DIALECTICS OF URBAN PROPOSALS FOR THE SAIGON METROPOLITAN AREA

JANUARY 1972

MINISTRY OF PUBLIC WORKS
REPUBLIC OF VIETNAM
THE UNITED STATES AGENCY
FOR INTERNATIONAL DEVELOPMENT

CONTRACT NO AID 730-3439

PREPARED BY JAMES E BOGLE, AIP
FOR DANIEL, MANN, JOHNSON, & MENDENHALL
AND WILLIAM C. RASMUSSEN & ASSOCIATES, INC
A JOINT VENTURE

PREFACE

This monograph was prepared by James E. Bogle, AIP, during a 2-month period in the Fall of 1971, as a background paper to define an approach in dealing with the current and future urban problems of Saigon and its hinterland. The introductory remarks both amplify and qualify the basis for this report which was prepared under the terms of Contract No. AID-730-3439 between the United States of America and Daniel, Mann, Johnson, & Mendenhall, and William C. Rasmussen & Associates, Inc.

The ideas expressed have evolved during the last 15 years from a number of Mr. Bogle's assignments in Asian countries and cities for various firms and clients, among them: Development and Resources Corporation (with assignments in Vietnam, India, Thailand, Cambodia and Laos); Tippetts, Abbett, McCarthy and Stratton (with assignments in Thailand, Cambodia, Laos and Malaysia); Sverdrup & Parcel, Inc. (with assignments in Thailand); Metcalf and Eddy, Inc. (with an assignment in Vietnam); and the International Bank for Reconstruction and Development (with an assignment in Thailand). In some cases extracts from reports developed on these assignments have been used in this paper.

Special mention must be made of the support given by Frank R. Pavich, AIP, ADLD/PA who sparked this assignment and assisted in many helpful ways. Debt is also owed to Bui Huu Tuan, Deputy Minister of Public Works, and Nguyen Xuan Duc, Directorate of Reconstruction and Urban Planning, whose backgrounds and experiences helped, in discussion, to clarify issues. Also of value were critiques and suggestions made by Michael B. Austin, P.E., and Lawrence H. Schwindt, P.E., of Daniel, Mann, Johnson, & Mendenhall, Saigon. Glen D. Bates, P.E.; Fred P. Swiss; and John Regan, P.E., also of Daniel, Mann, Johnson, & Mendenhall, took time and interest to contribute to several aspects of the report. Mr. Swiss was responsible for the aerial perspective of the Saigon area, the community design used to illustrate the section on density and the road cross sections. Tran Van Tay and Nguyen Van Hai, draftsmen, executed the illustrations and report figures. Photographs, except two as noted, were taken by the author; the others were taken by Michael Kyne.

ABSTRACT

Investigation has been made into historical growth, past and present planning efforts, population and urbanization trends, physical considerations and other items which have and will affect growth in the Saigon Metropolitan Area.

After inquiry, it was determined that the Saigon Metropolitan Area, if allowed to grow unchecked, would have a population in excess of 11 million people by the year 2000. Unless new and effective governmental policies are instituted and enforced, there is little chance that planning can either effect or change the coming urban patterns.

On an interim basis—e.g., until such time as policy changes are realized and metropolitan planning becomes an effective arm of government—it is suggested that the government investigate the possibility of using a unit smaller than the metropolitan area as its working base.

A proposal for such a system, consisting basically of a settlement unit housing 100,000 persons in an area of 400 hectares, is discussed. Under such a scheme, if the serviced land within the unit is either sold or leased, it is estimated that a profit of U.S. $10 million will accrue to the government. Monies thus derived can be channeled into the building of subsequent units of the same general type and for the renewal of impacted urban areas.

TABLE OF CONTENTS

LIST OF FIGURES[1]

[1] Sketches and photographs are not listed.

LIST OF FIGURES *(Continued)*

LIST OF TABLES

LIST OF TABLES *(Continued)*

I
INTRODUCTION

I. INTRODUCTION

PURPOSE

The purpose of this report is to present a number of thoughts and suggestions, in an attempt to explore, size and help in the development of a medium-range urban approach for Saigon. The opinions presented herein are to be thought of as a means of providing a framework for policy discussion after which urban development programs, and possibly action programs, can take place. The background of the Saigon area is first described; later, hypostatizations, proposals and recommendations are made. These, of course, are not operational plans ready for implementation. Usually, plans should be presented only after careful research, inventory and projections of growth for, say, the next 30-year period. Specific studies should also be made of detailed aspects of future residential, industrial and commercial development before suggestions are put forth. This more academic planning approach is much to be desired. However, it is, for reasons given subsequently, not possible.

Since it is impossible to consider Saigon without considering the overwhelming influence it exerts on national development, past, present and future urban trends in Vietnam are also explored. Hopefully, an awareness of the implications of the patterns, and extent of the coming urbanization, will result in government action, policies and programs that will aid all sectors of the economy and national development. To cope with Saigon, and the foreseeable national urban-development problems, recommendations are made in the last chapter for specific national urban policies.

STUDY LIMITATIONS

Several factors restricted the preparation of a comprehensive study; among the more important were the time limit for preparation and the presence of cultural barriers. The time allowed for the study was only 2 months; therefore, certain areas of interest received greater emphasis than others. An in-depth analysis, of course, was not possible. With respect to cultural limitations, it has been said that "The task of urban planning is the design of culture." (Reference 1.)[1] If this is true, then it is most unlikely that a Western planner working in an Eastern city could compensate for this shortcoming. The experience of Western planning is only applicable, in part, in the determination of desirable future trends. Where Western planning experience is particularly valuable is in the establishment of standards for new industrial and commercial land uses. However, these new commercial-industrial uses, with technological roots, are of recent origin and have little

[1] See reference at the end of this chapter.

historical basis in Vietnam. In addition, analysis of future land use requirements, urban forms, systems, and development trends is an abstraction and, in the terms of this document, can only be suggested—not detailed. Further growth trends will come from established urban-village patterns and new technological needs. In part, existing rural cultural patterns will persist into the urban future. To acquire an understanding of the workings of an urban area, information is required from many disciplines—especially needed here is an economic analysis. Probes into other such urban aspects, however, will have to be left to others.

ACKNOWLEDGMENTS

To accommodate the time requirements for this study, much of the introductory and background information was selected from previously prepared material for assignments completed under contracts with the Government of the United States and with the cognizance of the Government of the Republic of Vietnam. Where appropriate, extracts from these previous efforts have been identified in the text. The general recommendations for national urban policy have appeared in several reports. These still have validity and, with modification and amplification, have been repeated.

OTHER STUDIES

There have been a number of studies conducted for the United States Agency for International Development in Vietnam (USAID/VN), and with the support of the Government of the Republic of Vietnam. These attempt to deal with urban infrastructure, land use and population. The most significant and recent of these, chronologically, are as follows:

Saigon Metropolitan Area: Urban Development Program and Plan, Doxiadis Associates, 1965.

A Comprehensive Medical Care Program for Saigon, 1968-1978, Whiting Associates, Ken R. White Company, 1968.

Saigon Traffic Study, Voorhees Associates, Inc., 1969.

The Postwar Development of the Republic of Vietnam: Policies and Programs, Joint Development Group (Postwar Planning Group, Saigon and Development and Resources Corporation), New York, 1969.

Saigon Sewage Feasibility Study, Saigon, Vietnam, prepared by Hennington, Durham & Richardson, Inc. and Lyon Associates, Inc., 1970.

Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, prepared by the author for Metcalf and Eddy, Inc., Engineers, Boston, Massachusetts, 1971.

In addition to these, there are two other studies under preparation. The first is a water study by Metcalf and Eddy, Inc., for the Saigon area; the second, a land-use survey of the Prefecture of Saigon, the six surrounding districts of Gia-Dinh Province, and three urban districts in Bien Hoa Province. Both of these studies are almost finished. This later survey is being done for the Directorate of Reconstruction and Urban Planning by USAID Engineering and the Municipal Development Directorate (MDD) under the direction of Frank R. Pavich, AIP.

These and other studies have been referred to in the preparation of this paper.

ANALOGUE

A thread, a comparison of Saigon with another Southeast Asian capital city—Bangkok, has been woven into this report. This was done to assist with a further understanding of trends and the magnitude of problems in the Saigon Metropolitan Area. It would seem to do little good to compare Saigon with a Western city, since different life styles preclude meaningful conclusions.

REFERENCE

1. Alexander, Christopher, Major Changes in Environmental Form Required by Social and Psychological Demands, Ekistics, Vol. 28, No. 165 (August 1969), p. 78.

II

SAIGON—METROPOLITAN AND REGIONAL ASPECTS

II. SAIGON–METROPOLITAN AND REGIONAL ASPECTS

LOCATION

The Republic of Vietnam, situated on the eastern edge of the Southeast Asian Peninsula, is one of 10 major states that form the Southeast Asia Region.[1] (See Figure 1.) Saigon, the capital, is located in the lower third of the Republic on the northern fringe of the Mekong Delta. The city, sited at approximately 10°47' north latitude and 106°42' east longitude, lies along the eastern bank of the Saigon River—one of the three smaller rivers, that, along with the Mekong River, comprises the Mekong Delta system (Reference 1).[2]

HISTORY (Reference 3)

General

To understand a city, a knowledge of its history and the adventures of its inhabitants would seem important. The history of Saigon is actually the story of two cities, Saigon and Cholon. Saigon today, with the amalgamation of Cholon completely, is a fast burgeoning Asian Delta city. The origins of this important city are historically shallow, with settlement of the area a relatively recent occurrence. Vietnamese colonization of the Mekong Delta region did not begin until the 17th Century. Vietnamese suzerainty over the Saigon area was not assured until the 18th Century. Only in the 19th Century did the Vietnamese rule all of prepartition Vietnam. Thus, by world standards, Saigon is a new city. Philadelphia, New York, London, Paris, Moscow, Peking and Tokyo are all older. Yet, today, Saigon is one of the world's 25 largest cities (Reference 4).

EARLY BEGINNINGS

The first recorded habitation in the area was a hamlet and a fort. In the 1650s Prei Nokor, which is now Saigon, was a remote settlement lying 30 kilometers from the local capital of Long Uc (Bien Hoa). The hamlet served as both a customs station and the residence for the royal Khmer representative who governed the area.

---

[1] "Politically the area includes the major states of Burma, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand and the Vietnams; and the minor states of Brunei (United Kingdom Protectorate), Sabah (Administrative Division of Malaysia), Sarawak (Administrative Division of Malaysia), and Timor (Portuguese Province Overseas)" (Reference 2).

[2] See references at the end of this chapter.

