has been to construct more bridges (there are currently 15 bridges and three are under construction) and to include underground parking in urban renewal projects in the CBD.

The city's road network, which reflects its topography and concentric pattern of urban growth, consists of three circular roads (located at roughly 5, 10 and 15 kilometres from the CBD) and 18 radial roads. Whereas the Master Plan proposed an elaborate system of urban freeways that would interconnect areas of the Seoul Metropolitan Area by bypassing the CBD and that would absorb long distance traffic, the era of massive road building during the boom period of the 1970s has been followed by a scaled-down approach, in which the impact of new projects is carefully studied. For example, the Seoul government is currently concerned with preparing for changes in transport patterns that will result from the opening of the new subway lines. Other plans call for the construction of an arterial road interconnecting the east and west portions of the Seoul Capital Region, and for additional roads that will improve circulation between the satellite cities and the CBD and between the various facilities being constructed for the 1988 Olympic Games.

The bus system has operated very efficiently in Seoul without subsidies. However, the construction and operation of the Seoul subway system has been heavily subsidized. The basic fare of 130 won increases by distance, with the fare for a 15 kilometre trip amounting to about 200 won (G.Y. Lee, 1985b). The total cost, to date, of the subway system has been put at about \$3 billion, yet it is not expected to carry more than 17 per cent of the city's passenger load until the late 1980s.

V. RESOURCES AND MANAGEMENT

A. Public investment

Following a slowdown in the rate of increase of financial revenues beginning in the late 1970s and anticipating a slow rise in future financial receipts, the Seoul government began to engage in mid-term financial planning beginning in 1982. Under that system, financial demand and supply for mid- and long-term periods are projected in accordance with mid-term financial plans. Sectoral investment amounts are determined according to the investment priority order deemed necessary to attain overall planning goals. Projects are then selected and budgets allocated through investment studies and zero-base budgeting from a short-term time horizon approach.

The Seoul municipal government has a high degree of financial self-sufficiency - as high as 97.6 per cent - and therefore exercises strong control over investment decisions. Among general account expenditures in 1984, public utility projects, including various redevelopment and construction schemes, represented 31.7 per cent of total expenditures, support funds accounted for 26.4 per cent, general administration for 20.3 per cent, and health, environmental and social welfare programmes for 16.5 per cent of general account expenditures.

The Seoul government also operates 14 Special Accounts (totalling 1,061 billion won in 1984), a disaster relief fund and a city redevelopment fund. The largest of the Special Accounts was for the Mokdong and Shinjong-dong new towns (28.7 per cent), followed by the account for national housing (14.8 per cent), waterworks (13.3 per cent), sewage treatment plants (12.8 per cent), Olympic Games projects (10.2 per cent), land readjustment (8.3 per cent) and the subway (8.1 per cent). The city also maintains smaller special accounts for housing improvements, turnpikes, hospitals, medical care, parking facilities, and specific structures (Seoul Metropolitan Government, 1984a).

With respect to the spatial distribution of investments, aside from national housing projects, most of which are being constructed in the satellite cities, other capital outlays either have had little impact on spatial patterns (e.g., water supply and sewerage projects have been spatially neutral) or else have reinforced centralization trends. For example, the largest outlay in recent years was for the Mokdong housing estate, which is located only 15 kilometres from the CBD, whereas another was for construction of facilities for the Olympic Games, the site of which is fairly centrally located.

B. Resource generation

Whereas external finance accounted for 20-30 per cent of total government revenue in Seoul in the early 1970s, over the past decade local authorities have increased their reliance on locally raised resources. In 1984 the major sources of revenue in the General Account were municipal taxes (which accounted for 75.6 per cent of total revenue) and non-tax revenues (which accounted for 22 per cent), with only 2.4 per cent covered from subsidies. Most of the municipal tax revenues were from the fixed properties acquisition tax, residence tax, registration tax, property tax, automobile tax and city planning tax. Whereas the residence tax was initially imposed to deter in-migrants to the Seoul Metropolitan Area, the amount of the tax was far too small to affect locational decisions. The tax has been retained, however, because it has proven to be an important source of municipal revenue.

