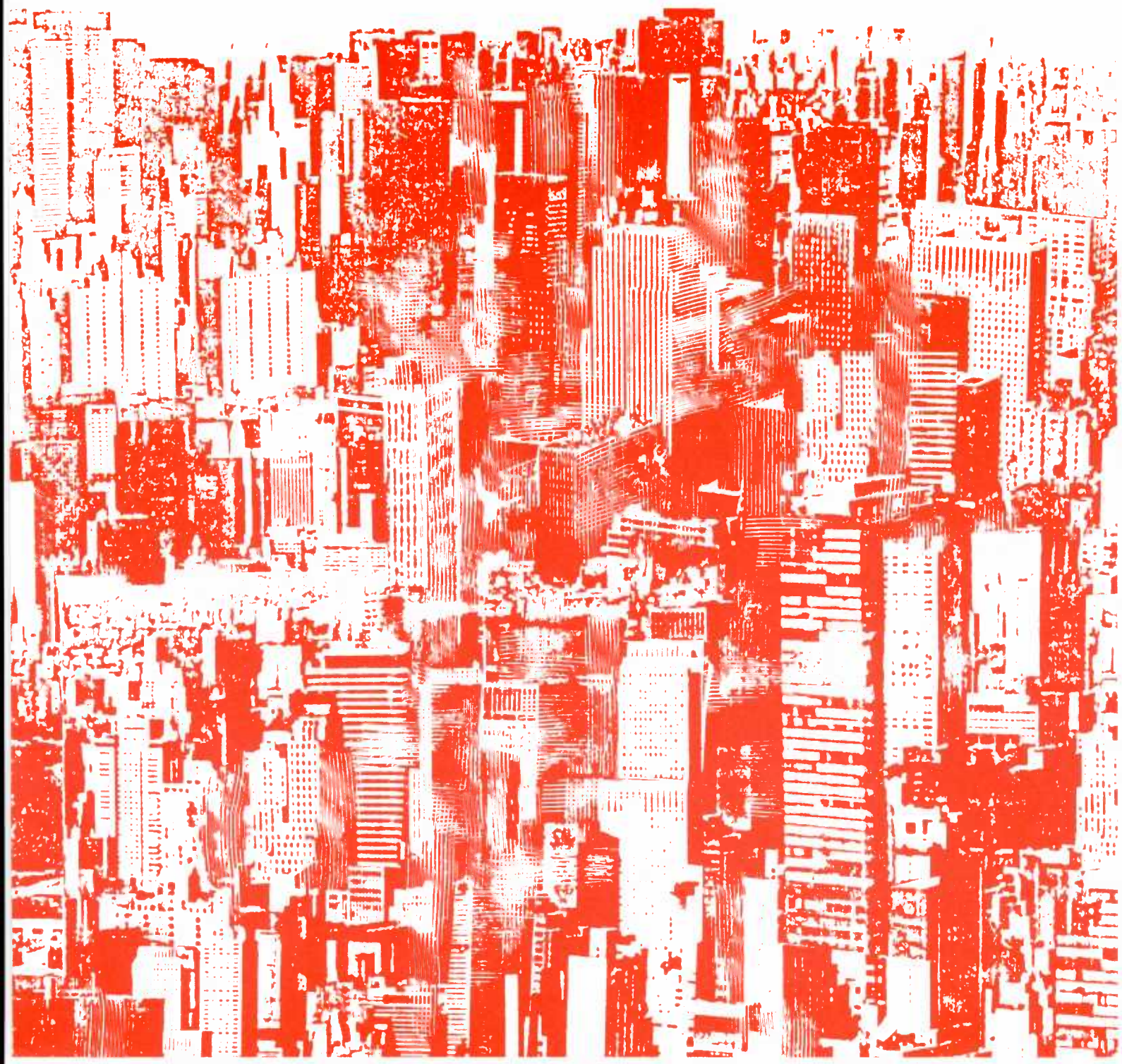
United Nations

Population Growth and Policies in Mega-Cities

BANGKOK



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Department of International Economic and Social Affairs

POPULATION POLICY PAPER NO. 5

Population Growth and Policies in Mega-Cities

METRO MANILA

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NOTE

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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 which focus on the population policies and plans of some mega-cities in developing countries, 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 standard 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

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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 that investment has 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, reports issued in the Population Growth and Policies in Mega-Cities series are:

CALCUTTA	(ST/ESA/SER.R/61)
SEOUL	(ST/ESA/SER.R/64)

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Symbols of United Nations documents are composed of capital letters combined with figures. Mention of such a symbol indicates a reference to a United Nations document.

Reference to "dollars" ($) indicates United States dollars, unless otherwise stated.

The term "billion" signifies a thousand million.

Annual rates of growth or change refer to annual compound rates, unless otherwise stated.

A hyphen between years (e.g., 1984-1985) indicates the full period involved, including the beginning and end years; a slash (e.g., 1984/1985) indicates a financial year, school year or crop year.

A point (.) is used to indicate decimals.

The following symbols have been used in the tables:

Two dots (..) indicate that data are not available or are not separately reported.

A dash (--) indicates that the amount is nil or negligible.

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

A minus sign (-) before a number indicates a deficit or decrease, except as indicated.

Details and percentages in tables do not necessarily add to totals because of rounding.

The following abbreviations have been used:

CBD	-	Central Business District
CIF	-	Capital Investment Folio
LRT	-	Light Rail Transit
MMC	-	Metro Manila Commission
MMINUTE	-	Metro Manila Infrastructure Utilities and Engineering Programme
MWSP	-	Metropolitan Waterworks and Sewerage Project
NCR	-	National Capital Region
NEDA	-	National Economic Development Authority
NHA	-	National Housing Authority
OCP	-	Office of the Commissioner for Planning
PROGRESS	-	Programme to Remove Sewage from Streets
RDFP	-	Regional Development Framework Plan
SWAMP	-	Solid Waste Management Study Master Plan
SWIP	-	Solid Waste Improvement Programme
TEAM	-	Traffic Engineering and Management Programme
ZIP	-	Zonal Improvement Programme

INTRODUCTION

Metro Manila, the National Capital Region and primate city of the Philippines, experienced very rapid population growth during the 1960s and early 1970s as a result of high rates of natural increase and massive in-migration from all regions of the country. According to the United Nations 1984 assessment, Metro Manila was the twenty-third largest city in the world in 1985 and is expected to be the sixteenth largest by the year 2000. Although the rate of population growth began to decline during the mid 1970s, Metro Manila has been adding about 1 million persons to its population every five years.

In connection with national elections and the recent change of Government in the Philippines, Metro Manila has received considerable attention from the international news media, which have drawn attention to the worsening economic conditions and widespread poverty. Certainly, the economic situation in the Philippines has been very difficult. Owing to a number of factors - e.g., declines in world prices for Philippine sugar and copper, high interest rates on overseas borrowings, a flight of capital, a decline in investment by domestic and overseas business firms, entrenched monopolies etc. - the Gross Domestic Product registered negative growth of 3.7 per cent during 1984-1985. Moreover, since 1981 mean family income has declined by about 46 per cent in real terms. Currently, more than 60 per cent of households are below the poverty line, defined as the minimum household income required to meet basic needs.

The employment situation in Metro Manila is very critical, with 16.3 per cent of the labour force unemployed and 42.9 per cent underemployed as of 1984. Although employment is a problem throughout the Philippines, Metro Manila has been hardest hit by the recent layoffs. In addition, land for new development projects is expensive and difficult to obtain. Partly because of the high cost of land, but also because of low household incomes and a scarcity of housing finance, a growing proportion of households cannot afford to purchase any type of formal-sector housing, including units constructed under the Government's low-cost completed housing programme. As a result, according to the Government's own estimates, at least two thirds of all new housing being constructed in Metro Manila is illegal and uncontrolled.

Although plans have been formulated, there is little likelihood of extending the water distribution or sewerage network to the outer areas of Metro Manila for perhaps at least a decade. Serious flooding continues to occur in many areas of the city because of the flat, low-lying terrain and poor drainge. Moreover, air and water pollution has reached serious levels.

Despite the fact that Metro Manila has decentralized considerably in recent years, with commercial and business activities shifting to the intersections of major routes, and with industry moving to the less expensive areas around the periphery, this has occurred almost entirely as a result of market forces and not as a result of Government policies. Although a Metro Manila Regional Development Framework Plan has been finalized, it has not been formally endorsed by local governments and the various agencies; hence, there is no approved plan to guide or control public sector or private development, a fact which has caused considerable inefficiencies in the spatial distribution, traffic patterns and infrastructure of the city.

I. DEMOGRAPHIC CHARACTERISTICS

A. Population growth

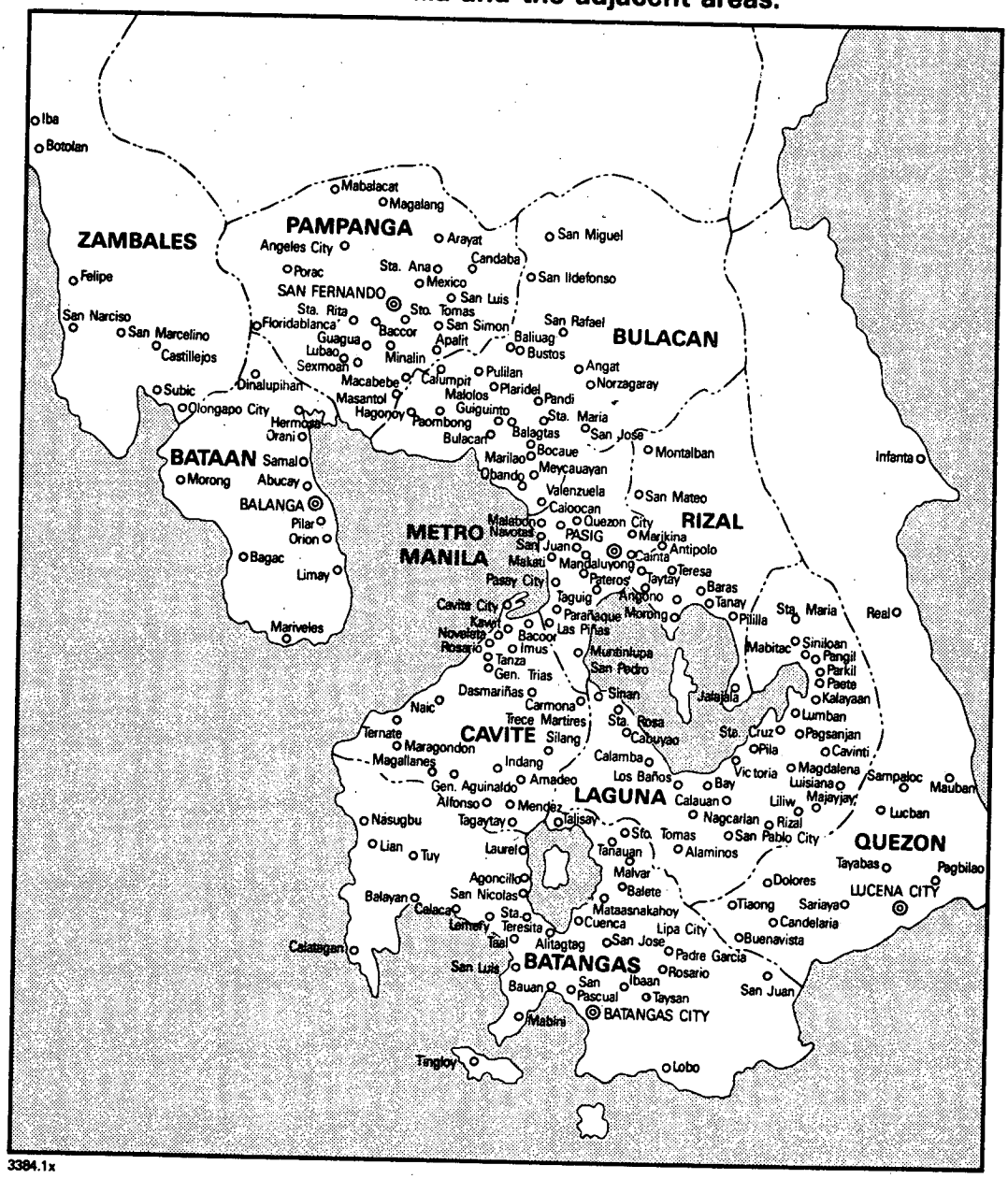
Following the colonization of the Philippines by Spain in the late sixteenth century, Manila's population of 2,000 inhabitants expanded to about 34,000 by the end of the century. During the seventeenth and eighteenth centuries, Manila received significant immigration from China as a result of the expanding China trade. By the end of the nineteenth century, Manila had a population of about 150,000, which had spilled beyond the old city walls and was segregated on the basis of income and ethnic group.