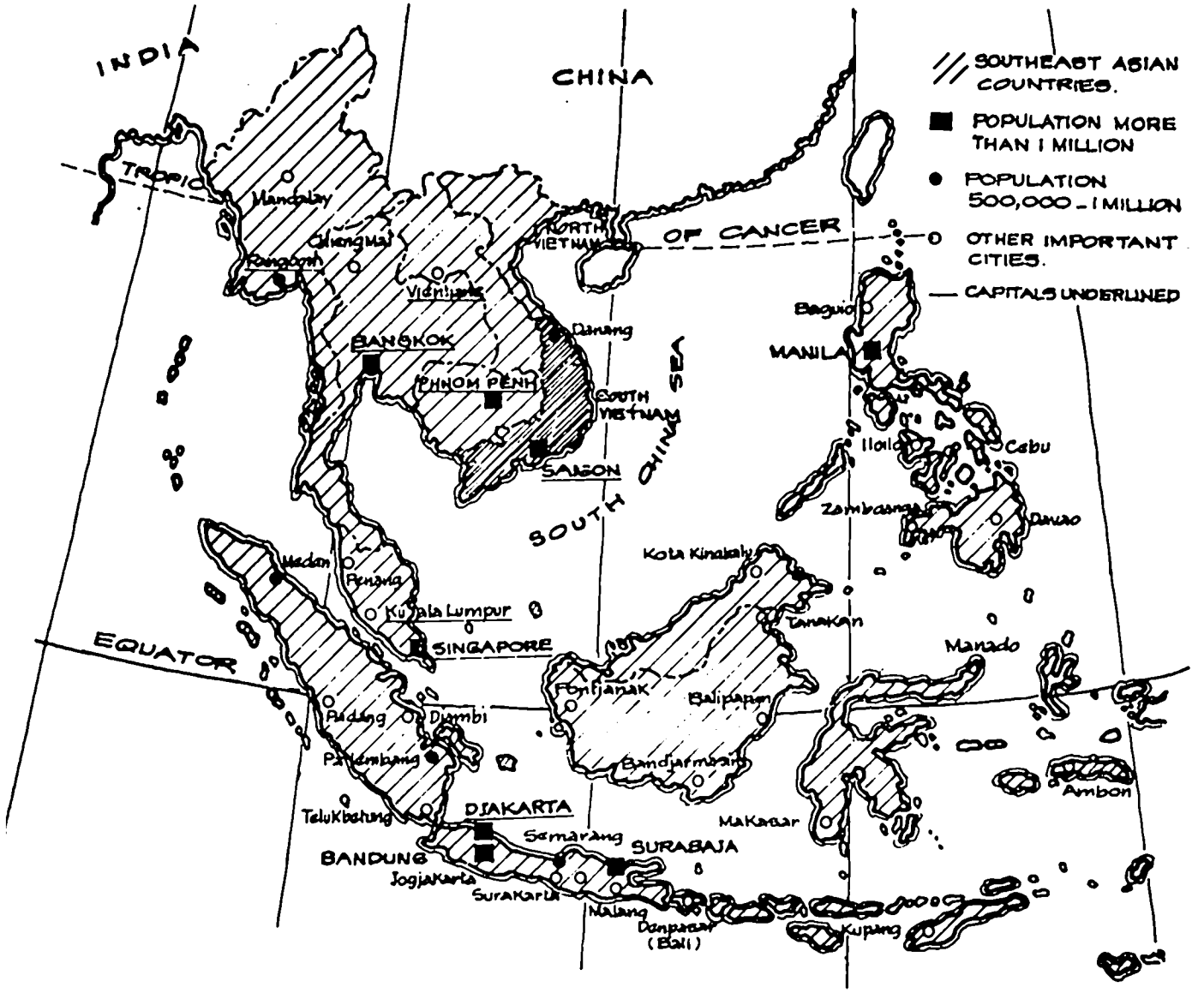


Figure 1. SOUTH VIETNAM AND ITS REGION

In the middle of the 17th Century (1653), the Nguyen warlords, ancestors of the future kings of the Nguyen Dynasty, moving southward, occupied Thai Ninh Phu. (This site is in the present-day coastal province of Khanh Hoa, 325 kilometers northeast of Saigon.) By this time, the first Vietnamese colonists had already settled the wastelands near Ba Ria (55 kilometers southeast of Saigon) in Khmer territories.

Following custom, a Nguyen warlord, Chief Hien, gave his daughter in marriage to the Khmer king. Later, he interceded to obtain official sanction for the Vietnamese to farm areas near Saigon and arrange to take control of the customs station at Prei Nokor. His mandarins held the station and collected taxes for the Khmer king. These arrangements suited the Khmers as Prei Nokor, located in a swampy jungle, was without resources.[1]

Saigon replaced the Khmer name of Prei Nokor.[2] Saigon even then, and until the early years of the 19th Century, consisted of small groups of houses around Cho Cu, the Old Market.[3] Given existing means of transport this cluster of houses, forming embryonic Saigon, was some distance from the Chinese settlement of Cholon, which was founded a little earlier.[4] (See Figures 2 and 3.)

Saigon Under the Reign of Nguyen Anh Gia Long (1774-1820)

Nguyen Anh, with the help of a number of French officers, recaptured Saigon from the Tay Son and, in 1789, ordered a Frenchman, Olivier de Puymanuel, to build a Vauban-type (an eight-pointed star shape) citadel.[5] This fortification was later given the local appellation of "Turtle Citadel."

Turtle Citadel was used as headquarters for Chief Nguyen and, in 1801, after successful campaigns in the north, the ancestral Nguyen shrine was taken down and moved to Hue. Saigon then became a southern outpost of the Nguyen kingdom.

In 1813, after sovereignty of the total country was realized, King Gia Long ordered the citadel renovated using, as his field quarters, the residence of

---

[1] It was recorded in 19th Century annals that the 18 betel-leave growing hamlets at Ba Diem (Hoc Mon District, Gia Dinh Province) were constantly pestered by tigers, and that there were crocodiles in Ba Nghe Creek.

[2] Saigon is thought to be a corruption of Cay Gon, Vietnamese for kapok tree, or possibly Tay Cong, Vietnamese for western capital.

[3] Located on Ham Nghi Street, approximately two blocks west of the river.

[4] In 1778, Cholon (Vietnamese for great market) was called Thay Ngon or De Ngan, as transcribed phonetically into Vietnamese.

[5] Late in the 18th Century three brothers from the village of Tay Son, in central Vietnam, led a successful uprising against the ruling Nguyen. One brother, and his followers, drove the Nguyen lords out of the south in 1778.

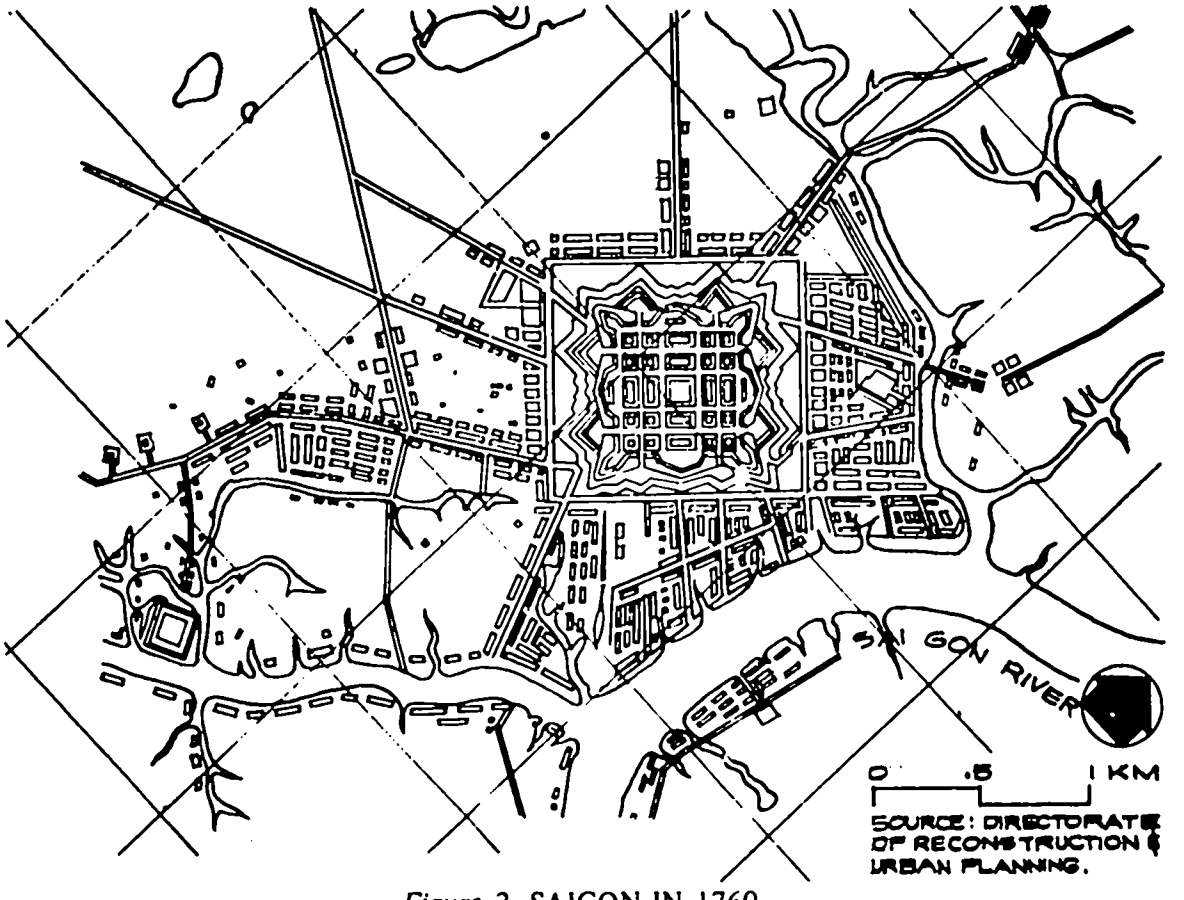


Figure 2. SAIGON IN 1760

the commanding general while the citadel sheltered the garrison and their dependents.

The people lived outside the citadel near the Old Market area, and on floating houses in Ben Nghe Creek. Estimates of the Vietnamese population during this time are not reliable.[1] The Cholon Chinese were thought to number about 10,000. An unknown number of Khmers, the remnants of the former rulers, were colonized near Phu Lam. During this period, communication and most transportation was by waterways.

Saigon Under the Reign of King Minh Mang (1820-1840)

In 1833, King Minh Mang ordered the demolition of the Turtle Citadel.[2] In 1836, another citadel was built towards the north. During his reign, the

[1] In 1819, an American tourist, John White, estimated that the population was 180,000. This is recorded in a document of the Societe des Etudes, Indochinoises, but overstatement is possible.

[2] Perhaps because a rebelling general (Khoi) and his forces had occupied and captured the citadel for a period of time.

Vietnamese and Chinese colonies grew, but without appreciable growth in living standards. Only the Khmer colony was on the decline, as its inhabitants withdrew farther from the area.

Saigon Under French Occupation

The French took Saigon in 1859 and, shortly thereafter, the new citadel was mined and destroyed. The materials from the citadel were used to build the Garrison for the 11th Regiment of the Colonial Infantry. This area later became the quarters for the Presidential Palace Guard Detachment, and now is part of the University compound. Some of the buildings are in evidence today.

This period of French suzerainty marked the beginning of modern Saigon.