Non-tax revenues come mainly from fees and charges (9.4 per cent), income from the sale of property (6.5 per cent), revenue brought forward from the preceding year (3.6 per cent), local bond contributions (2.5 per cent) and subsidies (2.4 per cent).

As previously discussed, the land readjustment scheme employed in Seoul has been a noteworthy example of urban cost recovery. Overall, however, the ability of local governments to increase the tariffs charged for services has been circumscribed by the national Government, which has been unwilling to accept the inflationary pressures which such steps were thought to generate (Linn, 1985).

C. The institutional context

The Republic of Korea was founded in 1948, and in the following year Seoul was designated as Seoul Special City. Following the Korean Conflict, Seoul was placed under the direct control of the Prime Minister rather than the Minister of Home Affairs, allowing the Mayor of Seoul to report directly to the cabinet on matters related to municipal administration.

The Seoul Metropolitan Administration has relatively far-reaching responsibilities and authority. The mayor of Seoul is appointed by the President. The first vice-mayor is in charge of the divisions of planning and management, culture and public information, internal affairs (including Saemaul Undong projects), taxation, finance, commerce and industry. He also supervises a number of regulatory divisions (e.g., public health, women's affairs, public welfare, environmental sanitation) and is in charge of both civil defense and public safety. The second vice-mayor is in charge of physical planning, land

readjustment, urban redevelopment, housing administration and controls, parks and afforestation, transport, public roads, sewage disposal and waterworks. At the local level Seoul has 17 gus (wards) and 426 dongs (the smallest administrative unit), each with a field office designed to execute administrative programmes, to provide services to local citizens, and to serve as a link between citizens and the municipal administration.

The Government agency responsible for planning and co-ordinating population decentralization programmes in the Seoul Capital Region has changed many times over the years. Prior to 1976 responsibility was vested at different times with the Ministry without Portfolio, the Ministry of Construction, the Office of the President's Secretariat, and the Economic Planning Board. Beginning in 1981, the major government office in charge of spatial planning for the Capital Region was downgraded from the ministerial level to a bureau within the Ministry of Construction (where observers have suggested that it may not be in the best position to enforce measures affecting the interest of other ministries).

CONCLUSION

Seoul has undergone major demographic change in recent decades, including declining fertility, a growing proportion of persons in the economically active ages, declining household size, and significant population movements. Within the city there has been a shift of population south of the Han River and the gradual emergence of a poly-nuclear spatial structure, consisting of two manufacturing and one tertiary centre in addition to the CBD. There has also been a marked slowdown in migration to the city of Seoul and a deconcentration of population to the satellite cities, accompanied by a shift in manufacturing employment.

For the most part, those broad spatial changes are in line with the explicit policy goals identified in the succession of executive orders, master plans, national land-use plans, and plans for the redistribution of population from the capital region that were issued over the past two decades. However, the slowing of the growth of Seoul occurred later than planners anticipated. Between the early 1960s when the earliest decentralization plans were formulated and the mid-1970s, Seoul received hundreds of thousands of migrants annually. The city now has a population of well over 9,300,000 and is expected to reach at least 13,000,000 by the end of the century, which is far greater than the target populations of 7 - 8 million identified a little more than a decade ago by government agencies and various research institutions in Seoul.

In attempting to evaluate the effectiveness of alternative population distribution policies and instruments, Seoul is an interesting case study because of the broad array of policy instruments adopted over the past two decades. Indeed, as Choe and Kim (1985) have noted, there are few countries in the world that have experimented as much with strategies of metropolitan development. Some of the major instruments employed in Seoul include: the establishment of a spatially large green belt, which induced the leap-frogging of development into the satellite cities; an industrial location policy that included various tax incentives as well as direct controls on industrial development; the promotion of local industrial estates and the construction of a new town to attract industry at Banweol; the use of controls on the expansion of educational facilities; the imposition of higher residential taxes; the designation of various planning zones (e.g., restricted management zone, development inducement zone) as a guideline for spatial restructuring; and the use of public transport investments as a means of influencing the direction of development.