In 1903, the year of the Philippine's first modern census, the National Capital Region (NCR) of the Philippines, or Metro Manila (as the region was officially designated in 1975) had a population of about 329,000 inhabitants, more than two thirds of whom resided in Manila. 1/ The population of the capital region grew by 2.2 per cent per annum during 1903-1918 and by 3.9 per cent during 1918-1939, reaching close to 1 million inhabitants in 1939. During the Second World War the capital region experienced rapid population growth, nearly 5 per cent per annum. Population growth declined during the post-war period (1948-1960), however, and significant population shifts began to take place within the region. The growth of Manila dropped off sharply, for example, from 4.8 per cent per annum during 1939-1948 to 1.2 per cent during 1948-1960, whereas Quezon City and Pasay City each grew by about 9 per cent per annum and Caloocan by about 8 per cent (table 1).

The capital region as a whole experienced more rapid population growth again during 1960-1970, reaching close to 4 million inhabitants in 1970. Between 1970-1975 and 1975-1980, Metro Manila's average annual rate of growth declined by 1 percentage point, from 4.6 to 3.6 per cent per annum, approaching the national urban average of 3.5 per cent. 2/ However, there was an absolute increase of nearly 1 million inhabitants during each five-year period, with the population of Metro Manila reaching close to 5 million in 1975 and close to 6 million in 1980. 3/ According to government estimates, Metro Manila's population grew by about 3.4 per cent per annum between 1980 and 1985, reaching approximately 6,900,000. Adding the population of the 25 municipalities in the Metro Manila Adjacent Areas, the total population of the metropolitan area and adjacent urban areas was estimated to be about 8,600,000 in 1985.

Individual cities and municipalities within Metro Manila have grown quite unevenly over the past three decades. Manila has had the lowest and most stable rate of growth, averaging slightly under 2 per cent per annum between 1948 and 1980. Manila's share of the total population of

MAP 1. Metro Manila and the adjacent areas.



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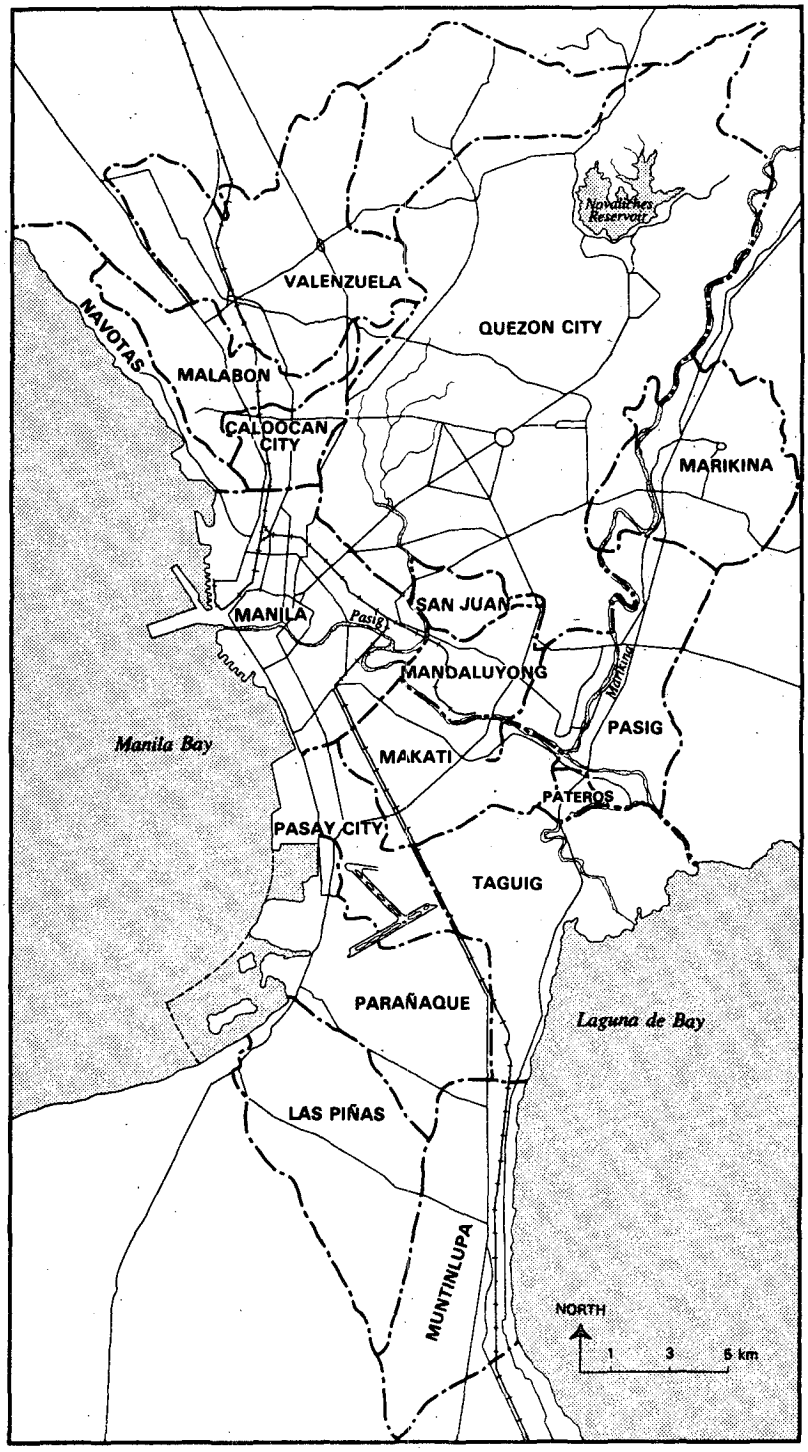
Source: Metro Manila Commission, Office of the Commissioner for Planning, *Technical Paper 9: National and Regional Context* (1985).

MAP 2. Metro Manila: cities and municipalities.



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Source: Metro Manila Commission, Office of the Commissioner for Planning, *Technical Paper 9: National and Regional Context* (1985)

Table 1. Population and average annual rate of growth of cities and municipalities, in Metro Manila, 1948-1980, and density, 1980

Jurisdiction	Population (thousands)					Average annual rate of growth				Density (per hectare, 1980)
	1948	1960	1970	1975	1980	1948-1960	1960-1970	1970-1975	1975-1980	
Metro Manila	1 569	2 462	3 967	4 970	5 926	3.8	4.9	4.6	3.6	93
Manila	984	1 139	1 331	1 479	1 630	1.2	1.6	2.1	2.0	425
Caloocan	58	146	274	397	468	8.0	6.5	7.7	3.3	84
Pasay City	89	133	206	255	288	3.4	4.5	4.3	2.5	206
Quezon City	108	398	754	957	1 166	11.5	6.6	4.9	4.0	70
Las Piñas	9	16	46	82	137	4.7	11.0	12.3	10.8	32
Makati	41	115	265	334	373	9.0	8.7	4.7	2.2	124
Malabon	46	76	142	175	191	4.2	6.4	4.3	1.8	81
Mandaluyong	26	72	149	182	205	8.7	7.6	4.1	2.4	81
Marikina	23	40	113	168	212	4.7	10.9	8.2	4.7	54
Muntinlupa	18	22	65	95	137	1.4	11.5	7.8	7.6	29
Navotas	29	49	83	97	126	4.5	5.4	3.1	5.4	485
Parañaque	29	62	97	159	209	6.5	4.6	10.3	5.6	54
Pasig	35	62	156	210	269	4.8	9.7	6.1	5.0	207
Pateros	8	13	25	33	40	3.8	6.8	5.2	4.2	40
San Juan	32	57	105	122	130	5.0	6.3	3.2	1.2	125
Taguig	15	22	55	74	134	3.2	9.7	5.9	12.7	40
Valenzuela	17	41	98	151	212	7.9	9.0	8.9	7.1	45

Source: Metro Manila Commission, Office of the Commissioner for Planning. Technical Paper 3. Population (Manila, 1985).

the capital region declined sharply, however, from 46 per cent in 1960 to 28 per cent in 1980. Because of the designation of Quezon City as national capital of the Philippines in 1947, and extensive public housing construction and private subdivision development there during the 1950s and 1960s, Quezon City experienced rapid population growth of more than 9 per cent per annum between 1948 and 1970. However, Quezon City's growth declined progressively in each intercensal period, as did the growth of Pasay City. With respect to the pattern of growth of the 13 municipalities in the capital region, the growth of Makati peaked during the 1950s, and it is now mainly a commercial rather than a residential area. A majority of the municipalities experienced their most rapid growth during the 1960s, although the growth of Mandaluyong and Parañaque was most rapid during the early 1970s. In the most recent intercensal period, the highest rates of growth were recorded in the outer ring of the metropolitan area (figure I). In the east, the municipality of Taguig, which extends along Laguna de Bay, grew by 12.7 per cent per annum, nearly doubling in size between 1975 and 1980. The southern municipalities of Parañaque, Las Piñas, and Muntinlupa also grew very rapidly, as did Valenzuela in the north (table 1). Beyond the limits of the National Capital Region, the 25 municipalities in the Metro Manila adjacent area have been growing rapidly, by a combined average annual rate of 6.3 per cent during 1975-1980, indicating both a gradual deconcentration of population from the central core and the relative attractiveness of those areas for new migrants from other areas of the country (table 2).

Both mortality and fertility levels in Metro Manila are well below the national average. As of 1980, Metro Manila's crude death rate was 5.7 per thousand, compared to a rate of 8.7 per thousand at the national level.

Although Metro Manila has the highest mean age at marriage, 20.2 years, of any region in the Philippines and has led the country in the acceptance and practice of family planning, fertility in Metro Manila remains high. Metro Manila's crude birth rate was 28.9 per thousand in 1980, compared to 33.6 per thousand for the nation as a whole. According to various surveys conducted over the past three decades, the mean number of children ever born in Metro Manila to ever-married women near the end of child-bearing has remained fairly stable, at 6.1 in 1956-1958, 5.9 in 1968 and 5.7 in 1973 (in the two National Demographic Surveys conducted in those years) and 6.0 in 1981 (according to the Philippines Fertility Survey conducted in conjunction with the World Fertility Survey).

Between 1970-1975 and 1975-1980 the share of the economically active population (ages 15-64) in Metro Manila increased slightly, from 61 to around 63 per cent of the total population. The proportion of

Table 2. Population and average annual rate of growth of municipalities in Metro Manila's adjacent areas, 1948-1980, and density, 1980

Province	Municipality	Population (thousands)					Average annual rate of growth				Density (per hectare, 1980)
		1948	1960	1970	1975	1980	1948-1960	1960-1970	1970-1975	1975-1980	
Bulacan	Obando	11 957	18 733	27 176	32 378	39 618	3.8	3.8	3.6	4.1	8
	Meycauayan	21 695	32 234	50 977	60 225	83 579	3.4	4.7	3.4	6.8	39
	Marilao	6 206	9 206	16 128	21 017	35 069	3.3	5.8	5.4	10.8	10
	San José del Monte	5 363	9 329	18 704	59 021	90 732	4.7	7.2	25.9	9.0	4
	Bocaue	16 537	22 417	33 953	40 577	49 693	2.6	4.2	3.6	4.1	15
	Bulacan	13 242	18 395	26 750	28 361	34 920	2.8	3.8	1.2	4.3	5
Rizal	Montalban	5 257	9 648	20 882	31 176	41 859	5.2	8.0	8.4	6.1	1
	San Mateo	6 811	12 044	29 183	38 955	51 910	4.9	9.6	6.0	5.9	8
	Antipolo	7 604	21 598	26 508	40 944	68 912	9.1	2.1	9.1	11.0	2
	Cainta	3 692	6 803	20 714	36 971	59 025	5.2	11.8	12.3	9.8	58
	Taytay	14 144	21 747	46 717	58 274	75 328	3.7	8.0	4.5	5.3	19
	Cardona	8 134	12 476	16 880	21 266	24 503	3.6	3.1	4.7	2.9	8
	Angono	5 255	7 093	12 127	17 574	26 571	2.5	5.5	7.7	8.6	10
	Binangonan	20 422	31 274	52 296	63 215	80 980	3.6	5.3	3.9	5.1	11
Laguna	Biñan	20 794	33 309	58 290	67 444	83 684	4.0	5.8	3.0	4.4	19
	San Pedro	9 063	14 082	32 991	43 439	74 556	3.7	8.9	5.7	11.4	33
	Sta. Rosa	17 259	26 583	41 335	47 639	64 325	3.7	4.5	2.9	6.2	17
Cavite	Carmona	5 597	8 212	20 123	51 004	65 014	3.3	9.4	20.4	5.0	16
	Imus	23 685	31 660	43 686	48 566	59 103	2.5	3.3	2.1	4.0	7
	Bacoor	20 453	27 267	48 440	62 225	90 364	2.4	5.9	5.1	7.8	36
	Noveleta	5 003	7 029	10 560	12 141	14 460	2.9	4.2	2.8	3.6	26
	Cavite City	35 052	54 891	75 739	82 456	87 666	3.8	3.3	1.7	1.2	74
	Dasmariñas	9 012	11 744	17 948	22 805	51 894	2.2	4.3	4.9	17.9	6
	Kawit	13 970	19 352	28 447	33 813	39 368	2.8	3.9	3.5	3.1	29
	Rosario	11 844	16 227	23 817	28 725	33 312	2.7	3.9	3.8	3.0	93

Source: Metro Manila Commission, Office of the Commissioner for Planning. Technical Paper 3. Development Trends (Manila, 1985).

elderly persons (over 65) remained more or less stable, at about 2 per cent, whereas the proportion of persons under 14 years of age, which was already the smallest of any region in the Philippines, decreased from 37 to 35 per cent. The dependency ratio of 59 in Metro Manila was also well below the national average, which was 83. Average household size in Metro Manila declined from 6.0 persons per household in 1975 to 5.4 in 1980 and is projected to decline to 4.4 by 1990.