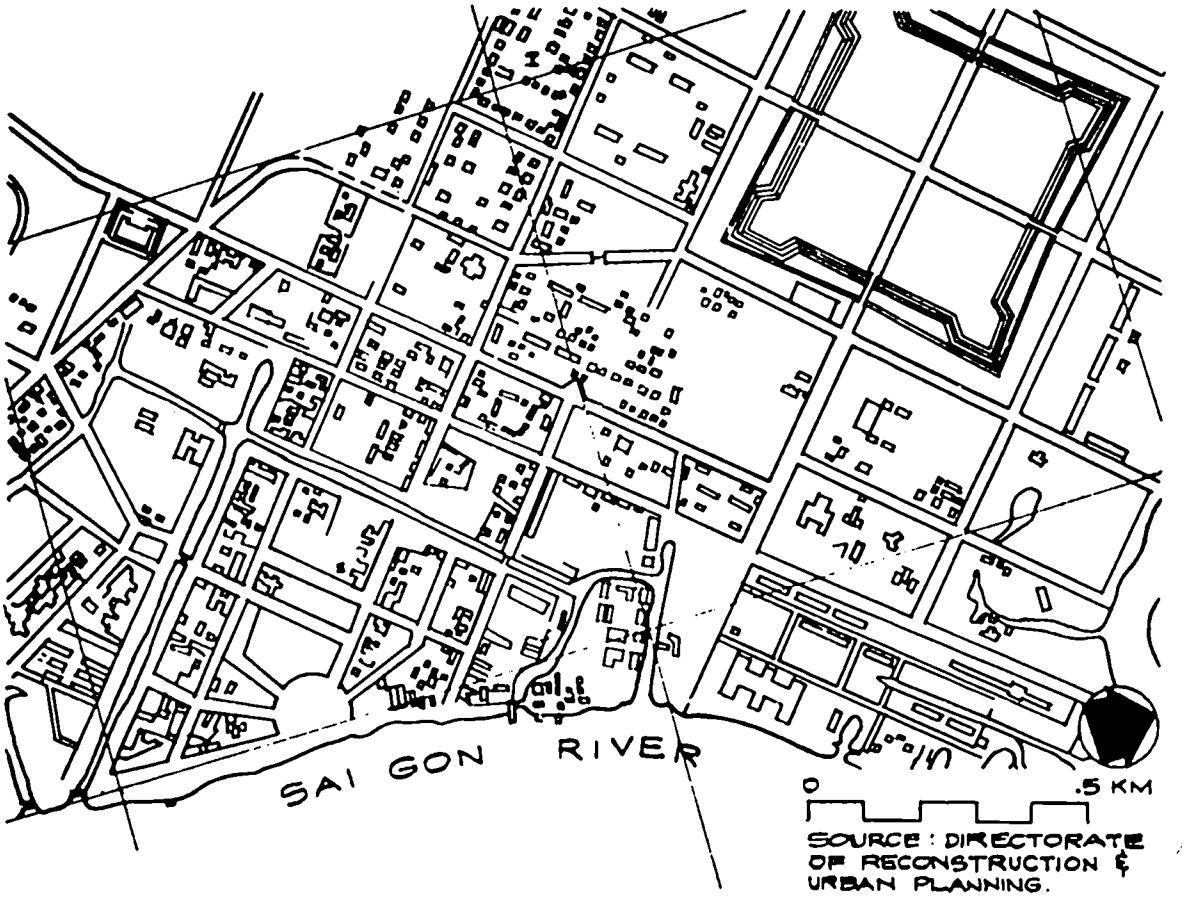


Figure 3. SAIGON IN 1863

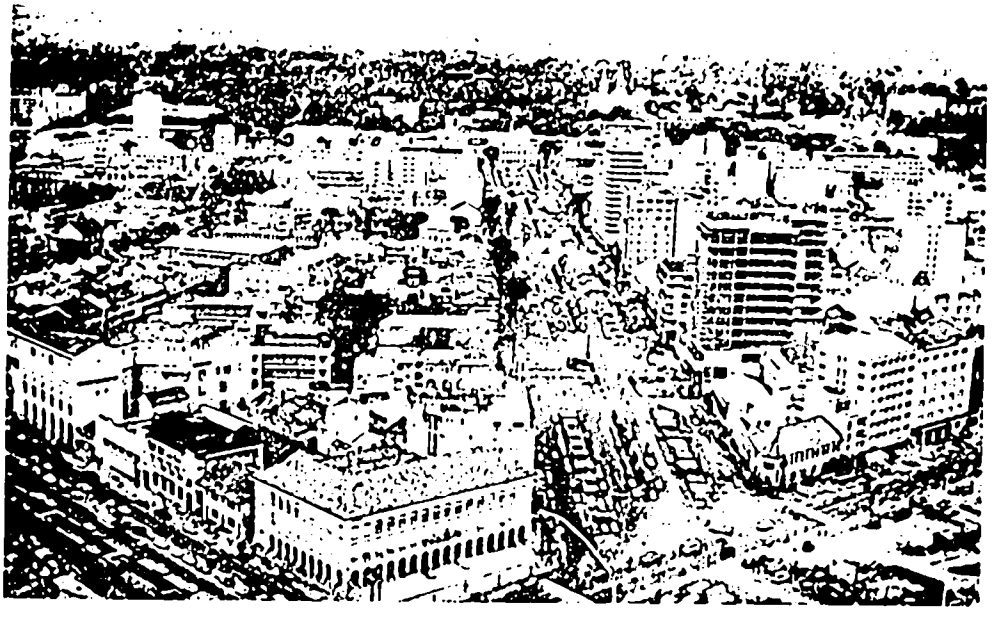
In the beginning, the Saigon construction work was on a reduced scale, pending the occupation and pacification of the northern and central parts of the country by the French.

The first buildings constructed were the Admiral's quarters, convalescence house, church and printing house, all in the vicinity of the Don Dat (Grall) Hospital. The treasury and post office were located on the grounds of the old National Library.

Many of the present streets such as Nguyen Hue, Ham Nghi and Pasteur were then canals; even the Saigon Market (Ben Thanh) was a swamp called the Marais Boresse. Gradually, the canals and swampy parts of the city were filled.

According to the Annuaire de la Cochinchine printed in 1865, Saigon had 40 villages along the Ben Nghe Creek and around the site of the old Turtle Citadel. A large segment of the population, still loyal to the old regime, had removed themselves, leaving only a thinly populated city—estimated at approximately 8,000.

Only since 1900 have there been construction projects of any importance, the results of prospering commerce, better and faster land and sea communications.



Nguyen Hue Boulevard, once a canal, looking towards City Hall. The spires of the cathedral can be seen piercing the green area which was the French residential quarter. The urbanized section of Gia Dinh Province lies in the background. This is the core area of Saigon. With few exceptions, most of the structures are over 10 years old.

Chinese businessmen who did not entertain political animosity toward the French were used as intermediaries to distribute manufactured products and to collect raw materials for export to France. As a result, businesses in the Chinese community gained in importance, and expanded rapidly with Cholon becoming more prosperous than Saigon. The natural growth of both cities caused a road to appear, connecting the two cities.

The population of Saigon rose from an estimated 8,000 in 1865 to 33,000 in 1897; 67,000 in 1913; and 143,000 in 1926. Cholon grew from 45,000 in 1880 up to 181,000 in 1913, and to 190,000 in 1926.

Saigon, as the capital of the affluent south, was easily reached by train from central and north Vietnam. Rail linkages were formed with Cambodia, Thailand and Malaya; and it was possible to reach Singapore, China and even Europe by train. Direct land and sea communications with other areas where the French had colonies or concessionary interests were strong. After World War I, Saigon developed rapidly. French capital investment in commerce and industry, and in rubber, tea and coffee plantations, built up the city's hinterland.

People from many other areas, attracted to Saigon by the economic opportunities, made the city merry and bustling. The city became a crossroad of French culture and cosmopolitan in its outlook. The affluence conditioned the architecture; office buildings, palaces and residences were built with modern techniques. Streets were widened; and hotels, clubs and restaurants sprang up everywhere. Eventually, French colonists looked at their handiwork of broad boulevards; tree-lined streets; and neat, clean houses—and soliloquized the city as the "Pearl of The Orient."

The economic depression of 1929 to 1932 affected only the large companies, and not the majority of Vietnamese and Chinese. The construction rate slowed only a little, then returned to its previous level. Saigon continued to grow.

In the years before World War II, Chinese came to Cholon in great numbers to escape the Sino-Japanese War. They brought with them capital and know-how in international business, and Cholon became more prosperous than before.

By 1939, on the eve of World War II and near the end of effective French control over the destiny of the city, the combined populations of Saigon and Cholon was about 540, 000.

World War II brought French defeat in Europe, and eventual Japanese subjugation of her Indochina colonies. For a while, the French retained control under the Japanese; but black-marketing and shortages of food, manufactured products and engine spare parts paralyzed industry. This caused popular upheavals and a clamoring for independence. The people lost confidence in the security enforced by the puppet French. Toward the end of the war, the Japanese toppled the French in Indochina. Allied bombers pounded Japanese installations; order in the city was upset; and the people briefly evacuated the city, only to return in greater numbers after the Japanese surrender in 1945.

Saigon From 1945-1954

For a time, when the French were trying to reassert control over the colony, the people moved into the country. Later, as the French extended their front into the country, people in unsecure areas were forced back to the city. Rural refugees also came with them, nearly choking Saigon.

A city planned by Admiral Bonard in 1862 for 500,000 persons was suddenly required to harbor approximately 1,600,000 by 1951.

Shortages in the stuff of life occurred. Many deficiencies occurred in electrical power, water, hospitals, schools and transportation; not to mention the most vital—lack of food and jobs. Economic conditions made life most difficult. Squatters preempted private and government lands. Parks were turned into rural villages. Many refugees, without homes, slept on the sidewalks.

Recent Events – Saigon as the Capital

The Geneva Agreement, which dimidiated the country at the 17th parallel, also caused Saigon to become the capital of the Republic of Vietnam. Here were grouped all the government agencies which had moved from Hanoi. The country received nearly 900,000 refugees from the north and northern part of central Vietnam. Many of these displaced persons drifted towards the city. To the old confusion and earlier influx of refugees were added heavy new loads as the country moved toward an active war.

Immigration to Saigon increased; so did population. By 1958, the population in Saigon and its environs was 1,776,000; in 1960, it was 2,054,000; and in 1965 it was 2,353,000 (Reference 5). The population growth, coupled with conditions of war, brought with it attendant problems. All public services were beggared. As Table 1 shows, one result was the high mortality rate among children, from a lack of adequate health services.

Table 1. CHILD MORTALITY FOR VIETNAM, SAIGON AND GIA DINH PROVINCE 1960, 1961 AND 1963

Area	Year					
	1960		1961		1963	
	No. of Dead Children	%	No. of Dead Children	%	No. of Dead Children	%
Vietnam	15,520	100.0	12,629	100.0	11,522	100.0
Saigon-Gia Dinh	5,774	37.2	6,170	48.8	6,793	59.0

In addition, the number of tuberculous cases grew from nine to 16 percent of the population. Grammar school attendance was growing by 20,000 new enrollments annually. The city could provide only one-tenth of the classroom requirement. Classes were conducted on a rotating basis, even during the hot noon hours. The number of secondary school boys also grew by 300 percent annually. The number of college students by 625 percent.

Over 50 percent of the factories in the country moved to Saigon.[1] Of the 320 construction firms, 230 were in Saigon. Of Vietnam's total number of business firms, banks and insurance companies (87,110), there were 20,100 in the Saigon area.

[1] The 1960 census showed that, of the nationwide total of 11,840 factories, 6,380 were located in Saigon.

Normally, 88 percent, or 5,703,000 persons, of the nation's labor force were employed in farming, silk-worm growing and fishing. The industry and business establishments employed some 563,000 persons, or 8.7 percent of the work force. Government offices accounted for another 109,000 persons, or 1.7 percent. When farmers rushed to the city, the farms were pinched for labor, while the city became plagued with unemployment. The limited number of firms and factories in the Saigon area could not absorb all available workers. Unemployment was over 22 percent, and the standard of living was, therefore, very low during a period of skyrocketing prices.

As the war grew, allied assistance was needed. While allied troops were spread out all over the Republic, their central systems were located in Saigon. The housing facilities' requirement for these organizations was high. Solving this housing problem by clearing lessees out of their homes—without causing social repercussion—was quite difficult. In addition, port congestion, with the inability to unload cargos, caused a general shortage of commodities on the market and additional sharp rises in prices.