The mixed success of those policies reveals the difficulty of controlling population movement - even in a small, ethnically homogeneous country with a relatively strong central Government and a history of efficiency in implementing programmes. Moreover, the case of Seoul illustrates the difficulty in separating out the effects of alternative policy measures. For example, it remains unclear to what extent the decentralization that has taken place in Seoul has been a spontaneous process and to what extent it has been policy-induced. Certain policy measures have clearly been effective in achieving their explicit goals. The establishment of a strictly enforced green belt, for example, not only achieved the explicit goal of halting further horizontal urban growth but was also instrumental in inducing the shift of population south of the river and into the satellite cities. Another relatively successful policy instrument was the imposition of controls on the expansion of educational facilities, probably because of the well-known correlation between access to education and family moves. The effectiveness of the various incentives and controls on industrial location, however, remains unclear. One recent World Bank survey suggested, for example, that only 16 per cent of 3,000 firms relocating out of Seoul were directly influenced by explicit governmental actions in their relocation decision (The Urban Edge, November 1984). Other policy instruments were somewhat less effective in achieving their desired goals. For instance, the residence tax imposed on the residents of Seoul and other large cities was clearly too small to influence locational decisions, yet was retained for other reasons. Still other instruments had opposite effects from those that were intended. The promotion of industrial estates, for example, may have reinforced concentration by creating more jobs in the metropolitan region and by attracting a disproportionate share of industrial investment.

Despite the broad array of policy measures employed in Seoul, implicit spatial policies and general economic forces probably have had the greatest influence on spatial distribution patterns. The relationship between sub-urbanization of population and decentralization of economic activity, for example, has been a strongly interdependent one, with each one fuelling the other.

Several research issues are currently receiving attention, and their resolution should help to improve the effectiveness of future policies. First, Korean entrepreneurs have complained about the reliance on direct controls on industrial location rather than on positive incentives. Researchers are attempting to determine if a shift in favour of an incentive system would improve economic efficiency and stimulate economic growth. Similarly, studies are attempting to determine if a strategy less selective in terms of industries (most of the policy levers have been targetted at manufacturing activities) or areas (for example, less emphasis on the satellite cities) might have a

buoyant impact on metropolitan economic performance. Secondly, as in most developing countries, the industrial development of Seoul has been promoted with little regard to its long-term environmental consequences. The environmental problems are now being studied, and the improvement in knowledge may lead to a more socially beneficial development strategy. Third, the continuity and consistency of the metropolitan decentralization strategy has been impaired by frequent changes in the responsible lead agency and the current overlap in functions between the Ministry of Home Affairs and the Ministry of Construction. Research into impediments to interministerial coordination, central-local relations and metropolitan management may lead to major improvements in implementation. Finally, the effects of the greenbelt policy remain an enigma. Opinions range from judging it to be a major contributor to metropolitan decongestion to its denigration as a source of land scarcity and the high cost of housing. A comprehensive and balanced evaluation of its consequences has not yet been made.

Nevertheless, the future spatial impacts of several economic, social and political factors remain largely unknown. They include: the effect of opening up the economy to foreign investment and the likely preference of foreign companies for locations in Seoul; the rapid expansion of employment in the office sector, when most policies aimed at decentralizing employment have been targetted at the manufacturing sector; the scarcity of land for new development; the tight housing market; the rapid rise in automobile ownership and prospects for related changes in transportation patterns; the impact of an expanded metro and new suburban railway corridors, both on transport patterns and on suburban growth; and the possibility that implementation of the actively discussed system of local autonomy may increase demands for greater economic and political power-sharing from other regions of the country. All of those uncertainties raise the prospect that the impacts of explicit spatial policies may be offset by the side-effects associated with fluctuations in the macro-economic performance of the economy and by the incidental effects of various non-spatial policies.

Notes

1/ Polarization reversal may be defined as the turning point when spatial polarization trends in the national economy give way to a process of spatial diffusion out of the core region into other regions of the system.