Reducing population growth is an issue of high priority in the Philippines. Beginning in 1971, the national Government established a Commission on Population (Popcom) and drew up a national population programme. In 1978 Popcom established a regional office in Metro Manila, Popcom-NCR, which issued the NCR Regional Population Workplan in 1985. The overall goal of the regional population programme is to improve the welfare of families throughout Metro Manila and to reduce fertility, as a means of helping to achieve a national population growth rate of 2.2 per cent per annum by 1987.

B. Migration

Metro Manila continues to receive the largest volume of net migration of any region in the Philippines, despite the fact of having the highest level of out-migration. During 1970-1975 Metro Manila received a total of 263,058 in-migrants (about 30 per cent of all interregional migrants in the country); there was a counter-stream of 195,860 out-migrants, however, resulting in a net gain of only 67,198. During 1975-1980 there was a considerably larger volume of in-migration (378,878, or about one third of all interregional migrants) and a similar volume of out-migration (204,778) as in the preceding period, resulting in a net gain of 174,100 migrants. Given the high rates of growth of municipalities in the Metro Manila adjacent areas, it is likely that a large number of the out-migrants may have been moving to the periphery of Metro Manila, immediately outside the administrative boundary.

There is little information on the characteristics of recent migrants in Metro Manila. In 1980 Metro Manila had 93 males for every 100 females, down from 95.7 males per 100 females in 1975, indicating the growing attraction of the capital region for female migrants.

C. Population projections

In 1968 demographers at the Institute of Planning of the University of the Philippines projected a population of 5.9 million inhabitants in Metro Manila by 1980 (the actual population enumerated in the 1980

census was 5,920,000) and of 11,700,000 by the year 2000. The Metro Manila Transportation Plan (1976) projected a population of 6,700,000 in 1980, a projection that exceeded the 1980 census count.

According to population projections prepared by the National Census and Statistics Office in 1984, Metro Manila's total population is projected to reach over 9,800,000 inhabitants by the end of the century. In that projection, the rate of growth of the capital region is forecast to decline to around 2 per cent by the year 2000, which is a significant reduction from the rate of 3.6 per cent recorded during 1975-1980. The most recent series of population projections for Metro Manila were prepared for a consultative meeting with local governmental officials held by the Population Institute of the University of the Philippines in February 1985 (Concepción, 1985). Assuming a single variant for mortality (that of a moderate decline) and three variants for fertility (of rapid, moderate or slow decline), the low, medium and high variant projections were 9,520,000, 9,890,000 and 10,080,000, respectively, by the year 2000.

II. THE ECONOMY

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

Manila traces its origins to a small seaport established in the twelfth century at the mouth of the Pasig River. Captured by Spain in 1570, the wealthy Muslim kingdom of Maynila was proclaimed capital of the Philippines. As one of the capitals of Spain's overseas empire, Manila became one of the key links in the Manila/Acapulco trade. Manila remained under Spanish tutelage for nearly four centuries, exporting agricultural products to the metropolis in exchange for finished goods.

In 1898, in the aftermath of the Spanish-American War, the Philippines were ceded to the United States of America. From the outset, the goal of American policy makers was to integrate the new colony into the American market. Towards that end, the Philippines continued to specialize in products that gave it comparative advantage (i.e., primary products), rather than developing a broader economic base. By the late 1930s, however, there was a decline in the country's agricultural sector, mainly as a result of external factors, and an increase in industrial output. The capital region began to show significant potential as a base for the country's impending industrial take-off, even though it had not been favoured by the overall economic policies adopted during the colonial period (Paderanga and Pernia, 1983). Following Independence in 1947, there was a major shift in the Philippine economic policy from export promotion to import substitution. The main beneficiary of the import-substitution policies was the capital region, whose comparative advantage was increasingly strengthened, largely by means of various monetary and fiscal measures - e.g., exchange and import controls, tax incentives for "new and necessary industries", and tariff restrictions.

The industrial base of Metro Manila has broadened in recent decades to include textile production, publishing and printing, food processing, and the manufacture of tobacco, paints, drugs, oils, soap and lumber. Metro Manila is also a major international port, handling more than half of domestic and foreign cargo volumes, and is the main centre for air traffic and the international tourist trade. It is also the site of a highly centralized national Government, and of the head offices of the major domestic and foreign corporations in the Philippines, international banks and so forth. It has the main institutions of higher learning and research in the Philippines, as well as the country's major medical centres and cultural institutions.

B. Recent performance of the economy

Whereas the Philippines experienced rapid economic growth during the 1970s, in recent years the economy has been less and less able to generate growth. In fact, GNP declined in 1984 for the first time since 1945. The economic situation is not expected to improve in the near future. In the economic agreement signed by the Philippine Government, the International Monetary Fund and various creditor banks in late 1984, real GNP was projected to increase by only 16 per cent between 1984 and 1990, whereas the country's total population was forecast to increase by 13 per cent. Some analysts predict that personal incomes in the Philippines will be no higher in 1990 than they were in 1984, while others have suggested that personal incomes could decline by as much as 20 per cent in real terms (MMC/OCP and Halcrow Fox and Associates, 1984).

Metro Manila is expected to be harder hit by the economic crisis than the other regions of the Philippines. For one thing, the Updated Philippine Development Plan (1984-1987), which was prepared by the National Economic Development Authority (NEDA) in response to the economic crisis, assigns major importance to increasing agricultural production and promoting agro-industry, and it gives priority in capital investment to the provinces at the expense of Metro Manila. For another, the Government will have to rely less on the heavy foreign borrowings that financed many of the large-scale infrastructure projects in Metro Manila in recent decades. Furthermore, the depressed economic climate in the country as a whole has brought about an increase in urban unemployment, mainly in Metro Manila. According to a survey conducted by the Ministry of Labour and Employment in 1984, job cutbacks among factory workers were heavily concentrated in Metro Manila, which has about 60 per cent of the country's total industrial activity.

C. Spatial structure of the metropolitan region

Located in the central part of the island of Luzon, Metro Manila is an area of 636 square kilometres that spreads along the eastern shore of Manila Bay and the delta plain of the Pasig River. The urban area is bordered by the swampy delta of the Pampanga River in the north, by the Bataan Peninsula mountains in the east, and by a large fresh-water lake, the Laguna de Bay, in the southeast (figure II). Historically, Metro Manila spread outward from an area south of the Pasig River, first along the river banks and flat coastal lands and later onto higher ground between Manila Bay and the Marikina Valley, with the spread of urbanization accompanied by steady increases in population density. In recent years, the urbanized area has been expanding in all directions. There was Government-led reclamation of Manila Bay to the west, although

it was stopped around 1983 because of financial constraints and ecological concerns. Population-driven expansion has been taking place to the northwest. In the north, south, and east of the capital region, urban growth has been led mainly by the private sector, with public sector infrastructure investments (e.g., highways) generally fueling that development.

In contrast to the situation in many large metropolitan cities throughout the world, in which the older, central areas of the cities have been growing very slowly or have been experiencing negative population growth, Manila, Metro Manila's primary CBD, has grown by about 2 per cent per annum over the past two decades. Manila has lost many of its commercial functions, however, first to Quezon City and the district of Cubao and then to Makati, a rapidly expanding commercial pole that contains Metro Manila's major concentration of corporations, international banks, financial instititions, embassies and consulates as well as the major hotels and shopping and entertainment complexes. During the 1970s, commercial activity also expanded into Caloocan, and modern retail centres were established in San Juan and in Pasay City. Moreover, since the designation of Quezon City as national capital of the Philippines in 1947, Manila has had a declining share of government offices, universities and health care institutions.

Historically, industrial activity spread along the Pasig River to Mandaluyong (reflecting the earlier importance to the region of water transport), with a secondary concentration of industry on the northern periphery and a small concentration in the south below Taguig. Since the mid 1970s, however, the location of industry in the capital region has been strongly influenced by the development of the region's highway infrastructure. Industry has expanded northward to the Balintawak area as well as along the Quirino and MacArthur Highways. More scattered expansion has taken place to the east in the Marikina Valley and to the south along the South Super Highway and the Pamplona Road, although there has been also significant in-filling within the central areas (MMC, Technical paper 10).

As of 1980, 37 per cent of the total land area in Metro Manila was in residential use (MMC, Technical paper 10). The residential population is scattered throughout Metro Manila, although it is highly segregated by income group. High-density areas with poorer housing are located mainly in the central commercial and tourist core near informal-sector employment and in a concentrated belt stretching north of the CBD from the district of Tondo to Caloocan. The most densely populated area in Metro Manila is Navotas, the municipality along Manila Bay that contains the low-income Tondo residential area, followed by Manila (table 1). Small pockets of low-income housing are scattered throughout Manila, Quezon City and Pasay City, as well as on the urban

periphery. Middle- and higher-income residential areas are located mainly in the south and southeast (in Makati, the district of Greenhills, San Juan and Parañaque), and in the northeast (in the district of Santa Mesa, the Quadrangle in Quezon City, in New Manila and in the Marikina Valley) (MMC, Technical paper 10).

D. The sectoral and spatial distribution of jobs

Metro Manila employed 2.03 million workers as of 1983, roughly two out of five in industry and three out of five in services. Agriculture, forestry and fishing have been relatively unimportant as sources of employment, with their share of total employment remaining constant at around 1-2 per cent between 1977 and 1983. The share of industry in total employment declined significantly, from 43 to 38 per cent during 1977-1983, with manufacturing declining from 25 to 23 per cent. However, services increased their share from 55 to 60 per cent, wholesale and retail trade from 12 to 16 per cent, and community, social and personal services from 34 to 37 per cent.

A large proportion of the labour force in Metro Manila is employed in the informal sector. The Metro Manila Commission (MMC) has estimated that approximately 826,000 workers, or about 37.5 per cent of the labour force, were employed in informal-sector activities between 1977 and 1983. The largest proportion of informal-sector workers were in community, social and personal services, followed by wholesale and retail trade and manufacturing.

Although Manila has lost some of its commercial functions to Makati, which has developed into an important business centre, it still functions as an important centre of employment. Whereas medium- and large-scale industry is located in peripheral areas, mainly along the major highways, small-scale manufacturing is scattered throughout the capital region, particularly in the congested districts of San Nicholas, Binondo, Tondo, and Santa Cruz.

Whereas the share of primary-sector activities was insignificant in most cities and municipalities within Metro Manila, because of the importance of marine fishing, nearly one quarter of the labour force in the coastal municipality of Navotas was employed in the primary sector. Although the largest absolute numbers of industrial workers were employed in Manila (182,677) and Quezon City (128,151), industrial employment accounted for the largest shares of total employment in Taguig (53 per cent), Valenzuela (51 per cent), Muntinlupa and Pateros (about half of the labour force in each).

Professional, technical and related workers were fairly evenly distributed throughout the cities and municipalities within Metro Manila, with the largest share in Quezon City (16 per cent), as were most other categories of employment. The proportion of workers employed in sales was highest in Manila, whereas the largest proportion of service workers was in Makati (table 3).

E. The city in the region

During the 1960s municipalities in the Metro Manila adjacent areas were major sending areas for migrants to Metro Manila. 4/ In recent years, however, there have been marked spillover effects from Metro Manila into the adjacent provinces. The initial impetus to growth was the construction of a north/south highway axis (the North Expressway and South Super Highway), which made adjacent areas suddenly more accessible. Combined with the availability of cheaper land for industrial and residential sites and, in some instances, as a direct result of governmental programmes to resettle squatters, municipalities in the adjacent areas, and particularly those close to the administrative boundary of the metropolitan area, have become important receiving areas, growing at a combined average annual rate of more than 6 per cent. In the province of Bulacan, for example, Marilao grew by nearly 11 per cent per annum during 1975-1980. San José del Monte, which has been a major relocation area for squatters as well as a rapidly developing industrial and agro-processing centre, grew by nearly 26 per cent per annum during 1970-1975 and by 9 per cent during 1975-1980. Meycauayan, another developing industrial area on the periphery of the metropolitan area, grew by 5.8 per cent. In the eastern province of Rizal, Antipolo, which is a rapidly developing residential area as well as an important agricultural and livestock-breeding area, grew by about 9 per cent per annum during 1970-1975 and by 11.4 per cent during 1975-1980. Cainta, which is a mainly residential area with a small concentration of heavy and light manufacturing, grew by 12.3 per cent per annum during 1970-1975 and by 9.8 per cent during 1975-1980; Angono grew by 8.6 per cent during 1975-1980; Montalban, San Mateo, Taytay and Binangonan also grew very rapidly. In the province of Laguna, San Pedro, which was a major resettlement area for squatters throughout the 1970s, grew by 11.4 per cent per annum during 1975-1980, whereas Santa Rosa grew by 6.2 per cent. Finally, in the province of Cavite, Dasmariñas, which has been a relocation area for squatters as well as the site of an industrial estate, grew by 17.9 per cent per annum during 1975-1980, while Bacoor grew by 7.8 per cent. Carmona, which was another squatter relocation site, grew by 20.4 per cent per annum during 1970-1975 and then by 5 per cent during 1975-1980.