The foregoing comments of wartime events should not reflect on governmental aptness. With a rapidly growing population, coupled with major war and adjunct security problems, it is unfair to expect any government, especially a wartime one, to provide the necessary infrastructure to serve and assimilate such drastic changes in population and economic conditions. (See Figure 4.)

PRESENT ROLE, IMPORTANCE AND AMBIENCE

Role and Importance

Saigon has undergone many shifts in its role and relationships with the Delta, Indo-China, Vietnam and the world itself. Lately, a port and commercial center serving Southern-Central Vietnam, Cambodia and Laos, it was also one of the two main cities in French Indo-China.[1] The city today is, essentially, the only city in the Republic of Vietnam. Saigon functions as capital; port; military bastion; and as the center for financial, industrial and transport activities. This multipurpose city also links the country with the world and is the home of the nation's elite and power structure. In reality, all of the Republic of Vietnam is the hinterland of Saigon.

[1] Hanoi was the other.

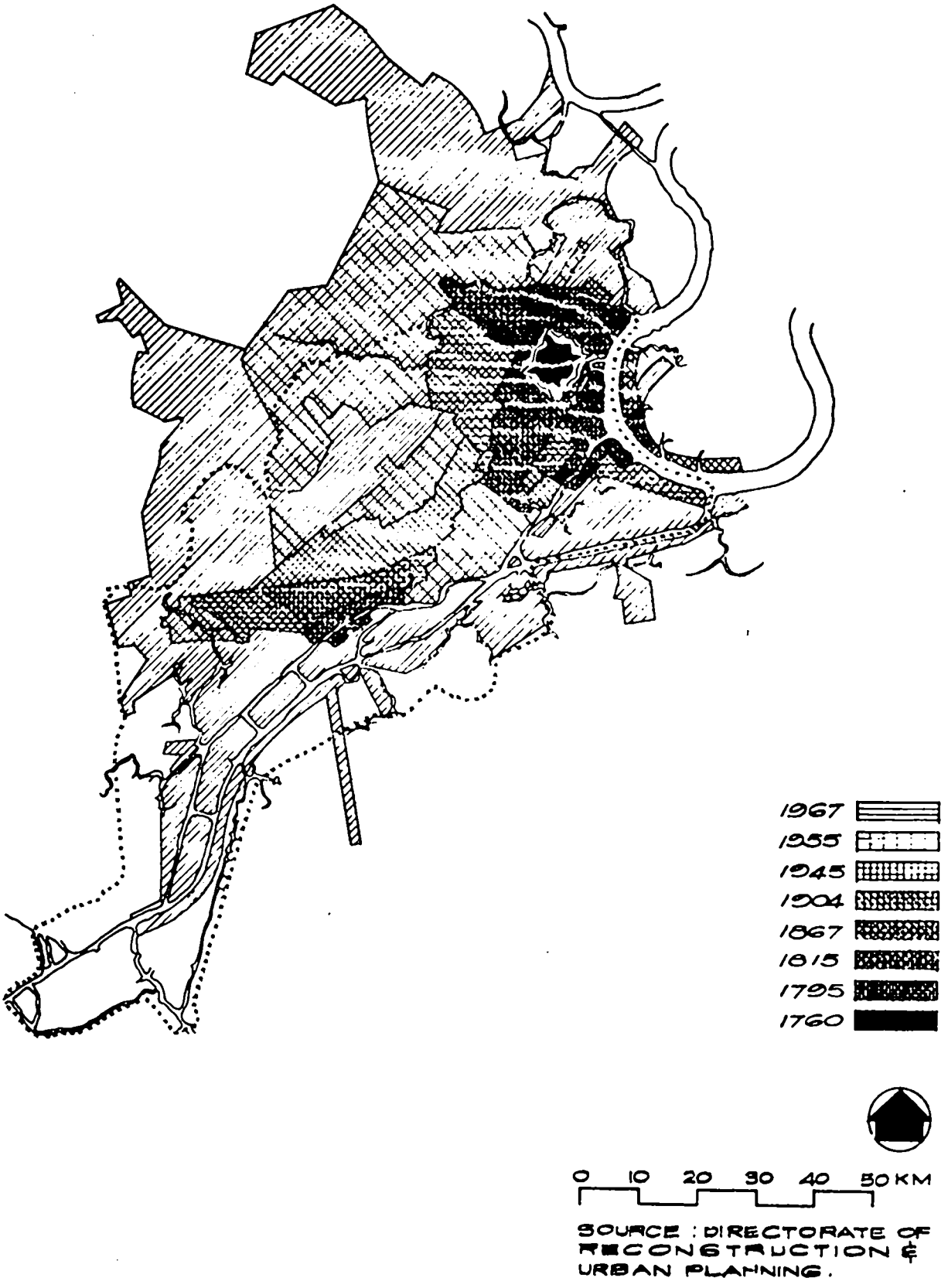
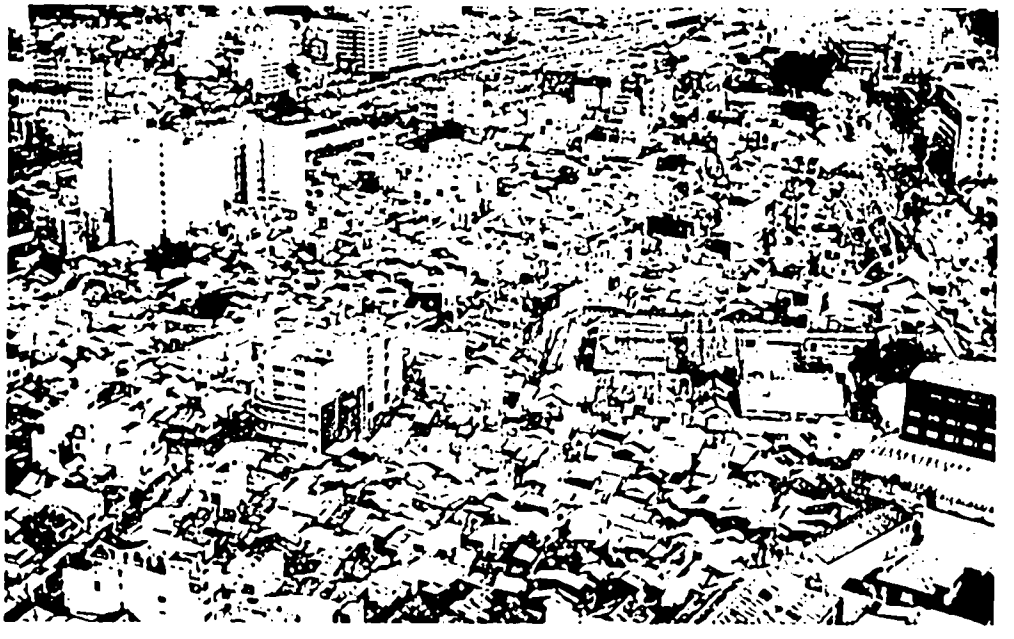


Figure 4. GEOGRAPHIC GROWTH OF SAIGON – 1760 TO 1967



Intense crowding of the land.

Squatter shacks among older buildings.

Ambience[1]

Saigon is a grossly overused city. The city's services have not kept pace with its growth. In the last decade over 1 million persons have been added to Saigon's metropolitan area, and the density of use has increased, but there is little evidence of a substantial building boom to accommodate this increase in population today. The "Pearl of the Orient" is a war-worn city, but it cannot, in the sense of the urban European or Japanese experience during World War II, be considered a war-torn city.

The physical strain of urbanization has left its marks on the town. The slower bicycle pace experienced in 1958 has given way to "no fewer than 894,000 vehicles . . . (which) jam the city's streets. Their fumes engulf Saigon in a noxious blue haze that is killing the stately tamarind trees (Reference 6). Traffic frequently comes to a halt, congested endlessly in streets. Public transport is inadequate, uncomfortable and often dangerous; people refuse to use it preferring a Honda or private car, thus compounding congestion. "Ribbon" commercial development along main and secondary streets causes frequent accidents and traffic jams. There is urban blight due to uncontrolled land use and antiquated building codes; modern villas face slum shacks; many dwellings lack water. The rather new water system is serving only about two-thirds of the population with an estimated low level of service of about 25 gallons per capita per day in 1969. There is no sewerage system; the canals are foul and, during high tides, the wastewater discharged into the Saigon River backs up into the city. In 1968, there were 42,000 cases of waterborne and filth-borne diseases reported, with almost 600 deaths (Reference 7). Saigon is woefully short of electric power, schools and other types of urban necessities required by modern cities.

REGIONAL SETTING–SAIGON AND THE NEARBY PROVINCES[2]

Saigon and Gia Dinh Province are surrounded by 10 provinces, which, inclusively, comprise the Third Military Zone of the Republic of Vietnam. These 11 provinces and three autonomous municipalities (Saigon, Vung Tau and Tay Ninh) constitute an area of considerable topographic, economic and cultural diversity. (See Figure 5.)

Topography

The 11 provinces lie in an area of geographical transition, between the Mekong Delta to the south, and the Central Lowlands-Annamitique Mountain

[1] This topic is expanded later in this chapter during the discussion of form, character, and land use.

[2] From an assignment with Development and Resources Corporation.