2/ The city of Seoul is an area of 627 square kilometres which is divided into 17 wards, or gus. The Central Business District (CBD), or central Seoul, consists of two centrally located wards, Jung and Jongro, which have an area of 34.2 square kilometres. The remaining 15 wards constitute what is sometimes termed the Ring of Seoul. The Seoul Metropolitan Area (SMA), as defined in the Government's National Plan for Population Redistribution from Seoul Capital Region, is comprised of the city of Seoul plus four cities (Seongnam, Euijeongbu, Anyang and Bucheon) and five counties (Namyangju, Sihung, Goyang, Kmgangjo and Gimpo) which are directly bordered by the city of Seoul. The SMA also includes in its periphery two cities, Incheon and Suwon, and two counties, Yongin and Hwasung, which are not directly bordered by the city of Seoul. The total land area of the Seoul Metropolitan Area was 4,395 square kilometres as of 1980, or about 40 per cent of the total land area of the Capital Region.

The Outer Kyonggi Area, which covers 6,675 square kilometres, consists of 11 primarily rural counties in Kyonggi province which are not functionally linked to the cities and counties included within the Seoul Metropolitan Area. Finally, the Capital Region, as defined in the First Comprehensive National Land Development Plan (1972-1981), consists of the city of Seoul (627 square kilometres) plus the entire area of Kyonggi province (11,069.5 square kilometres), or, put another way, of the Seoul Metropolitan Area plus the Outer Kyonggi Area (Choe and Song, 1984).

3/ Rental arrangements in the Republic of Korea are very complex and consist of many types of tenure. Under the rental scheme known as chonsei, the tenant gives a deposit to the landlord who then invests the capital, uses the proceeds as imputed rent, and returns the deposit to the tenant at the end of his lease. Other types of tenure include security deposit with monthly payment, declining chonsei, pure rental, and government housing.

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Annex

CHRONOLOGICAL SUMMARY OF GOVERNMENTAL POLICIES AND MEASURES
TO CONTROL THE GROWTH OF SEOUL

- 1964 Cabinet's decision to control growth of large cities
Relocation of secondary Government agencies to local cities
Discouragement of new industrial development in Seoul
Development of industrial estates
Encouragement of education and cultural facilities
in local areas
- 1967 Enactment of Local Industrial Development Law
Designation of local industrial estates
Introduction of positive indirect incentives to promote
local industrial development
- Establishment of Presidential Advisory Committee
on the Policy Issue of the Capital Region chaired by
Prime Minister with members from related ministries
- 1970 Cabinet reconfirmed Government's 1963 decision to control
population concentration in capital region
Promotion of educational and cultural facilities at local level
Promotion of balanced urban/rural development through First
Comprehensive National Land Development Plan
Designation of green belts around Seoul and major urban areas
Delegation of some central government authority to local level
Relocation of head offices of government corporations to
local cities
- Introduction of differential school fee scheme and restriction
of transfer of middle and high school students into Seoul
- Initiation of Saemaul Undong (New Village Movement) to
revitalize rural villages and agricultural sector
- 1972 Land use control by city of Seoul
Reduction of areas zoned for residential and industrial uses
Removal of illegal squatter settlements
Relocation of government agencies outside Seoul

- 1973 Introduction of tax measures to control population concentration
Introduction of new residence tax in large cities
Exemption from local taxes for industries locating outside of Seoul
Imposition of differential taxes on new industrial establishments in Seoul and other large cities
- Introduction of regional quotas for college enrolment and faculty exchange programme between Seoul and local universities
- Restrictions on establishment and expansion of new academic departments in colleges in Seoul
- 1977 Announcement of National Plan for Population Redistribution from Seoul Capital Region
- Enactment of Industrial Distribution Law
Introduction of four classes of industrial location zoning (relocation region, consolidation region, inducement region, other regions)
Introduction of industrial development certificate scheme
- Enactment of Special Law for Temporary Administrative Capital Construction
- 1978 Designation of relocation region and consolidation region
- 1979 Relocation order issued to 1,813 firms in Seoul under terms of Industrial Distribution Law
- 1980 Political and economic disorder following assassination of President Park loosened enforcement of decentralization measures
- 1982 Enactment of Growth Management Planning Law for Capital Region
Capital Region divided into five zones: dispersion promoting zone; restricted management zone; development induced zone; natural conservation zone; and development reserved zone
Population impact assessments required on large-scale development projects
- 1984 Establishment of Growth Management Plan for Capital Region

Source: Hwang, Myon-Chan. Growth and Management of the Seoul Metropolitan Region (Korea Research Institute for Human Settlements, 1982).