Table 3. Population 15 years of age and over, by occupation, in cities and municipalities within Metro Manila, 1980

Jurisdiction	Occupational categories a/								Total
	1	2	3	4	5	6	7	8	
Manila	64 501	10 659	79 331	96 349	103 607	3 098	182 677	28 127	568 349
	(11.35)	(1.87)	(13.96)	(16.95)	(18.23)	(0.54)	(32.14)	(4.94)	(100.00)
Caloocan	14 331	1 789	18 078	19 429	20 598	1 966	66 103	12 297	154 591
	(9.27)	(1.16)	(9.11)	(12.57)	(13.32)	(1.27)	(42.76)	(7.95)	(100.00)
Pasay City	8 808	1 334	14 085	11 832	25 146	581	33 599	6 912	102 297
	(8.55)	(1.30)	(13.77)	(11.57)	(24.58)	(0.57)	(32.84)	(6.76)	(100.00)
Quezon City	66 874	13 616	60 196	45 115	91 622	3 698	128 151	12 657	421 929
	(15.85)	(3.23)	(14.23)	(10.69)	(21.71)	(0.88)	(30.37)	(3.00)	(100.00)
Las Piñas	7 037	2 198	5 858	4 717	9 771	701	16 045	1 836	48 163
	(14.61)	(4.56)	(12.16)	(9.79)	(20.29)	(1.45)	(33.31)	(3.81)	(100.00)
Makati	17 843	5 568	20 218	12 693	44 832	590	36 441	5 045	143 230
	(12.46)	(3.89)	(14.11)	(8.86)	(31.81)	(0.41)	(25.44)	(3.52)	(100.00)
Malabon	5 862	909	6 596	9 627	7 099	2 789	28 932	2 381	64 195
	(9.13)	(1.41)	(10.27)	(15.00)	(11.06)	(4.34)	(45.07)	(3.71)	(100.00)
Mandaluyong	8 725	2 108	9 698	7 181	14 514	338	28 054	2 054	73 191
	(11.92)	(2.76)	(13.25)	(9.81)	(19.83)	(0.46)	(38.33)	(2.81)	(100.00)
Marikina	8 428	2 373	7 467	7 960	10 607	709	37 815	2 538	77 897
	(10.82)	(3.05)	(9.58)	(10.22)	(13.62)	(0.91)	(48.54)	(3.26)	(100.00)
Muntinlupa	3 939	522	3 629	3 186	6 802	1 217	22 901	3 471	45 667
	(8.62)	(1.14)	(7.95)	(6.98)	(14.89)	(2.66)	(50.15)	(7.60)	(100.00)
Navotas	2 474	235	2 165	5 517	4 007	10 202	13 975	2 547	41 122
	(6.02)	(0.57)	(5.26)	(13.42)	(9.74)	(24.81)	(33.98)	(6.19)	(100.00)

Table 3 (continued)

Jurisdiction	Occupational categories a/								Total
	1	2	3	4	5	6	7	8	
Parañaque	10 149	3 548	9 051	8 679	20 905	1 406	21 409	3 175	78 340
	(9.20)	(4.53)	(11.55)	(11.08)	(26.68)	(1.79)	(27.33)	(4.05)	(100.00)
Pasig	9 079	2 132	10 026	9 768	15 073	1 792	45 921	4 866	98 657
	(9.20)	(2.16)	(10.16)	(9.90)	(15.28)	(1.81)	(46.55)	(4.93)	(100.00)
Pateros	1 195	173	1 147	1 194	1 573	427	6 274	656	12 639
	(9.45)	(1.37)	(9.07)	(9.45)	(12.44)	(3.38)	(49.64)	(5.19)	(100.00)
San Juan	6 073	2 092	6 815	5 600	12 725	186	14 087	2 433	50 021
	(12.14)	(4.18)	(13.62)	(11.19)	(25.44)	(0.37)	(28.16)	(4.86)	(100.00)
Taguig	2 839	528	4 205	3 848	6 613	2 157	23 908	1 131	45 231
	(6.28)	(1.17)	(9.30)	(8.51)	(14.62)	(4.77)	(52.86)	(2.50)	(100.00)
Valenzuela	5 575	1 118	6 089	7 466	8 016	1 993	35 950	4 707	70 964
	(7.86)	(1.57)	(8.58)	(10.52)	(11.29)	(2.81)	(50.66)	(6.63)	(100.00)
Metro Manila Total	243 732	50 402	217 802	260 161	403 510	33 850	742 242	96 833	2 048 532
	(11.90)	(2.46)	(10.63)	(12.70)	(19.70)	(1.65)	(36.23)	(4.73)	(100.00)

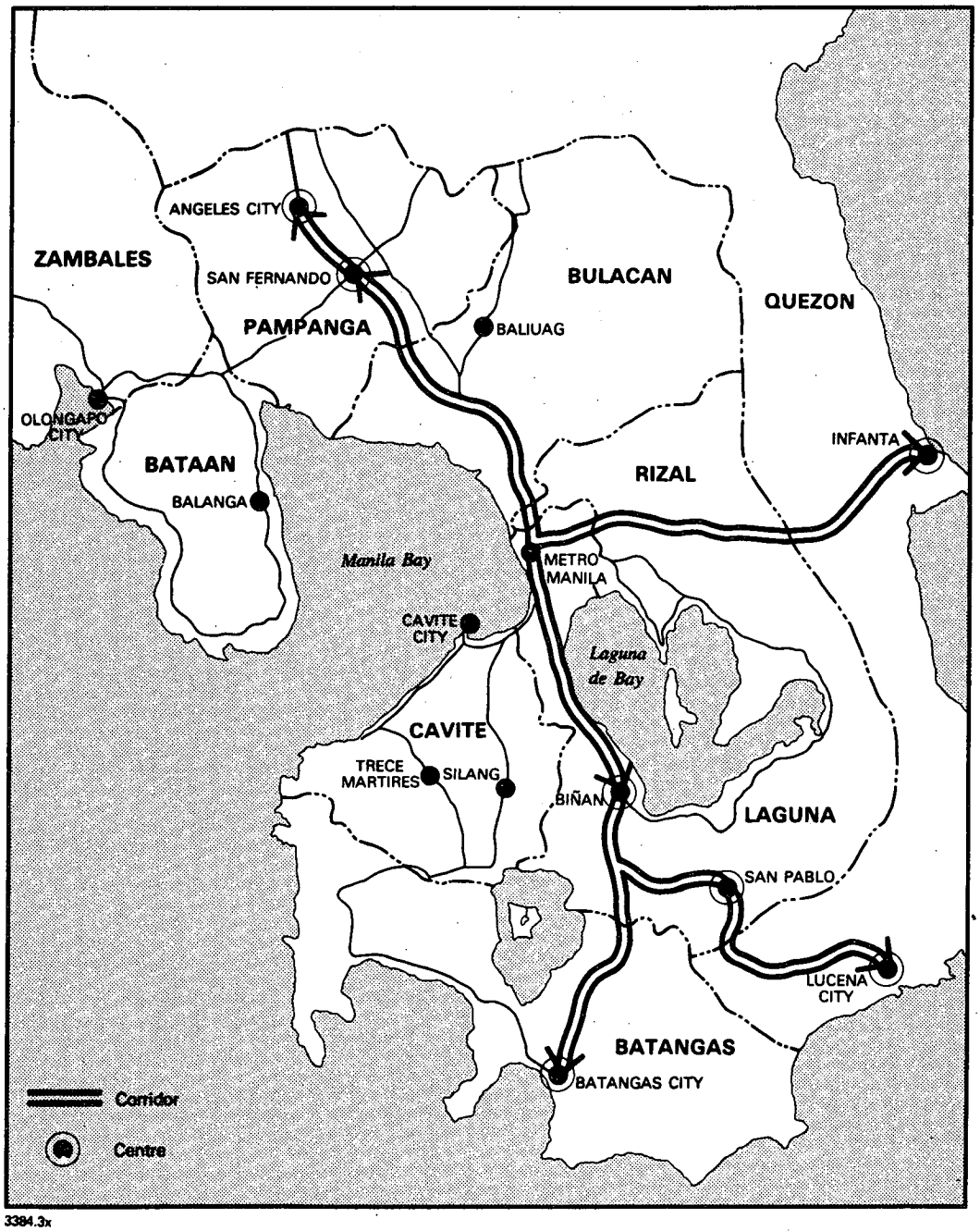
Note: Figures in parentheses are percentages

a/ Occupational categories:
1. Professional, technical and related workers
2. Administrative, executive and managerial workers
3. Clerical and related workers
4. Sales workers
5. Service workers
6. Agricultural, animal husbandry and forestry workers, fishermen and hunters
7. Production and related workers, transport, equipment operators and labourers
8. Workers not classififed by occupation

Source: Ministry of Human Settlements, 1982 Settlement Profiles: National Capital Region (Manila, 1984).

In addition to the rapid growth of the municipalities in the Metro Manila adjacent areas, there has been considerable development along the major north/south highways, particularly to the south, where the service roads and frequent interchanges have provided easy access. Although marginal agricultural lands adjoining the highways have been rapidly converted into residential subdivisions and industrial sites, development has not spread very far from the highways, mainly because of the lack of secondary feeder roads. To date, the two major growth corridors that have been emerging - San Fernando/Angeles and Laguna/Batangas - have been almost entirely a result of private-sector investment following the construction of the major north/south highways, and not a result of any governmental plans or policies for the location or direction of growth. Recently, the Government discussed the possibility of adopting an explicit growth corridor strategy as a means of decongesting the Metro Manila area (see figure III). Such a strategy remains, however, in the blueprint stage. In promoting growth along the corridor, the Government's role would likely be confined to the formulation of a land-use plan and to various infrastructure investments (e.g., improvement of the north/south highway and railway networks, provision of housing and community facilities in the corridor communities) designed to support the activities of the private sector (MMC, Technical paper 9).

MAP 3. **Proposed growth corridors and centres.**



3384.3x

Source: Metro Manila Commission, Office of the Commissioner for Planning, *Technical Paper 9: National and Regional Context* (1985).

III. DECENTRALIZATION AND LOCATION

A. The evolution of spatial strategies

Until fairly recently, spatial planning in Manila was synonymous with the planning of government complexes, parks and boulevards, the development of high-income areas (e.g., Makati), and the provision of highway infrastructure. The earliest physical plan, the Burnham Plan, which was prepared in the early 1900s during the American occupation, was implemented to a very limited extent, with its main legacy being the development of Rizal Park and Roxas Boulevard. During the mid 1940s, a 25-year master plan was prepared to guide the development of areas of Makati owned by the Ayala family. Following independence in 1947 a plan for a National Capital City was prepared but was never implemented, except for the construction of some government complexes and laid-out roads in Quezon City (MMC, Technical paper 14).

In 1954 the National Planning Commission prepared a master plan for Manila, which incorporated most of the Burnham Plan proposals from half a century before as well as some previously approved zoning ordinances and plans for a complex regional highway network. The Southern Reclamation Project, which was planned to accommodate a new city of 10,000 inhabitants on land reclaimed from the sea, was also conceived in the mid 1950s and was implemented by a private developer under the supervision of the then Department of Public Highway (MMC, Technical paper 14).

While successive plans were being prepared and large-scale infrastructure projects being undertaken to improve the visual aesthetics of the city, Metro Manila was growing very rapidly, with as many as 150,000 migrants a year flooding into unplanned areas. In 1963, partly in an attempt to discourage future migrants, the Mayor of Manila announced a policy of providing free public education only to those children whose parents could produce proof of legal residence (e.g., residence certificates, tax receipts, affidavits). The policy was almost wholly ineffective, however, because of evasion and widespread counterfeiting of documents (Simmons, 1979).

During the early 1970s, a framework plan for the Manila Bay Metro Region was prepared by the University of the Philippines Institute of Planning and the Department of Public Works, Transportation and Communication, with support from the National Economic Development Authority (NEDA), and the United Nations Development Programme (UNDP). Although the major recommendations of the framework plan (e.g., to develop five growth poles located 60-100 kilometres from Manila as a means of relieving population pressure in central areas) were widely publicized, they were given no statutory basis and were never implemented.