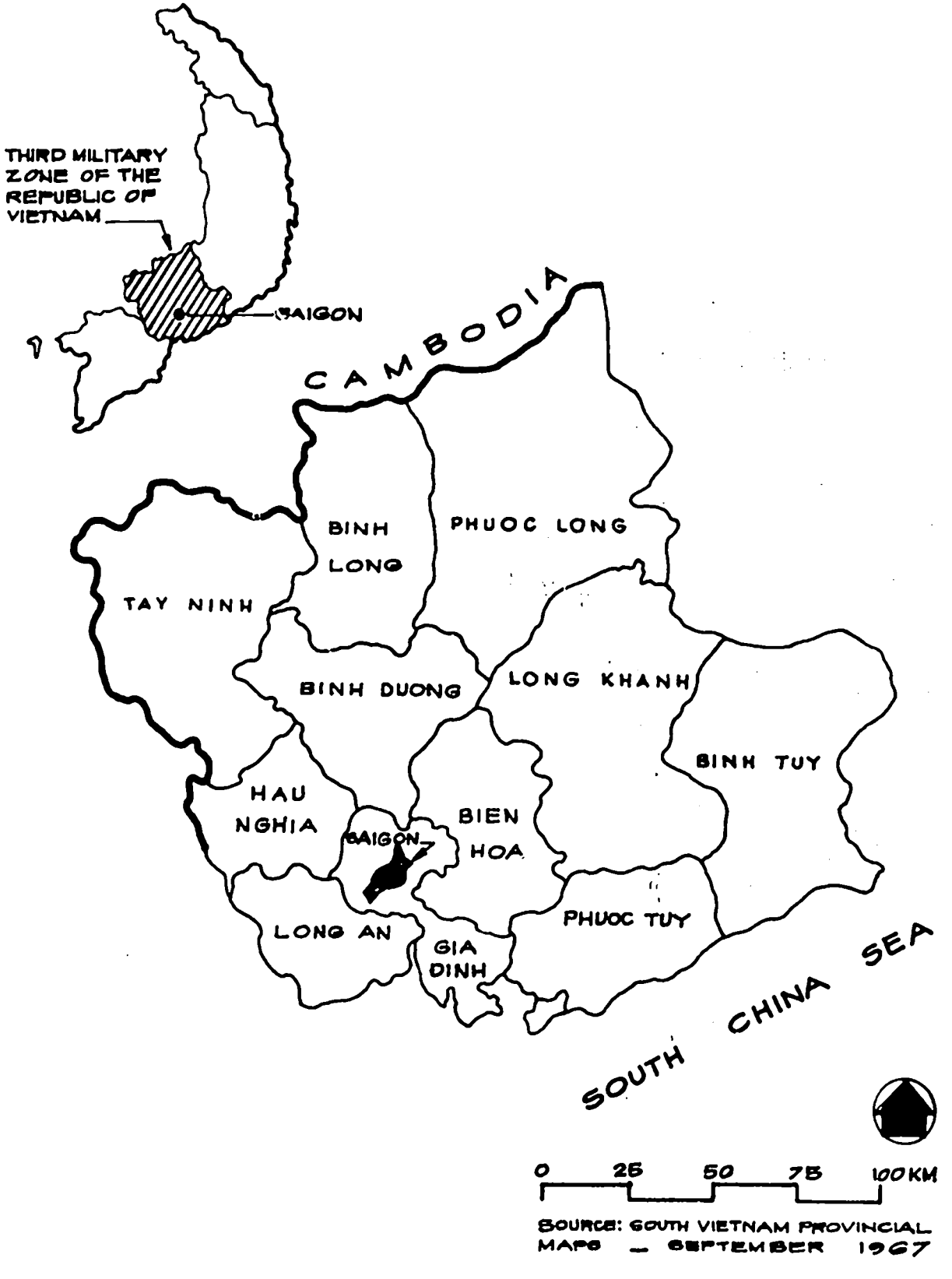


Figure 5. SAIGON AND THE SURROUNDING PROVINCES

Chain to the north. The area is one of great physical variety. The southwestern provinces consist both of flat delta-type lands built up by alluvial deposits, as well as a large mangrove swamp which penetrates 30 kilometers inland from the sea. It is in this area, on soils with poor mechanical properties, where the cities of Saigon, Tay Ninh and Vung Tau lie.

The northern provinces, within a belt of terraced lands, contain the steep, rough lands of the Annamitique foothills which fall away in the southeast to the Dong Nai Valley and the coastal plain. (See Figure 6.)

Economics

With a population of over five million (almost one-third of the nation, two-thirds of which are in the Saigon Metropolitan Area), the area provides 15 percent of Vietnam's rice production, two-thirds of its sugar and almost all of its plantation-grown rubber. The coastal plain and uplands in the north support dense forest stands, and here is where many of Vietnam's most valuable tropical forest species are reported. The Delta lands and Dong Nai Valley contain rich rice lands with secondary tea plantations and sugar cane areas. A 30-kilometer wide, spotty belt of plantation rubber begins about 40 kilometers from Saigon and encompasses the city from southeast to northwest. The Saigon-Bien Hoa urban belt is, at present, the industrial and transportation center of the nation.

Culture

With its rapid growth, Saigon's complex cultural picture contrasts greatly with its rural hinterlands. The city, with its sophisticated fusion of many religions, cultures and pulls, is the Vietnamese threshold for imported influences, ideas and techniques that, after modification and adaptation, will find their way into the rural hinterland. The rural areas, normally traditional, have experienced a physical mobility of population which is unprecedented. As a result, generalizations of the rural provinces would not seem valid. However, it might suffice to say that the old sociopolitical provincial society, though tattered, still exists. Main rural cultural influences are race and religion. The center of the Cao Dai faith is in the city of Tay Ninh. Here are the great cathedral and landholdings of that faith. Tay Ninh Province also houses the Brahmanist Chams. Further north, the Stieng, a small ethnic group, live along the western border of Cambodia in Binh Long and Phuoc Long Provinces. To the northeast, the Montagnards are found at various altitudes throughout the Annamitique Mountain chain, with the beginning of their zone of habitation in the more precipitous lands just north of Bien Hoa Province.

Figure 6. SAIGON AND THE SURROUNDING PROVINCES – TOPOGRAPHICAL

Is the Area a Region?

While parts of the 11 provinces possess some characteristics and attributes of regional relationships,[1] the area cannot be considered a region in an economic, topographical or planning sense. The area is neither interrelated or self-contained, nor does it enjoy a balanced, diversified agricultural-industrial base. This squarish grouping of provinces, surrounding one of the great urban structures of Southeast Asia, lacks internal identification, area relationships and a national role. This process of identification, relationship and role, once growing before World War II, has been disrupted by:

1. The breakup of French Indo-China, which reduced the importance of Saigon as the commercial center of Indo-China.

2. The new role as capital city of the Republic.

3. The development of a new port in Cambodia which reoriented shipping, transport and commercial patterns.

4. Hostilities inspired by Cambodia's Prince Sihanouk which, while lessening the natural regional interplay with adjacent Cambodia provinces, also precluded the continuing development of Vietnamese provinces adjoining Cambodia.

5. The war in Vietnam which undermined and eroded the agricultural and forest base economy of the rural provinces.

6. In addition, it may be argued that also contributing to this lack of identification, relationships and role are:

    a. The density of military infrastructure, i.e., ports, camps, airfields, etc., spotted throughout the area, which are altering the pattern of urban-rural relationships.

    b. The immigration to Saigon of many farmers and villagers from adjacent provinces which has changed established population patterns.

    c. The war in Cambodia which imposed an exceptional migration of some 200,000 ethnic Vietnamese refugees from Cambodia to Vietnam. A substantial number of these people are thought to have settled in Saigon and its surrounding provinces.

For this area as a whole, future development problems appear to be two-fold: (1) the role of the 10 rural provinces and their relationship to Saigon, and (2) the role and responsibility of Saigon, and its metropolitan areas, to these rural provinces and the nation itself.

---

[1] Physically, there are five distinct parts to this area: coastal plain, Dong Nai Valley, foothills, terrace and the Delta.

THE SAIGON METROPOLITAN AREA[1]

Driving northwest along Cong Ly Street towards Tan Son Nhut Airport, one crosses the small bridge spanning the dirty Thi Nghe Creek and passes from the Prefecture of Saigon into the Province of Gia Dinh. Only a small blue-and-white sign and the centerline, which changes in color from yellow to white, mark the transition. The urban scene along Cach Mang Street remains constant and makes no allowance for its provincial setting.[2] Neither do many other parts of Gia Dinh Province which have fused with Saigon. Urban areas in Gia Dinh Province contiguous with Saigon are part of the Saigon agglomeration.

The capitalization of the words "Metropolitan Area" is partly fallacious, since such an area has not as yet been officially established; in reality, however, a metropolitan area does exist. One of the best general definitions of what constitutes a metropolitan area comes from Jane Jacobs (Reference 8).

"Metropolitan Area—Economically, it means the same as 'city.' Politically, it means a city that has physically expanded beyond its formal boundaries, in the process engulfing former towns and, in some instances, coalescing with other, formerly separate, cities."

The White/Whiting study, encountering difficulties in defining the limits of the metropolitan area of Saigon, rationalized that it should include the six surrounding districts of Gia Dinh Province. These six districts—Hoc Mon, Thu Duc, Tan Binh, Go Vap, Binh Chanh and Nha Be—which, until 1966 constituted the entire province of Gia Dinh, encompass the Prefecture of Saigon and would seem to constitute a natural metropolitan area for the city.[3]

This assumption is agreed with, because it resolves certain problems of political boundaries, availability of statistical information and technical aspects of planning in the following ways:

1. Politically. The area is the smallest administrative unit which is large enough to contain both the existing and most of the projected urban population.

---

[1] The following definition and population data has been extracted from the Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, a monograph, which the author prepared for Metcalf and Eddy, Inc., under the terms of Contract No. AID-VN-86. Area figures given the monograph for Gia Dinh Province were modified in this and subsequent sections to reflect a slight recent adjustment made upon completion of the land use survey in November 1971.

[2] The name also changes.

[3] Two districts of Gia Dinh, lying considerably south of Saigon, were added to the Province in 1966. These districts are composed mostly of low-lying mangrove swamps. The population is less than 1.0 percent of the combined total of Saigon and Gia Dinh. These two districts can be expected to be rural in nature for quite some time, and are not included in the Metropolitan Area.

2. Statistically. The area is a convenient unit in terms of data, inasmuch as both demographic and economic statistics can easily be derived.

3. Technically. The area is the smallest unit which can encompass both present and projected service zones of the water, sewerage, electrical and other urban systems.

In addition, there are advantages in using the same area previously used.

Therefore, the Saigon Metropolitan Area (referred to as the SMA) for purposes of this paper is 830 square kilometers, composed of the 69-square-kilometer Prefecture of Saigon, with nine districts; and the 761-square-kilometer area of the six previously mentioned districts of Gia Dinh Province. (See Figure 7.)

Population and Densities

Population. The estimated, 1970 year-end population within the Metropolitan Area was 3,300,000. Of this total, 62.9 percent was composed of persons residing in the Prefecture of Saigon; the rest, 1,225,000 persons, were those who lived in districts of Gia Dinh Province near Saigon. The assumed age-sex distribution is presented in Table 2.

Existing (1970) Population Densities. The overall density for the SMA is 40 p/ha (persons per hectare). (See Figure 8.) Saigon Prefecture has 300 p/ha and the rest of the SMA (six districts of Gia Dinh) average 16. Variations occur, with ranges from a low of three to a high of over 1,900 p/ha in individual precincts. District densities in the SMA range widely from six to 658 p/ha.[1] The densities for the SMA, by districts, are shown in Table 3 and in Figure 9.

The area's greatest population densities occur in Saigon's Districts III, V, and II. These contiguous, old districts, holding the higher ground in the area, were well developed; as a result, they received the large, first rush of refugees. A large percentage of the housing in these districts consists of condensed, tightly packed housing. The least dense districts, Nha Be and Binh Chanh, are rural in character.

Between these extremes, population densities more normal to life styles to be found in the Metropolitan Area occur in nonspecialized districts. These areas are characterized by a rich intermingling of land uses common to most Asian cities that have grown without controls or planning guidance. These districts, I, VI, and VIII, have population densities ranging from 263 to 303 p/ha.

[1] The densities are based on gross area measurements, without deduction for nonresidential uses, parks, swamps, etc.