The growing awareness of the need for a coherent development plan for the capital region was one of the main factors which led to the creation of the Metro Manila Commission (MMC) in 1975. In 1976, the MMC issued a structure plan, Manila: Toward the City of Man. Described as the first comprehensive plan for the physical and socio-economic development of the metropolitan region, the structure plan announced a goal of "remaking a decaying metropolis" into one that would provide a better quality of life for its inhabitants by means of such measures as: improving environmental conditions; expanding the potential of the city's commercial, financial, and industrial areas for economic growth and employment generation; improving accessibility through the construction of new road links; controlling urban sprawl; providing sites for housing, institutional, and open space uses; promoting integrated development through the participation of all sectors; co-ordinating public services; and establishing priorities for public and private sector investments (Panganiban, 1984).

In 1982 a Regional Development Framework Plan/RDFP (1983-1992) was prepared by the Office of the Commissioner for Planning (OCP) of the Metro Manila Commission (MMC). THE RDFP was intended to be a flexible planning document that would be the product of continuous deliberations among the various levels of government involved in planning and implementing programmes within the capital region. The RDFP was expected to influence the preparation of both central governmental programmes and local governmental plans and budgets, as well as the preparation of the annual Capital Investment Folio (CIF), the issuance of zoning ordinances, and investment decisions made by the private sector.

B. Current spatial strategies

The chief aim of the revised Regional Development Framework Plan (RDFP), which was issued in 1985, was to diagnose Metro Manila's major urban problems and to provide guidelines for the direction and timing of future urban growth. Although the RDFP contained a number of general policy recommendations that are in line with the goals of the Updated Philippines Development Plan (e.g., to create employment, to redistribute the benefits of development to improve the quality of life for the urban poor), it was mainly concerned with the physical planning of the metropolitan area and with encouraging more cost-effective development by the private sector. For example, the RDFP recommended that the Government should provide infrastructure to support private development of the Guadaulupe plateau which runs north and south of the metropolitan area, since those areas are considered the most suitable for new urban development (because there is a deep water table, good surface drainage, and the areas are not generally subject to flooding).

The Plan likewise recommended that the Government should neither block nor promote the spontaneous urban development that has been occurring in the east (since land in the east is poorly drained and would incur higher development costs). Finally, the Plan urged that urban development should not be encouraged in the north, pending further careful study, since development of that low-lying marshy area would be very costly and might cause drainage and flooding problems inland.

The Government's other major policy response has been the Capital Investment Folio (CIF), which was initiated in 1978/79 within the Ministry of Public Works and transferred to the Metro Manila Commission (MMC) in 1980. Essentially, the CIF is a schedule of committed or proposed infrastructure projects and packages of projects, with their corresponding cost estimates. Considered to be the financial counterpart of the Regional Development Framework Plan (RDFP), the CIF is supposed to generate an interagency consensus about where to allocate resources, thereby influencing (although not controlling) investment decisions made by the central Government and local governments.

The methodology employed in the CIF is worth discussing in some detail, because it is innovative and might possibly be transferable to other developing countries. During an intitial screening, individual projects were evaluated against the criteria of feasibility, compatibility with the Regional Development Framework Plan (RDFP), impact on equity, economic viability, and financial viability. Projects judged to be incompatible were excluded. Next, all ongoing projects were evaluated to determine which projects should be implemented more or less as planned and which could be deferred. In the following step, ongoing projects which might be deferred, together with all new projects, were prioritized, using a point-scoring multicriteria form of evaluation designed to identify roughly first-, second- and third-priority projects. The point-scoring system, which is similar to the methodology employed by NEDA in prioritizing its national infrastructure projects, scored projects on a scale of zero to 10 against a number of evaluation criteria, and the criteria were then weighted to provide a project score.

The four major evaluation criteria were socio-political acceptability, which was concerned with the distribution of benefits within society and spatially and with immediate serious problems; budgetary requirements, debt service requirements, and economic profitability. The socio-political acceptability criterion had four sub-components: regional development impact, or the extent to which the project would make Metro Manila more attractive to migrants relative to other regions; importance, or the project's degree of general political support and the extent to which it tackles basic serious problems identified in the RDFP; impact on low-income groups; and spatial

consistency with the development strategy. Because of uncertainty regarding future economic trends, the evaluation criteria were examined under five scenarios: high growth-planned, which assumed that the economy would turn around quickly, with rapid economic growth resolving the country's major urban problems; two medium growth scenarios, one developed by NEDA and the other by the MMC; a low growth-unplanned scenario, which assumed that politics and expediency would have the upper hand over rational planning; and a low growth-peace and order scenario, which assumed that "the cumulative financial impact of governmental policies on low-income groups may result in severe social strains and the imminent danger of civil unrest...in this situation, the Government would have little option other than to use investment projects as one measure to defuse the situation" (MMC/OCP and Halcrow Fox and Associates, 1984).

The resultant Core Investment Programme (CIP) consisted of a series of projects that performed well under a wide range of scenarios (since projects that performed well under only one or two scenarios were considered possible investment risks). The projects were generally those designed to meet immediate serious problems yet consistent with a low estimate of likely resource availability. (A Core Plus Investment Programme (CPIP), which was consistent with a higher estimate of resource availability, was also identified, but was not expected to be implemented because of the likely unavailability of resources.)

IV. ISSUES AND SECTORS

A. The labour market

The labour force participation rate in Metro Manila has remained nearly constant in recent years, averaging around 54.0 per cent. Unemployment rose from 8.6 to 10.8 per cent between 1977 and 1983, whereas underemployment is estimated to have risen from 18.7 to 35.0 per cent. Hence total labour under-utilisation, defined by the Metro Manila Commission (MMC) as unemployment plus underemployment, rose from 27.3 to 45.8 per cent. The Government has attributed the under-utilisation of labour to the poor absorptive capacity of the manufacturing sector. That was explained, in turn, by an overvalued exchange rate that had made imported machinery cheaper, by an interest rate structure that had favoured cheap capital acquisition by large enterprises, and by tax laws that had historically encouraged capital intensity (OCP, Technical paper 5).

The employment situation in Metro Manila has clearly worsened in the aftermath of the economic crisis, which seriously hurt import-dependent manufacturing activities (e.g., the automotive, textile and garment, chemical, metal, and pulp and paper industries) that are heavily concentrated in the capital region. Indeed, the MMC reported that more than two thirds of the 44,000 layoffs in manufacturing that took place nationwide in 1984 were in Metro Manila (up from half of nationwide layoffs in manufacturing in 1983).

The situation is even more bleak over the longer term. According to a study conducted by the Ministry of Labour and Employment (MOLE), about 450,000 new jobs a year will have to be created between 1985 to the year 2000 in order to absorb Metro Manila's rapidly growing labour force (MMC, Technical paper 5). The Government's policy response - indeed, its official employment policy since the 1970s - has been to encourage labour intensive activities. However, as the Metro Manila Commission itself conceded, "the Government has been generally passive in this area and...the choice of technique left to the profit maximising firms" (MMC, Technical paper 5). Although the Government has offered some tax incentives to encourage the growth of labour-intensive firms - e.g., the exemption from taxable income of one half of labour-training expenses and the deduction of labour costs directly incurred in the manufacture of exports - the measures have been used by entrepreneurs quite sparingly. The Government did establish a National Manpower and Youth Council charged with setting up apprenticeship programmes and developed an Urban Livelihood Financing Programme (ULFP) designed to provide financial incentives to firms willing to hire workers in the most depressed areas of Metro Manila. There have also been some efforts to resettle displaced workers on idle land and to promote a more

aggressive balik probinsiya, or back-to-the-rural areas, campaign, although they have had a limited impact on the employment situation in Metro Manila. Moreover, whereas one fairly effective means of temporarily easing the unemployment situation in Metro Manila was the export of Filipino labour to the Middle East, there has been a dampening of foreign demand for Filipino workers in recent years.

In its most recent report on the employment situation in Metro Manila, the MMC recommended that, as one possibly effective means of encouraging employment, the Government should formulate improved land-use and transport policies based on a clearer understanding of where the urban poor live and where they work, where they would work if they had a choice, and related transport costs relative to household income. In addition, the MMC recommended that the Government should remove all constraints and actively encourage the activities of the informal sector.

B. Urban land

Land use in Metro Manila has been largely shaped by the activities of the private sector. Although Metro Manila has not been as seriously affected by land speculation as some of the world's mega-cities, land prices in Metro Manila have risen dramatically in recent years (by about 100-200 per cent in central areas of the city). The increase in the price of land has in turn been one of the major reasons for the sharp increase in the cost of housing, since nearly one quarter of the average cost of new housing in Metro Manila is attributable to land and site preparation. Moreover, because some large parcels of land are inaccessible and others have no access to basic infrastructure or services, private developers and the public sector must now look to the fringe areas to find land at reasonable cost (Henward, 1985).

The Metro Manila Commission (MMC) acknowledges that "Government's involvement in attempting to influence the use of land is in its infancy and has so far had very limited effect" (MMC, Technical paper 10). The Government's major efforts have been in regard to land-use zoning. In 1977 the Human Settlements Commission, in collaboration with the MMC, undertook a comprehensive land-use survey in Metro Manila with the assistance of neighbourhood (barangay) leaders, student volunteers and civic groups. 5/ The survey results were used in preparing detailed maps indicating existing and proposed land use throughout the National Capital Region. In the following year a series of comprehensive zoning regulations for Metro Manila were adopted into law. On the basis of subsequent discussions with planners and local governmental officials, the regulations were revised and a Comprehensive Zoning Ordinance for the National Capital Region was signed into law in 1981. Pending

establishment of a special office to supervise enforcement, temporary responsibility for enforcement was vested in the Office of the Commissioner of Planning (OCP) of the MMC. The OCP has acknowledged, however, that its effectiveness has been limited, because budgetary constraints prevented its hiring local staff to supervise enforcement.

Whereas there has been some attempt to regulate urban land use through land use zoning laws, the Government has made little attempt to improve raw land as a means of guiding urban development or to purchase vacant land. Nor has the Government utilized taxes or subsidies to stimulate land development by the private sector. Currently, the real estate property tax is based on the value of the land and buildings, with vacant land falling into the lowest tax bracket. The MMC has recommended that, in view of the some 10,000 hectares of vacant land within the capital region, which would be less costly to develop than land in peripheral areas, the Government should consider imposing special taxes on vacant or undeveloped land. In addition, the Land Resource Management Service of the MMC conducted a study of the potential applicability of land readjustment in Metro Manila. 6/

Because of the availability of cheaper land in peripheral areas, marginal agricultural lands adjoining the major highways have been rapidly converted into industrial and commercial sites and residential subdivisions. However, as in the case of the central city, large tracts of land (e.g., in Antipolo) have been purchased by speculators and withheld from development.

C. Housing

According to the 1980 population and housing census, Metro Manila had a stock of 1,060,000 housing units, two thirds of which were single units and nearly half of which were single rooms less than 30 square metres in area. Forty-two per cent of the units were owner-occupied, 46 per cent were occupied by renters, and 2 per cent were occupied by sub-lessees; the remainder lived rent-free. Although the Metro Manila Commission (MMC) is convinced that there is a substantial amount of doubling up of households throughout Metro Manila (i.e., a sharing of quarters by extended families who do not take their meals together and should possibly be classified as separate households), that has not been reflected in the census data, mainly because census enumerators have usuallly equated dwellings with households (MMC, Technical paper 11).

Emphasizing that census data should be used with caution in estimating housing needs, the MMC reported that it had prepared its own estimates and projections of housing demand. Assuming an average occupancy of 1.5 households per housing unit, the MMC projected average

annual demand for new housing units of 37,000 during the period 1975-1980, 49,600 during 1980-1985, and 66,000 during 1985-1990, excluding requirements for replacement (MMC, Technical paper 11). In recent years, an average of less than 10,000 conventional housing units have been constructed annually in Metro Manila, mainly for middle- and higher-income households. 7/

Briefly summarizing the Government's major accomplishments in the area of conventional housing, the National Housing Authority (NHA) has participated in a number of joint ventures with the private sector and local governments. In 1983, the most recent year for which data are available, the NHA produced 769 completed units. Between 1980 and 1990 a total of 1,300 units were scheduled to be completed, at an average cost of 190,000 pesos per unit (1984 prices). The Bagong Lipunan Improved Sites and Services (BLISS) Development Corporation, a subsidiary of the Human Settlements Development Corporation (HSDC), has concentrated on the construction of middle-income housing. Beginning with demonstration projects designed to convince the private sector that the construction of middle-income housing could be profitable, the BDC constructed four-storey walkup apartments in mixed income areas and later provided pre-fabricated mass-produced "flexi-homes". The BDC currently produces small prefabricated wooden units that are sold for about 125,000 pesos, and are therefore affordable only by families with incomes above the 70th percentile (MMC, Technical paper 11). The Human Settlements Development Corporation has also been involved in the development of Lungsod Silangan, a planned settlement targeted at middle- and upper-income groups (such as gentlemen farmers), which is located east of Metro Manila, between Antipolo and the eastern coast. The project has since been discontinued, mainly because of the very high cost of developing this virgin area into a self-sufficient community.

Aside from those activities in the area of conventional housing, the Government has been mainly involved in housing finance. The National Home Mortgage Finance Corporation was established in 1977 to operate a secondary mortgage market system to increase the flow of funds into housing. The Home Development Mutual Fund was established in 1978 as a savings system for governmental employees; although its system of matching contributions is considered to have been quite successful, it has been criticized for being regressive, since the beneficiary members are above the 50th percentile in income distribution (MMC, Technical paper 11).

To provide shelter for lower-income households, the National Housing Authority (NHA) has undertaken sites and services programmes (which it terms "social housing programmes") for households with incomes between the 15th and 65th percentile. The Government provides serviced lots and the recipients then build their own homes, sometimes with the assistance of a housing materials loan. Tenure consists either of

leasehold with an option to purchase or immediate freehold purchase at market prices, with 12 per cent mortgages payable over 25 years. Lots are made available to the lowest-income households in the target group through cross subsidization from the sale of commercial land. The Metro Manila Commission reports that the project has encountered some difficulties, mainly related to land acquisition and cost recovery (MMC, Technical paper 11). (As a corrective measure, the MMC proposed increasing the mortagage lending rate to 15 per cent, payable over 20 years.) In spite of those problems, the NHA has proposed considerably strengthening the programme, producing 23,000 lots (more than the total number of lots produced to date) between 1985 and 1989. 8/

The NHA has also undertaken a relocation and resettlement programme in which serviced lots have been sold to squatters who were made homeless when their homes were cleared from drainage channels, railroad embankments and other public areas where upgrading was unfeasible. Lots have been made available in five sites located about 25 kilometres from the central city. To discourage the recipients from commuting back to the central city, the project has been supplemented by pilot employment-creation schemes. Some 24,500 lots were prepared during the first two years of the programme, and NHA hopes to produce an additional 15,000 lots each year up to 1990 (MMC, Technical paper 11).

A third programme, which aims at providing affordable housing for the urban poor, is a private sites and services programme, under which the Ministry of Human Settlements provides infrastructure and facilities and a construction loan to a private developer, who then develops serviced lots. Although that innovative programme has involved a much lower level of public funding and therefore represents an important advance in the area of public housing policy for the urban poor, the programme has been complex to administer. Developers have found it necessary to construct core houses in some of the less desirable areas in order to attract purchasers. Moreover, many of the beneficiaries have come from households with incomes higher (e.g., the 45th to 75th percentile in income distribution) than were originally intended (MMC, Technical paper 11). Nevertheless, the programme is considered to have been enough of a success to warrant its continuation.

Another area of governmental intervention has been slum upgrading. 9/ In Metro Manila, as in many other mega-cities, there has been a marked policy shift from the massive slum clearance and resettlement programmes of the 1960s and early 1970s to the current emphasis on slum upgrading. The World Bank-assisted Tondo Foreshore Development Project (1973) was the Government's first major effort in the area of slum improvement. Under that project, the Government legalized tenure, reblocked roads, provided basic infrastructure and community facilities, began a housing materials loan programme and set

up an employment creation programme designed to benefit 27,000 households. A related project was the Dagat-dagatan Development project, which resetted families who had to be moved from the Tondo Foreshore area because their properties were acquired for the construction of common facilities and the reblocking of roads.

Since 1980, with the establishment of the Zonal Improvement Programme (ZIP), the slum upgrading approach has been the Government's official human settlements policy. Current plans are to upgrade a total of 13 slum settlements, potentially benefiting some 160,000 inhabitants. Although the Metro Manila Commission reports that cost recovery has been difficult, the programme is considered to be generally successful. The Metro Manila Infrastructure Utilities and Engineering Programme (MMINUTE) is a related programme which is designed to improve basic infrastructure (e.g., water supply, waste disposal) in poorer areas, but without any attempt to resolve tenure issues or to provide community facilities (MMC, Technical paper 11).

In 1985, as an input to preparing a revised version of the Regional Development Framework Plan (RDFP), the Metro Manila Commission evaluated the Government's record in the housing sector in recent years. The MMC concluded that there had been virtually no governmental programmes which had successfully addressed the housing needs of the poorest households (i.e., those below the 15th percentile in income distribution). Although a variety of programmes had been developed to service middle- and higher-income households, many of them (e.g., the completed housing projects of the NHA and the BLISS Development Corporation) had duplicated the efforts of the private sector. The MMC concluded that public investment in completed units had little relevance to the current housing needs of the majority of Metro Manila's residents and should not be continued, with the possible exception of pilot projects designed to demonstrate new cost-effective building techniques. In view of the fact that the shelter needs of Metro Manila are certain to increase and government resources for this sector are likely to decease, the MMC recommended that the Government should strengthen programmes that provide serviced land, give greater support to self-help activities, and encourage private sector participation.

That may be difficult to achieve in light of the ongoing economic crisis. Whereas governmental expenditure on housing rose from 260 million to 1.1 billion pesos between 1978 and 1983, with half of that amount in the form of grants and subsidies to the various housing agencies, the Government is expected to be much less active in the sector in the future. With fewer subsidies, shelter agencies will be forced to place greater emphasis on cost recovery and on financial self-sufficiency; moreover, given the shortage of financing available for low-cost housing and the continuing difficulties in acquiring land,

the long standing tendency for the private residential construction industry to service mainly well-developed markets is likely to be reinforced.

D. Water supply and environmental problems

Metro Manila has reasonably severe problems in regard to water supply. About 50 per cent of the metropolitan area, containing 65-70 per cent of Metro Manila's population, is served by piped surface water from bulk supply sources (e.g., the Angat River and Novaliches Reservoir). The Government has proposed a project (MSWP III) to develop the Kaliwa River basin, which, when completed, could extend the distribution system to cover 95 per cent of the Metro Manila area and supply 96 per cent of the population. However, construction has been deferred because of financial constraints (MMC, Technical paper 1).

The Metro Manila Commission acknowledges that the existing central distribution system in Metro Manila, with the exception of the new works constructed under MSWP II, is in poor condition (MMC, Technical paper 1). Moreover, studies conducted by the Metropolitan Waterworks and Sewerage System (MWSS) have found that revenue is collected on only 47 per cent of the water supplied to the system. Efforts are under way to reduce system losses, to prevent the widespread illegal tapping into the system, and to improve revenue collection, in an effort to reach an additional 1.3 million consumers within the distribution area. Owing to the economic crisis, however, funds will not be available for extending the distribution system until after the completion of the deferred MSWP III. Hence, there is unlikely to be any major improvement in Metro Manila's water supply for at least a decade.

The 35 per cent of the population of Metro Manila who live outside the distribution system either purchase water from private vendors, usually at higher relative costs, or are served by ground water. However, as ground water supplies have become depleted, wells have been dug deeper, entailing higher pumping costs. More seriously, over-abstraction has lowered the water table by up to 200 metres below sea level in many areas of Metro Manila, resulting in growing pollution of the water supply from saline intrusion, which the Government acknowledges is potentially a very serious problem.

Metro Manila has an extremely inadequate sewerage system. The Metro Manila Commission acknowledges that "sewage disposal and treatment is a long-neglected problem in Manila and is in part responsible for the high incidence of disease, particularly in poor areas" (MMC, Technical paper 1). The primary sewage network serving Manila was built during 1904-1911 to serve a population of only 500,000 inhabitants. In

addition to the primary network, Quezon City, Makati and several other more affluent areas are partially sewered. In total, about 11 per cent of the population of Metro Manila is served by piped sewerage. In the large number of unsewered areas, sewage effluent is conveyed via road gutters, open ditches and canals to water courses that overflow during the rainy season, and then either is pumped untreated into Manila Bay or is allowed to flow into the Bay via the tides.

Although a Master Plan for Sewage, which outlined five stages of activities (METROSS I-V), was prepared by a consortium of foreign consultants in 1979, the bulk of the plan has not been implemented because of cutbacks. However, METROSS I, which involves rehabilitation of the existing system, extension of the sewerage network to Dagupan in the north and Pandacan in the south, and construction of a 4-kilometre central sea outfall and a new pumping station, is being implemented and is scheduled to be completed by 1987. The Government does not have the resources to implement any of the other projects but will rely instead on various "interim measures" outlined in the Master Plan. They include improving waste water disposal systems in areas of high risk by installing septic tanks and constructing combined sewers for surface water run-off and sewage effluents. However, in spite of those measures, a maximum of only about 20 per cent of the population of Metro Manila will be served by a piped sewerage system in the foreseeable future (MMC, Technical paper 1).

Whereas the sewerage network in Metro Manila will probably not be extended for many years, the Government is concerned with ensuring that the present service ratio does not deteriorate. Therefore, it is encouraging all new subdivisions, and particularly those within the Laguna de Bay catchment area, to be sewered. (The large fresh-water lake, Laguna de Bay, once considered a possible reserve source of water for Metro Manila, has become grossly polluted by domestic and industrial effluents; even if it were to receive no further polluting wastes, it would still not reach an acceptable level of water quality level by the end of the century.) The level of pollution of partially landlocked Manila Bay is continuously monitored. Some analysts have suggested that runoff to the open sea would be preferable to runoff into Manila Bay, an option that would favour promotion of future urban development in the southern part of the capital region.

Air pollution is another major environmental problem. Gaseous and particulate emission from the city's approximatley half a million motor vehicles account for about 60 per cent of total air pollution, oil-fired power plants account for about 30 per cent, and industrial plants account for the remaining 10 per cent.

Metro Manila has serious drainage and flooding problems. About 4,400 hectares are subject to regular annual flooding, affecting some 190,000 households and causing serious economic losses. In most areas of the city the worst flooding occurs when the Pasig River overflows simultaneously with local heavy rainfall (MMC, Technical paper 1). (A separate flooding problem occurs in the northwest and is due to inundation from high tides, rather than to precipation.) Part of the problem arises from the fact that Metro Manila still relies on natural drainage channels, many of which have become blocked by siltation, weeds and refuse, and by the construction of makeshift housing in the channels in squatter areas. Although the Metro Manila Urban Drainage and Flood Control Plan (1984) outlined a programme of works to dredge out the city's estuaries and culverts, the programme is unlikely to be implemented in the foreseeable future because of cutbacks. In the interim, the Government intends to rebuild the nine existing pumping stations that are used to pump out low-lying catchment areas.

In addition to its plan to alleviate internal flooding by improving the city's natural drainage system, the municipal government is in the process of constructing the Mangahan Floodway and related works. Scheduled to be completed in 1987, that project is expected to divert flood waters from the Marikina River into Laguna de Bay, rather than into the Pasig River. Although the government would like to regulate the waters of Laguna de Bay, which periodically overflows and floods surrounding areas, that is now considered to be financially unfeasible. A final problem is that the sea level has been rising with respect to the land level as a result of the lowering of the water table, posing a threat to coastal and low-lying areas. The Government is now questioning the viability of any future reclamation of Manila Bay, since it could worsen flooding in the central urban area.

With respect to solid waste disposal, there are approximately 2,650 tons of solid waste generated daily in Metro Manila, 70 per cent of which is collected. The remainder is dumped on roads and in watercourses, frustrating drainage and flood-control projects and worsening flooding. Refuse that is collected is taken to nine landfill sites that have small reserve capacities. Although the Metro Manila Solid Waste Management Study Final Report (SWAMP) recommended that two new sanitary landfill sites be constructed, there is little likelihood that the recommendation will be implemented. A Solid Waste Improvement Programme (SWIP), which includes a pilot door-to-door collection scheme covering 30,000 households as well as market refuse collection, drainage and canal clearing is currently being implemented. The government has also undertaken interim sanitation measures such as the Programme to Remove Sewage from the Streets (PROGRESS) in areas where there is a high risk of human contact with raw sewage. One high visibility programme which has the added advantage of being very labour intensive involves the so-called Metro Manila aides, some 6,000 street sweepers and 5,000 garbage collectors who are employed throughout the metropolitan area.

E. Power

There is considerable demand for power in Metro Manila, due to the concentration of population and industry in the capital region. Demand for electricity expanded by 7 per cent per annum between 1960 and 1980, although it has since slackened off, reflecting the slow growth of industry in recent years. Some 786,900 households in Metro Manila, or 61 per cent of total households, were residential customers of the Manila Electric Company (MERALCO), the large private utility company which is responsible for power distribution throughout Metro Manila. However, an estimated 1,050,000 million households (82 per cent of total households) were estimated to have access to electricity, indicating that there are a significant number of illegal hookups.

Power generation in Metro Manila has been the responsibility of the state-owned National Power Corporation (NPC) since 1976, when MERALCO sold its 1,800-megawat generating capacity. NPC has a programme to keep pace with demand by constructing new power stations that use indigenous hydropower and by developing geo-thermal energy and nuclear power.