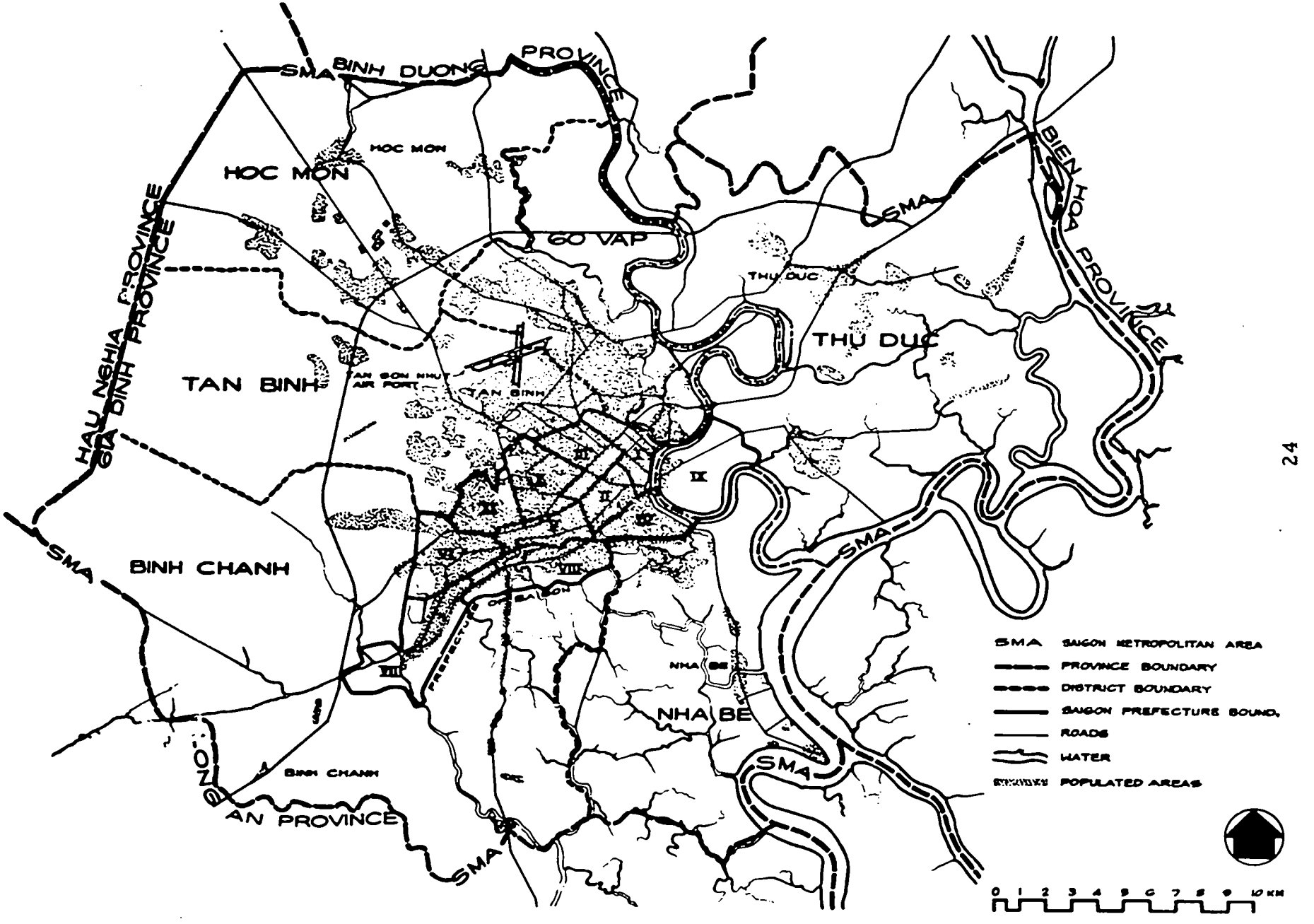


Figure 7. SAIGON METROPOLITAN AREA – POLITICAL

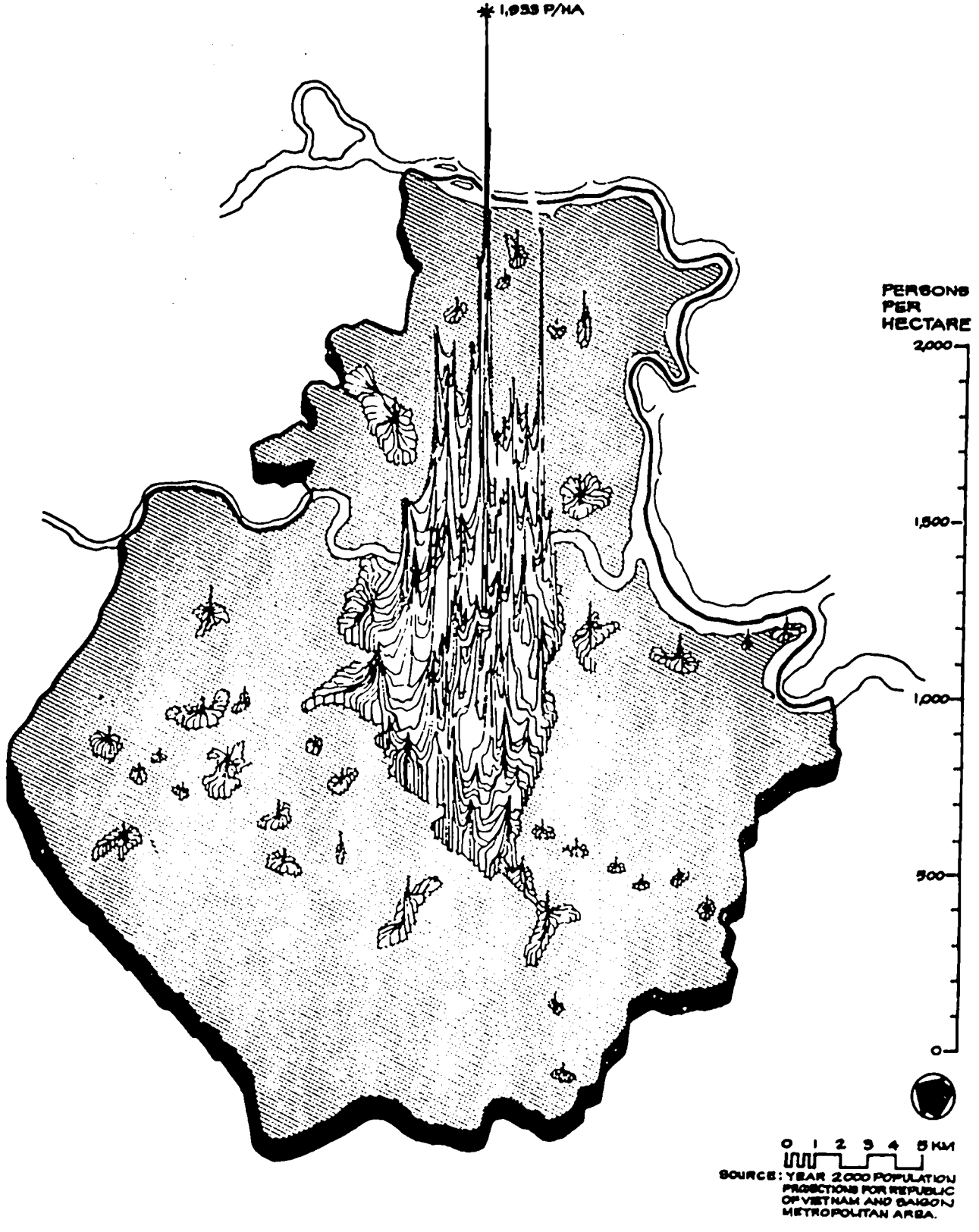


Figure 8. POPULATION CONCENTRATIONS – SAIGON METROPOLITAN AREA

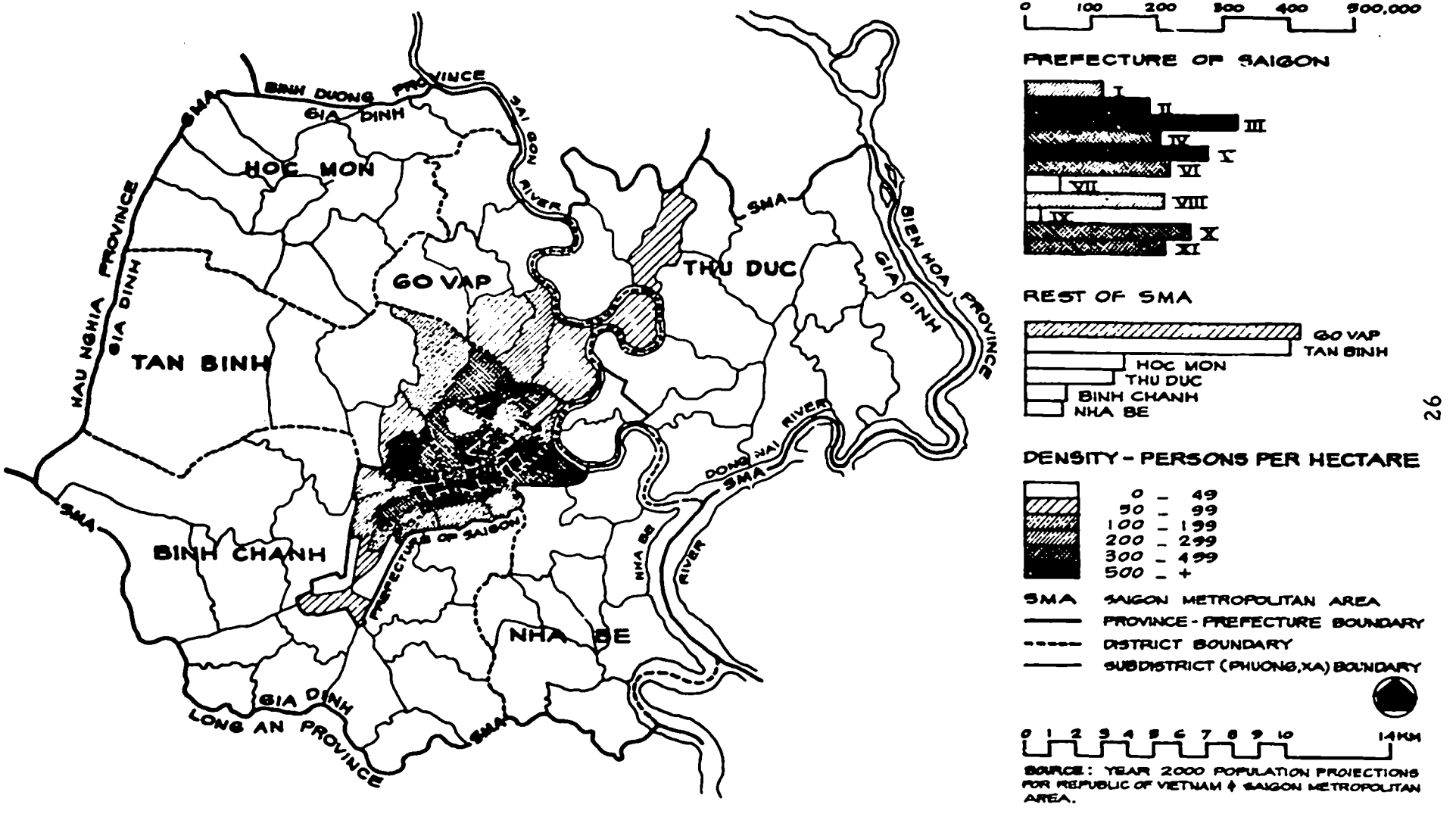


Figure 9. SAIGON METROPOLITAN AREA – POPULATION BY DISTRICTS AND DENSITIES BY SUBDISTRICTS, 1970

Table 2. ASSUMED AGE-SEX DISTRIBUTION IN SAIGON METROPOLITAN AREA, 1970
(Reference 9)

Age	Population		Percent of Total Population	
	Male	Female	Male	Female
65 and over	32,340	58,080	0.98	1.76
60-64	23,760	32,010	0.72	0.97
Dependents			4.43	
55-59	42,240	45,210	1.28	1.37
50-54	57,090	54,450	1.73	1.65
45-49	68,970	68,640	2.09	1.65
40-44	77,550	81,510	2.35	2.47
35-39	94,050	94,050	2.85	2.85
30-34	76,560	105,930	2.32	3.21
25-29	71,940	106,590	2.18	3.23
20-24	80,850	121,770	2.45	3.69
15-19	212,850	200,640	6.45	6.08
Work Force			50.33	
10-14	243,870	238,920	7.39	7.24
5-9	270,170	251,790	8.19	7.63
0-4	245,850	242,220	7.45	7.34
Dependents			45.24	
Total	1,598,190	1,701,810	48.43	51.57
Grand Total	3,300,000		100.0	

A range of 150 to 275 p/ha for a city such as Saigon would probably be acceptable. Densities in this range, with a variety of housing types, might include all necessary parks, roads and other types of urban infrastructure. Since density is an abstract term, comparing densities of other Asian cities might be helpful. See Table 4.