F. Health and education

Metro Manila has experienced a gradual improvement in morbidity and mortality, with the crude death rate declining to 5.7 per thousand in 1980. Although pneumonia is the 10th leading cause of illness, it is the leading cause of death, followed by heart disease, tuberculosis, malignant neoplasms, cardio-vascular ailments, and accidents. The city has a high incidence of morbidity caused by poor sanitation and environmental pollution. Moreover, nine out of the 10 leading causes of morbidity (upper respiratory tract infections, bronchitis, diarrhea, skin infections, parasitism, tuberculosis, influenza, malnutrition and pneumonia) are preventable diseases (MMC, Technical paper 7).

During the 1960s and early 1970s, as in many developing countries throughout the world, the capital region's health care infrastructure was mainly curative and hospital-based. There was little planning in the health-care sector and wide disparities in the quality of services delivered at the local level. That situation has changed somewhat in recent years. Metro Manila currently has a three-tier health care infrastructure that consists of primary, secondary and tertiary-level facilities. Primary-level centres, which are built and maintained by local governments, include 330 government health care centres (up from 258 in 1975). The centres provide clinic-based services, family planning, primary medical and dental care, educational programmes (e.g., nutrition, school health and drug-abuse programmes) and a variety of support services (e.g., classes for mothers, day nurseries and geriatric

care). In an effort to ensure uniform access to the facilities, particularly by the urban poor, the Government has singled out 497 depressed barangays as priority areas. A majority of these barangays currently have their own health-care centre and are visited by a mobile health clinic once a month, and twice a month in the most severely depressed areas.

The next level of services is that of the secondary hospitals, which treat moderately severe cases from a referral pool of 10-12 primary-level centres. The tertiary level consists of specialized training hospitals that receive referrals from three to five secondary level hospitals. Currently, Metro Manila has 32 government hospitals and 155 private hospitals, with a total of 24,787 beds, or a ratio of one per 423 inhabitants, slightly better than the 1:500 ratio recommended by the World Health Organization.

Family planning programmes in Metro Manila have received high priority. The National Capital Region regional population office (Popcom-NCR), which aligns its programme with that of the National Commission on Population (Popcom), manages and co-ordinates population activities throughout the National Capital Region. The programme has two major thrusts: service delivery; and outreach projects. By means of a network of 595 static hospitals and mobile clinics, the service delivery project makes a wide range of contraceptive methods available to married couples of reproductive age. As of mid 1984, the NCR had 29,131 new acceptors and 174,356 continuing users, of whom 58.5 per cent were using modern methods (e.g., the pill, intra-uterine devices) and 41.5 per cent were using traditional methods (e.g., withdrawal). By strengthening existing family planning service delivery and opening new family planning service outlets, particularly south of the Pasig River, the programme aimed at recruiting 80,382 new acceptors during 1985, 53.8 per cent of whom were targeted to use the pill, 26.0 per cent to use intra-uterine devices, 18.3 per cent to undergo voluntary surgical sterilization, and 1 per cent to use Depo-Provera.

Information, education and communication (IEC) activities are important components of the service delivery project in Metro Manila. Those activities have included media campaigns to inform the public about the need to reduce the birth rate, pre-marital counselling, sex education for out-of-school youth, and various income-generating activities to sustain the interest of couples in family planning. To deal with the problem of adolescent fertility, the Government has undertaken comprehensive training programmes on peer counselling and has established community-based multiservice centres that provide counselling, family planning services, job training, recreation, health and other youth-related services.

The second major thrust of Metro Manila's population programme is the Population and Family Planning Outreach Project. Initially developed at the national level as a means of bringing population information and family planning services to rural couples, the project was launched on a pilot basis in the capital region in 1978 (in areas of Malabon, Mandaluyong, Marikina, San Juan and Quezon City). Operating under the authority of local governments and assisted by population programme managers (PPMs), the project has deployed 125 population field officers (PFOs) to depressed urban areas, where they provide family planning information and free contraceptive supplies to married couples of reproductive age. The project has also recruited 499 barangay service point officers (BSPOs), local neighbourhood volunteers who support the IEC and referral services of the PFOS. With respect to coverage, of the 214,410 married couples of reproductive age living in areas covered by the Outreach Project, 102,410 were current users of contraceptives as of mid 1984, representing a prevalence rate of about 47.9 per cent (Zablan, 1985).

In order to assess the impact of the Outreach Project in its first five years, an Outreach Evaluation Survey was conducted in 1983. The results indicated that contraceptive prevalence was significantly higher in sample outreach areas than in non-outreach areas (62.4, compared to 54.9 per cent). However, most of difference arose from a higher proportion of tubal ligations and use of withdrawal in outreach areas. Upon comparing effective demand for contraception, the proportions of couples in outreach and in non-outreach areas who were not currently using contraception but were willing to use it were fairly similar: 32.5, versus 35.0 per cent (Zablan, 1985).

The population of Metro Manila has high levels of literacy, generally within the range of 95-97 per cent. As of 1980 the population of Makati had the highest level of literacy, nearly 98 per cent, whereas Valenzuela had the lowest, with 92.5 per cent. Providing enough teachers and educational facilities for its projected school-age population will be a serious challenge for Metro Manila's planners. As of 1980, figures on enrolment in Metro Manila indicated that there were more than 1,800,000 students. By the year 2000 the figure is expected to increase to about 3,130,000.

Currently, 1,210 schools and universities serve the educational needs of Metro Manila's population - at a ratio of one teacher for every 38 primary school pupils, for every 19 intermediate school pupils, and for every 32 secondary school pupils (Population Center Foundation, 1985).

As emphasized in the 1976 structure plan, Manila: Toward the City of Man, the high concentration of schools and universities within the capital region has continued to serve as a magnet to migrants from other regions of the Philippines. Educational facilities are very unequally distributed, however, within the capital region. Several municipalities in Metro Manila's outer ring - e.g., Muntinlupa, Pateros and Taguig - had no tertiary level educational facilities as of 1980, whereas San Juan had only one, and Parañaque and Valenzuela each had only two. In contrast, Manila had 69 tertiary level educational facilities, and Quezon City had 33.

G. Transport

Metro Manila has serious traffic problems. Travel along almost one quarter of the primary road network is now less than 15 kilometres per hour, while speeds in the Central Business Districts during peak hours are down to 10 kilometres or less, or about twice the speed of walking. Whereas many of the world's largest cities have sharply increasing levels of automobile registration, recent analysis of traffic count data in Metro Manila has indicated that vehicular demand in the main urban area has declined by about 5-10 per cent (MMC/OPC and Halcrow Fox and Associates, 1984). The decline is a direct result of substantial increases in fuel prices (including the effects of increased fuel taxes) and automobile taxes and an indirect result of the current economic crisis. The Government anticipates that vehicular demand will continue to decline or perhaps remain stable, a trend that reduces the urgency for major new road investment in the main urban areas (MMC/OPC and Halcrow Fox and Associates, 1984).

The Government has assigned high priority to improving the existing highway network and implementing programmes of traffic engineering and control such as the Traffic Engineering and Management (TEAM) project, which is expected to reduce total national transport fuel consumption by 2-3 per cent (and thereby save foreign exchange), and increase mobility for passengers.

A large proportion of the population of Metro Manila uses public transport and paratransit, mainly public or private buses and jeepneys (converted jeeps). Although fares on the public buses have been kept artificially low (indeed, bus fares were raised only twice in Manila between 1960 and 1975), transport costs account for a significant proportion of household expenditure. Evidence suggests, for example, that the impact of public transportation costs on low-income families is so severe that families below the 30th percentile in household income mainly walk. For that reason, any further increases in fares are currently considered to be politically unacceptable.

Because of the high subsidies required to maintain the low fares on public buses, the public bus company is in serious difficulty, with buses that are badly maintained and poorly serviced. The MMC has recommended that the Government reduce its high level of subsidies for the public buses and allow private bus and jeepney companies to provide the bulk of public transport services, with the Government merely providing an efficient regulatory environment.

A reduction in subsidies for the public buses is particularly important in light of the expected high operating subsidy required by the LRT Manila elevated rapid rail system, which began operation in May 1985. Although the system is expected to break-even in operating terms, it is not expected to make any contribution to capital costs; indeed, it has been estimated that the first 15 kilometres of the system (and so far the only phase) will have a capital cost at least equal to 10 years' worth of road construction in Metro Manila. Any plans for further expansion of the system have been deferred, partly because of the difficult economic situation, but also apparently because of increasing doubts about the appropriateness of such a system.

V. RESOURCES AND MANAGEMENT

A. Public investment

Whereas Metro Manila's share of total national public investment in infrastructure programmes fluctuated around 12-15 per cent prior to 1981, beginning in 1982 its share nearly doubled. The growth occurred mainly as a result of the implementation of some very large projects (e.g., the second metropolitan water supply and sewerage project (MWSP II) and the elevated light rail rapid transit system (LRT Line I), which required a diversion of resources from other sectors and from other regions of the country (MMC/OCP and Halcrow Fox and Associates, 1984).

Despite its increasing share of national public investment, one of the major consequences of continuing economic stagnation in the Philippines has been a reduction in the size of the total investment pool for Metro Manila. Sixty-five public sector projects were initially programmed for 1985-1989, requiring the expenditure of more than 20 billion pesos. However, resources were subsequently expected to be in the 8 billion to 13 billion-peso range, necessitating large cutbacks in some ongoing projects and the indefinite postponement of other projects.

The Government has coped with the expected shortfall through the mechanism of the Capital Investment Folio (CIF), the methodology of which was discussed in chapter III, section B. Following the initial CIF screening process, the Government decided to postpone indefinitely 14 projects, all but one of which were new. Those included the ongoing Lungsod Silangan development project, which was excluded because the target beneficiaries were mainly middle- and upper-income households; the light rail transit (LRT) Line II, which was postponed indefinitely because of its very high estimated cost; the Metro Manila Orbital Expressway, which was excluded because it was found to conflict directly with the RDFP. (The project would have intensified development in the Marikina Valley and Laguna lowlands.) Other projects excluded during the initial screening process were the further extension of the southern reclamation project, a number of costly water supply projects in fringe areas, and a project for the extension of the sewerage network.

In the next phase, 30 ongoing projects were evaluated. It was decided to complete, as programmed, 17 projects (some had been nearly completed and others might produce major long-term benefits with small additional investments). However, 13 ongoing projects that could possibly be deferred were re-evaluated, together with 21 proposed new projects, using the point-scoring multicriteria form of evaluation previously discussed. The resultant first-, second- and third-priority projects were then examined one last time in light of three crucial

factors: the ability of local governments and the MMC to afford the projects under current funding mechanisms; the institutional capability of various governmental offices to plan and implement the projects; and the likelihood that various governmental entities would be willing to defer expenditure on some ongoing projects in order to accommodate the new higher-priority projects.

Of the first priority projects identified in the recommended investment strategy, all but six were ongoing. The only major investment in new projects was to be on shelter-related programmes. About 40 per cent of total investment was to be on water supply projects, 30 per cent on shelter and social infrastructure, and the remainder on highways and transportation (table 4).

In terms of spatial impact, most of the projects recommended for investment were spatially neutral. (The main spatial impacts of water supply and sewerage projects will be felt in later stages, when coverage is extended to the fringe areas of Metro Manila.) Highway and transportation programmes will have the greatest spatial impact. Radial road 10 will substantially improve access to the port, the district of Tondo, and the Navotas fishing industry. Moreover, the accessibility benefits in the coastal corridor resulting from the light rail transit (LRT) are expected to be large. The sites and services projects recommended for investment are spatially compatible with the Regional Development Framework Plan (RDFP).

B. Resource generation

Funds for public sector projects in Metro Manila come from the revenues of central and local governments, government corporations, and from foreign borrowings. Very few large-scale infrastructure projects are funded solely by the central Government. Rather, the great majority are funded partly by bilateral or multilateral loans. The three major lending institutions which currently influence development in Metro Manila are the World Bank, the Asian Development Bank and the Government of Japan. The World Bank, for example, recently extended three loans - for shelter, drainage, and environmental improvement and urban transport.

With respect to internal revenues, the Metro Manila Commission reports that the total financial resources available for development increased significantly (by about 16 per cent per annum between 1977 and 1983) because of the improvement of revenue administration machinery and more effective utilization of taxing and other revenue-raising powers.