It can be concluded that the ranges of population and densities to be found in the Saigon area are the expected ones, and in line with density characteristics to be found in other Asian cities.

Table 3. POPULATION DENSITIES IN THE SAIGON METROPOLITAN AREA BY DISTRICTS
(Reference 10)

Popular Name	Population	Area (hectares)	Density	
			Persons Per Hectare (p/ha)	District Rank
Metropolitan Area	3,300,000	83,085	40	
Saigon Prefecture	2,075,000	6,920	300	
District I	115,500	421	275	8
District II	185,700	346	531	3
District III	322,200	488	658	1
District IV	204,600	414	499	4
District V	278,700	429	648	2
District VI	218,200	716	303	7
District VII	51,200	1,180	43	11
District VIII	210,600	798	263	9
District IX	22,800	1,064	21	13
District X	251,400	587	426	6
District XI	214,100	477	446	5
Rest of SMA	1,225,000	76,165	16	
Go Vap District	416,500	6,782	61	10
Tan Binh District	402,400	11,128	36	12
Hoc Mon District	149,300	11,850	13	14
Thu Duc District	135,900	19,370	7	15
Binh Chanh District	63,100	18,054	3	17
Nha Be District	57,800	8,981	6	16

Form, Character and Land Use[1]

As in most Asian cities, the patterns of land use activities in Saigon are very rich. This varied mixture of land uses differs in character from the pattern of segregated uses common to Western Cities.

The present day Prefecture of Saigon was formerly composed of two urban units that coalesced—Saigon, a French colonial city, and Cholon, a Chinese

[1] Parts of the written material were developed on assignments with Metcalf and Eddy Inc., and Development and Resources Corporation. The land use survey was performed for the Director of Reconstruction and Urban Planning by USAID/Engineering and Saigon Civil Assistance Group (SCAG) under the direction of Frank R. Pavich, AIP.

Table 4. COMPARATIVE POPULATION DENSITIES FOR SELECTED ASIAN CITIES
(Reference 11)

City	Population (year)	Area (km^2)	Density (p/ha)	Most Dense District	Least Dense District (p/ha)	Mean District
Bangkok-Thonburi	2,972,000 (1970)	290	102	842	15	177
Bombay City	2,772,000 (1961)	68	428	3,459	0-247	247-494
Hong Kong	3,606,000 (1966)	1,034	35	1,656	2	323
Manila (city)	1,210,000 (1970)	38	318	411 (1960)	2 (1960)	---
Saigon	3,300,000 (1970)	69	300	658	21	263
Taipei	1,690,000 (1969)	272	62	507	14	171
Singapore	1,799,000 (1968)	180	100	---	--	---

trading market. Present-day land use patterns reflect both this fusion and the recent and uncontrolled urbanization that has occurred in the last ten, or so, years.

Early Saigon formed by the French was small, suitable in scale and size for its function as a small commercial town and capital of Cochin, China. Basic design was predicated on two gardens, connected by a small mall which ran approximately parallel to the Saigon River.[1] Perpendicular to this axis were the major downtown streets. The feeling was intimate and formal. By 1939, at the end of effective French control over the destiny of the city, the population was nearly 540,000. At that time, the size of the city was suitable for the population. Today, within this old area of the city, the imprint of French urban design may be seen in the broad, tree-shaded boulevards, small green squares, shady arcades and broad sidewalks, but most of all in the fine design of the axes and vistas. In terms of human scale—the size of buildings and their relationship to their streets—this old part of Saigon is one of the best examples of Western urban design to be found anywhere in the East. Today, this old French part of Saigon is the city's core. (See Figure 10.)

Cholon, Saigon's Chinese ego, repeats in spirit, color and form its Chinese urban counterparts elsewhere in Asia. Here is a rich intermingling of land uses—small shop houses, hotels, restaurants, small and large industries, all crammed together into one totally urban complex.

[1] Today, the Presidential Palace occupies one garden site; the zoo, the other.

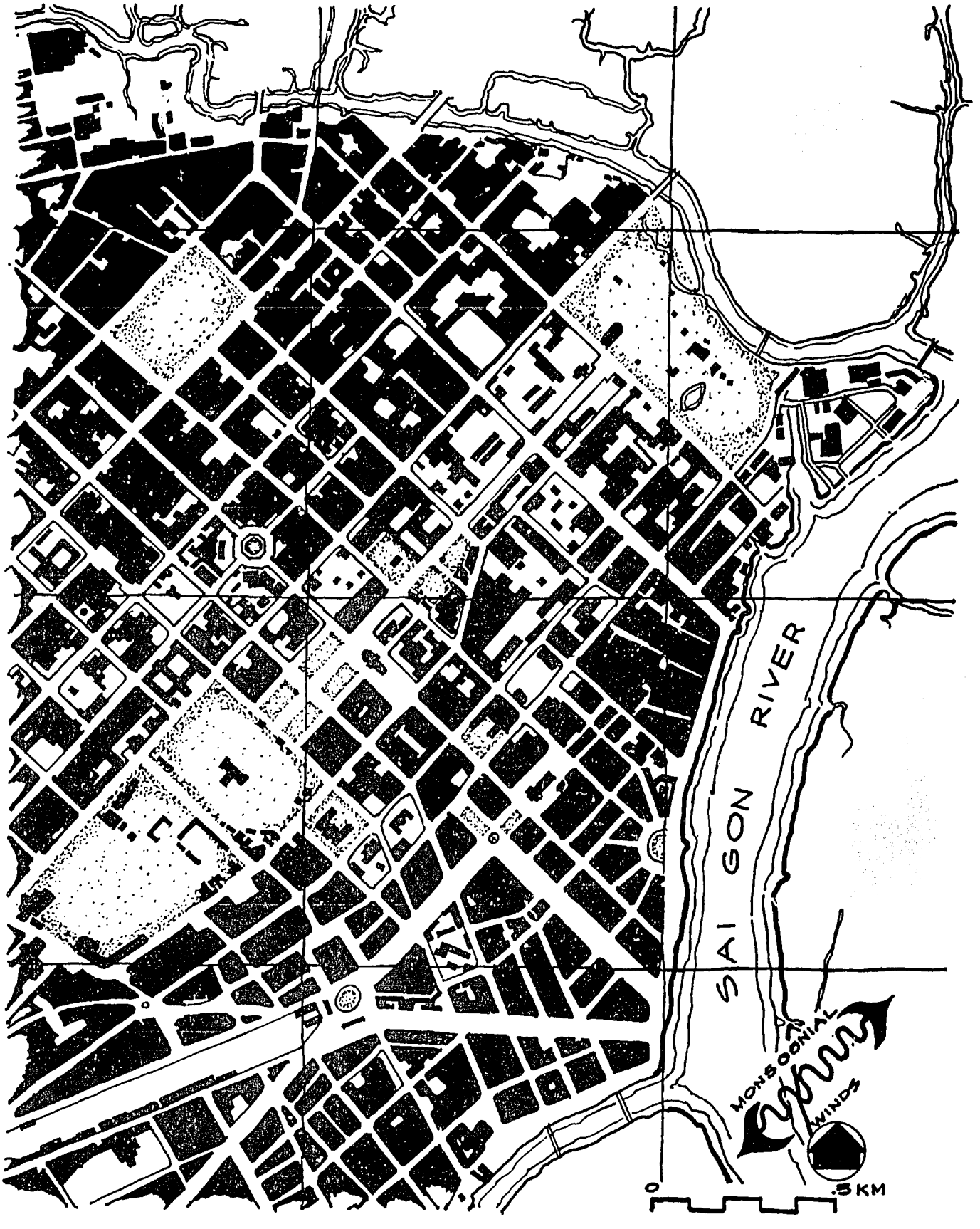
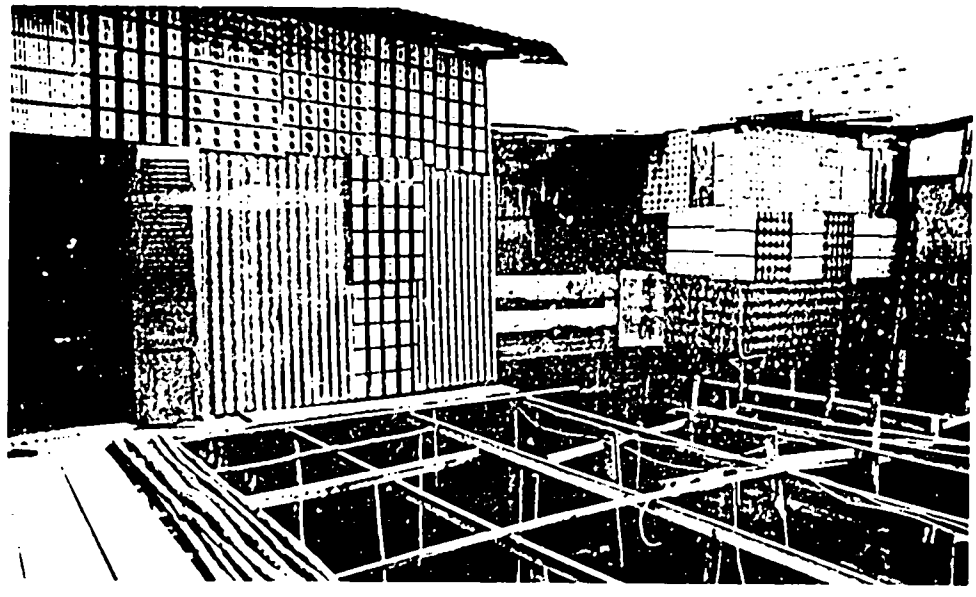


Figure 10. CENTRAL SAIGON – URBAN FORM AND CLIMATIC ORIENTATION

The new growth has resulted in a potpourri of land uses. Saigon's recent urbanization has turned the city into a huge slum. Refugees and the recent population expansion, coupled with restrictions in security and housing construction, have resulted in thousands of jerry-built, one-room shacks. These shacks are in evidence everywhere within urbanized Saigon. They drift out of the alleyways onto public lands, parks and railroad right-of-ways. Early floods of refugees preempted and crowded the small amount of open high ground within the city. Later groups of people moved onto the city's marshes and over the canals. The houses over the canals not only pollute but cause drainage problems. These slums—the thatched huts; the packing-crate buildings; those sided with colorful lithoplate, originally designed for beer cans; the evolutionary ones[1] that are, for the most part, beyond the reach of the water and electrical systems—are serviced by dirt paths or rotten boardwalks.