Table 4. Recommended investment strategy, by project

Top priority projects		Affordable expenditure millions of pesos, 1985-1989	Other projects*		Affordable expenditure millions of pesos, 1985-1989
Water related sectors					
Water supply project II		1 026	MWSP II - distribution system expansion		600
Other works - water		288	PROGRESS, phase II		(399)
Water rehab. project I		627	Flood control, master plan, stage 1	new	1 064
Mangahan floodway		23	SWIP, phase 1		(12)
Flood warning system	ongoing	40	SWAMP, phase 1		(50)
Pumping station rehab.		161			2 125
Navotas flood control		87			
Flood control - other locally funded		5			
SWIP		63			
Mangahan add'l. works	new	76			
		2 396			
Highways and transportation					
Radial road 10, phase 1		142	Radial road 10, phase II	ongoing	309
Primary roads - local		154			
Radial road 1 extension	ongoing	213	Secondary roads		(170)
TEAM phase II		318	Public transport terminals	new	61
LRT line 1		238	TEAM, phase III		228
Traffic enforcement programme	new	67			768
		1 132			
Shelter and social infrastructure					
Private sites and services, phase 1		54	Resettlement projects	ongoing	299
Slum upgrading		135	Private sites and services, phase II	new	24
Sites and services		109	MMINUTE, phase II		(198)
NHA-other programmes	ongoing	108			521
Urban livelihood		15			
MMINUTE, phase 1		21			
Infrastructure maintenance		3			
Slum upgrading-proposed		(453)			
Urban livelihood-proposed	new	30			
Sites and services-proposed		469			
Health sector programme		(106)			
		1 503			
TOTAL		5 031			3 414

Source: Metro Manila Commission and Halcrow Fox and Associates, Towards an Investment Strategy for Metro Manila, 1984 (Metro Manila, 1984).

Notes: ( ) Expenditure was reduced because of the local government's inability to fund the whole programme as formulated by national agencies.

* Approximately 75% of the expenditure could be funded in the Core Investment Programme.

As a result of such steps as the creation of municipal assessment offices, installation of a computerized property tax information system and the training of personnel, the real property tax base nearly tripled between 1976 and 1983.

Overall, the revenue situation of individual cities and municipalities within Metro Manila is quite unequal. (The CIF determined that local governmental programmes identified in the Core Investment Programme were affordable to only four local authorities: Manila, Pasay City, Quezon City, and Makati, under all resource-availability scenarios, and were probably unaffordable under all scenarios to nine authorities: Las Piñas, Marikina, Navotas, Parañaque, Pasig, Pateros, San Juan, Taguig and Valenzuela.

Given those inequalities and the fact that local governments have sometimes overcommitted themselves, usually for political reasons, there have been suggestions for the establishment of a Municipal Development Fund for local government projects. It would offer the possibility of introducing mechanisms of cross subsidy between richer and poorer local governments (MMC, 1984).

C. The institutional context

Metro Manila has undergone far-reaching institutional changes in recent years. Prior to 1975, cities and municipalities within the capital region and adjacent areas functioned as independent entities, each with an elected mayor who reported to an elected provincial government. However, the need to synchronize development efforts of contiguous cities led to the conceptualization of a Manila Metropolitan Area. It was composed of 28 local governments, including five autonomous cities and 23 municipalities (which continued to report to the provincial governments) - located both within the capital region and the four adjacent provinces. To address the inevitable co-ordination problems that arose among the various tiers of government (e.g., municipal, city, provincial and national), a Metropolitan Mayors Co-ordinating Council was also established. However, planning remained rather poorly co-ordinated, partly because the four adjacent provinces continued to formulate separate plans and programmes.

In 1975, as a means of improving the delivery of metro-wide services, Metro Manila was formally constituted under Presidential decree 879. Consisting of the four cities and 13 municipalities within the capital region (and excluding the municipalities located within the adjacent provinces), Metro Manila was to be managed by a Metro Manila Commission (MMC), which was to assume direct control over constitutent

local governments. The local mayors were reduced essentially to the role of political figureheads, and the elective councils were abolished, with much of their power transferred to the MMC.

With a membership consisting of a Governor (prior to February 1986, the First Lady, Mrs. Imelda Marcos), a Vice Governor, and Commissioners for Planning and Finance, all of whom are direct presidential appointees, the MMC has legislative, administrative and fiscal power over its four constituent cities and 13 municipalities. As can be seen in table 5, the national Government has primary responsibility for roads, water supply, and drainage and sanitation projects. Responsibility for public transport is shared by the national Government and the private sector. Shelter projects are undertaken by all levels of Government, as well as by the private sector. The Metro Manila Commission operates a number of metropolitan operation centres which supervise programme activities in such areas as health, sanitation, traffic operations and barangay activities.

Beginning in 1979, with the establishment of the Office of the Commissioner for Planning (OCP), the MMC became theoretically responsible for formulating regional and metropolitan development plans in conformity with national development objectives. The OCP has served more of a co-ordinating function than a plan formulation function, however, essentially confining its role to co-ordinating and monitoring the plans and programmes of other agencies. To date, the OCP has not established effective linkages with the planning offices of either the various national sectoral agencies or the metropolitan operations centres within Metro Manila. Moreover, whereas the OCP is involved with some local operational activities, most actual planning and implementation is done by the local operations centres.

The OCP is also supposed to be the catalyst in the Capital Investment Folio (CIF) process, helping to generate an interagency consensus about where to allocate resources, and thereby influencing the policy and line agencies of the central and local governments. In practice, however, "in the absence of clearly defined relationships, none of the Ministries or the line agencies have regarded MMC as having sufficient status to exercise any control over their activities or over the allocation of resources" (MMC/OCP and Halcrow Fox and Associates, 1984).

Another problem is that of interagency co-ordination. The Capital Investment Folio (CIF) proposed that the MMC should be assigned the functions of a NEDA regional office, since the responsibility for planning areas outside Metro Manila falls with NEDA, and there is need for the co-ordination of plans and programmes, particularly in the light

Table 5. Government and private sector responsibilities in metropolitan development

Responsibilities	National government	Local government		Private sector
		Metropolitan government		
Roads				
National	X			
Municipal/city	X	X	X	
Barangay	X		X	
Footpaths	X		X	
Drainage				
Primary	X			
Secondary	X			
Tertiary	X	X	X	
Sanitation				
Piped sewers	X			
Septic tanks	X			
Water				
Bulk supply	X			
Primary distribution	X			
Secondary distribution	X			
Wells	X		X	X
Electricity				
Generation	X			
Distribution				X
Public transport				
Rail (PNR)	X			
Light rail transit	X			X
Jeepney	X			X
Bus	X			X
Shelter				
Upgrading	X		X	
Sites and services	X		X	X
Completed housing	X	X		X
Education				
Universities	X			X
High schools	X		X	X
Primary schools	X		X	X
Health				
Hospitals	X	X	X	X
Health centres	X	X	X	
Community facilities	X		X	
Parks	X	X	X	
Garbage collection		X		

Source: Metro Manila Commission, Office of the Commissioner for Planning. Technical paper 14. The Development of Metropolitan Manila's Administration (Manila, 1985).

of the recent spillover effects from Metro Manila. The CIF proposed establishing a MMC/NEDA policy co-ordinating committee and a Metro Manila Planning Forum, which would be comprised of high-level representatives of the major agencies concerned with resource allocation.

CONCLUSION

Although Metro Manila has experienced a gradual slowdown in population growth over the past decade, the absolute increment to its population has been very large. During 1970-1980, Metro Manila grew by nearly 2,000,000 inhabitants. Assuming that Metro Manila's population growth will follow the trend of recent population projections, the city will gain close to 4,000,000 new inhabitants by the end of the century. Even by the year 2000, there will be 185,000 persons added each year to Metro Manila's population. According to the Metro Manila Commission's own estimates, by the end of the century it will need to create more than 6,000,000 new jobs, construct more than 2,000,000 housing units, provide facilities for more than 3,000,000 students, assemble vast parcels of land for new development projects, extend the water supply and sewerage network to cover the rapidly expanding areas on the periphery and improve the transportation system.

Planning to achieve those objectives will be all the more difficult because of Metro Manila's traditional lack of planning. To begin with, there are serious data shortages and uncertainties, beginning with uncertainties about Metro Manila's population size (which was shown to be considerably larger in the post-enumeration survey than in the 1980 census count). Local population counts (e.g., barangay counts), which are used as the basis for allocating funds and tend to be inflated, cannot easily be used to compensate for deficiencies in the census data. There are limited data on migration trends and on the characteristics of recent migrants. Hence, planners and policy makers have relied heavily on secondary data that are not particularly reliable.

A second major problem is that planning goals and objectives in Metro Manila have been mainly statements of intent. Moreover, strategies have not been clearly outlined. Although a Regional Development Framework Plan was drafted in 1982 and revised in 1985, there is still no agreed, enforceable metropolitan development strategy or plan for Metro Manila. Without such a strategy, the authorities have not been able to direct growth into preferred areas, because they have lacked the necessary controls over public and private investment and over land availability.

With respect to policies and measures, compared with other Asian countries, there has been little use of explicit policy measures in Metro Manila to promote decentralization goals. During the early 1970s legislation was passed which banned new industry from within 50 kilometres of Metro Manila; however, that leglation was rescinded in 1979. Although limited tax incentives were employed to attract industry to preferred areas, it was mainly market forces (e.g., the availability of cheaper land on the periphery and the provision of highway

infrastructure) which induced the gradual decentralization of industry. As for measures designed to affect the mobility of individuals and households, the Government briefly adopted educational controls during the early 1970s, but they were largely ineffective. To some extent, the large-scale relocation of squatters in the areas adjacent to Metro Manila has been a type of migration control, because the squatters were moved too far out to commute back to the central city. However, the adjacent areas are already being engulfed by the spreading metropolitan area; hence, the resettlement programmes have not really served as an important instrument to promote intra-regional decentralization.

With respect to planning institutions, Metro Manila still lacks an effective metropolitan form of government to direct planning and development. Although responsibility for strategic planning has been vested in the Metro Manila Commission (MMC), the MMC has neither been able to control effectively the urbanization process nor to co-ordinate the activities of the national, metropolitan and local agencies involved in the development of the city. Basically, what has evolved in Metro Manila is a development pattern partly reflecting the physiographic characteristics of the area, largely the result of market forces, and only partly reflective of governmental policy.

With respect to the implementation of sectoral projects in Metro Manila, there has been a tendency to adopt short-term "quick-fix" projects (Henward, 1985). Projects have sometimes been implemented merely to improve visual aesthetics of the city or to reduce the possibility of social and political unrest. In a sector such as housing, public resources have been concentrated on relatively few demonstration projects, which are not part of any long-term shelter improvement programme and which are too expensive for most of the population. There has also been a major conflict between the Government's investment priorities and the basic needs of the majority of Metro Manila's residents. Most public investment has been in new primary infrastructure works, such as main roads, trunk drainage, water supply, and a partial sewerage system, whereas the population urgently needs different kinds of improvements, such as full-time employment, adequate shelter, and upgraded local infrastructure and services (Henward, 1985).

Clearly, ways must be found to better utilize Metro Manila's rich human capital. Given the importance of the informal sector as the source of livelihood and shelter for much of the city's population, means must be sought to incorporate informal sector activities into the planning process. Those and other tasks - e.g., managing the Philippine Government's huge foreign debt, restoring confidence in the economy, improving equity, reducing political and social unrest - present a formidable challenge for the country's new leadership.

Notes

1/ Metro Manila, or the National Capital Region (NCR), which is the term typically used when referring to the city in its national context, is an area of 636 square kilometres located along the eastern coast of Manila Bay. It is bounded on the Northwest by the province of Bulacan, on the Northeast and East by the province of Rizal, on the Southeast by a large freshwater lake, Laguna de Bay, and on the South by the province of Cavite (map 1). Metro Manila is comprised of four cities: Manila, Caloocan, Pasay City and Quezon City, and 13 municipalities: Las Piñas, Makati, Malabon, Mandaluyong, Marikina, Muntinlupa, Navotas, Parañaque, Pasig, Pateros, San Juan, Taguig, and Valenzuela (map 2).

2/ During 1975-1980, Metro Manila's rate of population growth was similar to the national urban average, but considerably below the average annual rate of growth of urban areas in several of the more urbanized regions in the Philippines - e.g., Central Luzon and Southern Mindanao, where it was about 7 per cent, and Southern Luzon, where it was 4.7 per cent.

3/ On the basis of a post-enumeration survey following the 1980 census, the total population was found to be much larger - about 8,200,000 during the regular school months - than the 1980 census count of more than 5,900,000. However, the details of the larger count have neither been published nor used for planning purposes (Panganiban, 1984).

4/ Between 1960-1970 and 1970-1975, 17 of the 25 municipalities in the Metro Manila adjacent areas had declining rates of population growth.

5/ The barangay, which is the basic governmental unit in the political structure, is composed of a minimum of 100 and a maximum of 500 families.

6/ Land readjustment, which has been used quite successfully in the Republic of Korea, involves the assembly of parcels of raw land on the urban fringes, without monetary compensation to the owners, who benefit from improvements on the portion of the land that is returned to them.

7/ In 1981, 8,000 permits were issued for private housing construction in Metro Manila; in 1982, 11,000 permits were issued.

8/ In 1983, the most recent year for which data are available, 2,724 serviced lots were made available in sites and services areas, compared to 4,196 lots in slum improvement areas and 9,289 lots in squatter resettlement areas.

9/ There are no recent reliable estimates of the volume of unapproved private housing in Metro Manila. According to a study conducted by the NHA in 1976, some 213,800 families were then living in a total of 415 slum or blighted areas. The MMC currently estimates that two thirds of all new residential construction is probably illegal and uncontrolled.

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