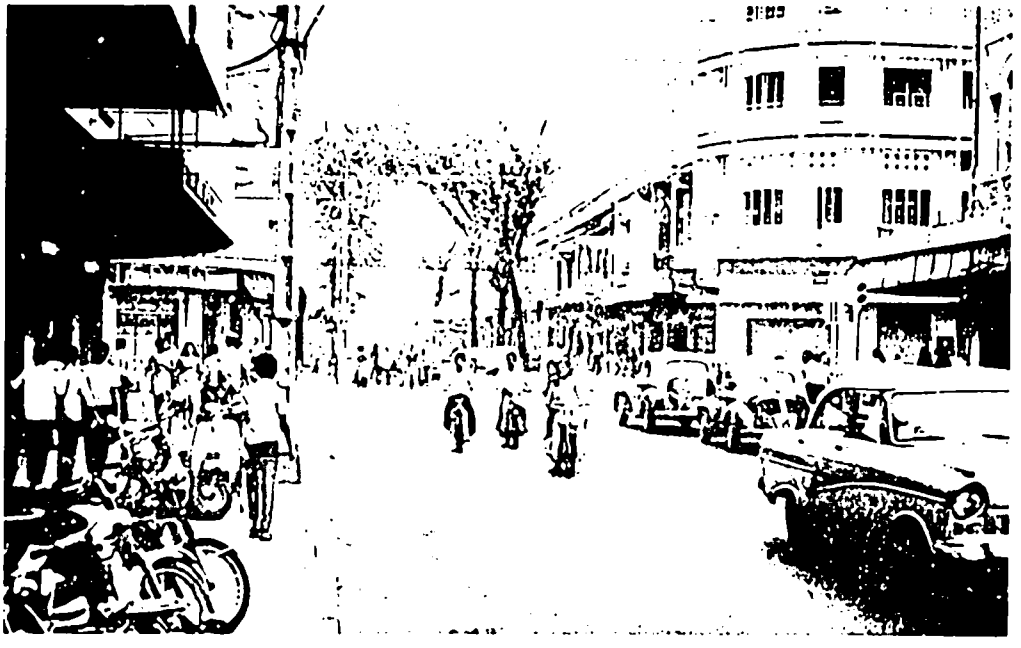


New shacks being constructed over marshy lands, sided with beer can lithoplate. (Photo by Michael Kyne.)

Most of the new growth has just been accommodated. Services have not kept pace, nor has there been a substantial growth of infrastructure to support this recent growth. While the population of the area has increased over 600 percent since the beginning of World War II, the core area has neither grown nor kept pace with the urban population it must serve. The core of Saigon has increased in its intensity of use by increasing the number of vehicles and pedestrians accommodated, as well as the persons and

[1] Squatter shacks that gradually undergo physical improvement as the owner's lifestyle experiences financial improvement. The wooden buildings, piece by piece, give way to masonry structures with solid roofs.

shops housed within it. With the exception of hotels, and specialized buildings to serve war needs, very few new structures of any importance have been built within the last 20 years. The city's core would be fine for the prewar population, but not for today's.



Tu Do Street, the main street of downtown Saigon. (Note the predominance of the older, lower buildings.)

The same analogy may be made for the rest of the urbanized area. It appears that, because of the pressure of security and the lack of suitable land for expansion, perimeters of the old urbanized area have remained fairly static during the period of rapid population expansion. The Saigon-Cholon area has served rapid population growth mainly by increasing densities, rather than by major, organized, expansion of the city.

Urban expansion, of course, has occurred. While the southern perimeter remained fixed, because of very poorly drained lands and poor security conditions, growth took place in areas north, northwest and northeast of Saigon.

Growing to the north, Saigon amalgamated with the provincial seat of Gia Dinh, and the area between the city and Tan Son Nhut Airport became heavily urbanized. The northwestern expansion, along Route One to Tay Ninh, is loosely knit and does not resemble the extreme densities within the old urbanized areas of Saigon-Cholon. The houses appear in clusters that closely approximate rural settlement forms. The expansion to the east is

more sophisticated, consisting of western suburban-type houses, industrial buildings, the water treatment plant and various types of military infrastructure. Direction was given to this new northwesterly growth by the Bien Hoa Highway which crosses patches of high, well-drained ground most suitable for urbanization.

A land use survey for the Prefecture of Saigon has been completed. The results of the survey for Saigon and the Metropolitan Area are given in Table 5 and Figure 11.

Table 5. EXISTING LAND USE – PREFECTURE OF SAIGON, GIA DINH PROVINCE AND THE SAIGON METROPOLITAN AREA

Land Use	Prefecture of Saigon		Gia Dinh Province		Saigon Metropolitan Area	
	Area (hectares)	%	Area (hectares)	%	Area (hectares)	%
Undeveloped	559.8	8.1	9,566.2	12.6	10,126.0	12.1
Agricultural	1,568.4	22.6	50,026.8	65.6	51,595.2	62.1
Residential	2,087.6	30.2	8,822.5	11.6	10,910.1	13.1
Commercial	268.8	3.9	282.5	.4	551.3	.7
Warehousing	93.9	1.4	229.0	.3	322.9	.4
Industrial	231.2	3.4	522.9	.7	754.0	.9
Utilities	51.2	.7	1,028.0	1.3	1,079.2	1.3
Institutional	1,035.2	14.9	4,411.1	5.8	5,446.3	6.6
Open Space	83.7	1.2	68.6	.1	152.4	.2
Streets and Alleys	940.6	13.6	1,246.4	1.6	2,187.0	2.6
Total	6,920.4	100.0	76,166.0	100.0	83,086.4	100.0

Apart from the foregoing remarks and land use table, some random observations are made for a clearer understanding and visualization of the Saigon area.

1. To one accustomed to Western sprawl, Saigon is remarkable for its compactness. A vigorous walker would have little trouble in traversing most of the built-up area, along the NE-SW axis, in 2 hours or less.

2. Deep alluvial deposits make the placement of foundations for high-rise buildings both difficult and expensive. Until recently, this had caused the growth of a flat city with few vertical punctuations. The war and crowding caused the construction of a relatively few high-rise buildings.

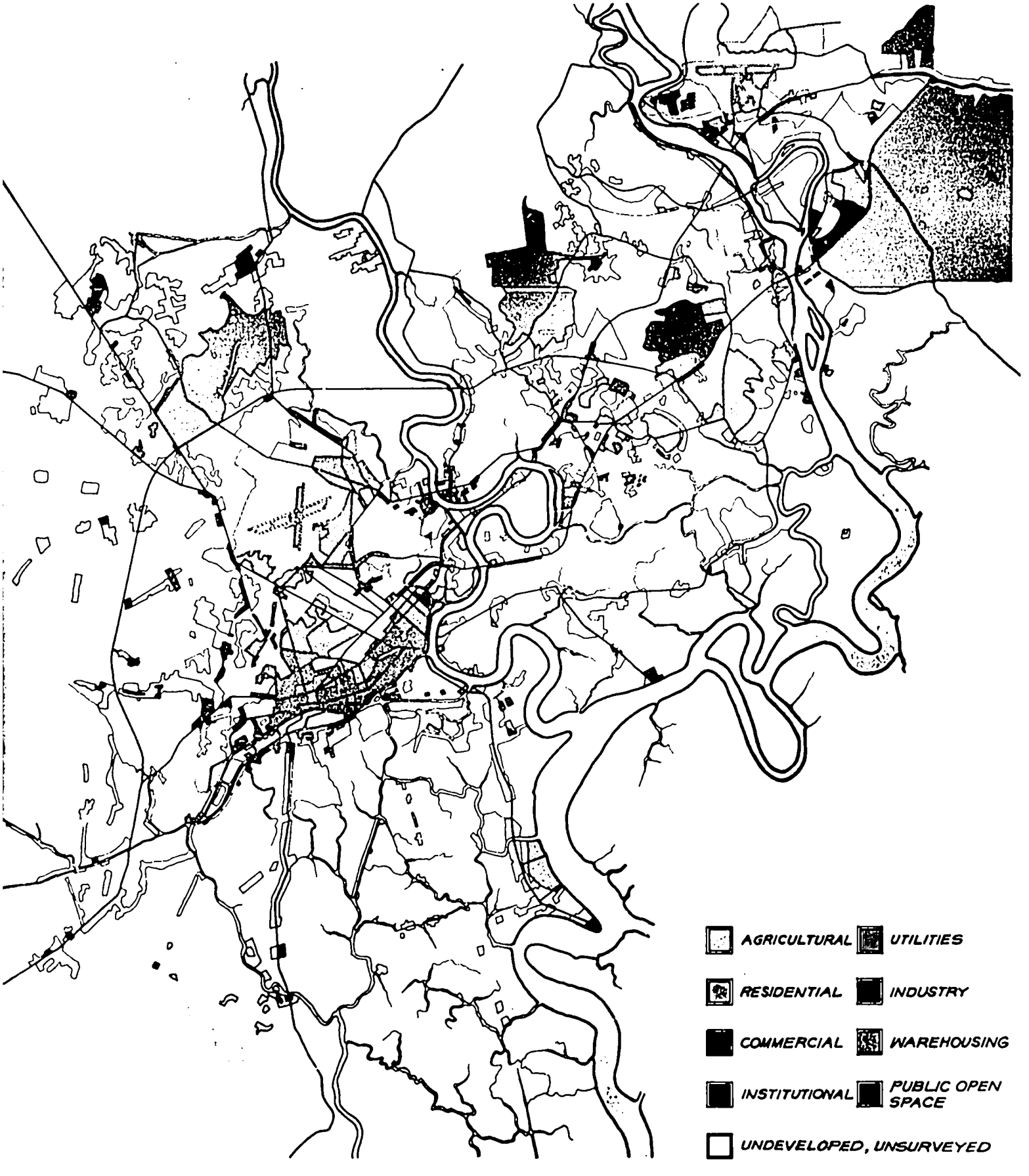


Figure 11

LAND USE 1970-SAIGON AND ITS METROPOLITAN AREA

They seldom exceeded seven to eight floors in height, most of which were built on the stronger ancient alluviums.

3. The internal structure of the city is rather amorphous and lacks zones or sectors that characterize Western cities. After Chinese Cholon fused with French Saigon, most of the city's indigenous housing mingled with Western-influenced housing, shop houses, industry and commercial areas. Land use patterns are heterogeneous or even chaotic; however, there are exceptions. The two marketing areas, relics from the two earlier towns, still persist in controlling shopping patterns. The remnants of a Western-type residential area, and formal administrative areas, are still in evidence. A major port area has been built along most of the Saigon waterfront.

4. Traffic movements within the city are difficult. Interior circulation is channelled onto a few streets, resulting in peak-hour congestion. In addition, vendor-squatters and motorcycle parking encroaching on the sidewalks force pedestrians in the streets, thus hampering traffic.

5. Large parts of the city, preempted by the government, are inefficiently used.

A comparison of land uses in Bangkok with those of Saigon is interesting. Recent land uses in the Prefecture of Saigon, a former colonial city, are closely analogous with Bangkok Municipality, an indigenous city. Percentage comparisons are presented in Table 6.

Since the 1958 Bangkok-Thonburi's land use monograph was used as a guide for the land use survey of Saigon, the use classifications are comparable. The close percentages in many categories seems to indicate a pattern. If the area in streets and alleys were extracted from Bangkok's land uses—which were measured to the center of roads—Bangkok would probably have a very low, four to five, percent in roads and alleys.

Topography and Geology. The Saigon Metropolitan Area, which lies on the northeastern fringes of the Mekong Delta, consists primarily of flat alluvial lands. Elevations in the SMA range from flooded lands in the west to lands 30 meters above mean sea level in the east.[1] Most of Saigon, and the urbanized parts surrounding the city, are above the 2-meter level. Hills adjacent to the SMA in Bien Hoa Province reach as high as 82 meters.[2]

---

[1] Vertical datum; mean sea level at Ha Tien, RVN (Reference 14).

[2] Unfortunately, these desirable natural punctuations, in an otherwise flat landscape, used as a source of construction materials, are being leveled.

Table 6. LAND USE COMPARISONS – BANGKOK MUNICIPALITY (1968) AND THE PREFECTURE OF SAIGON (1970)

Classification	Bangkok[a]		Saigon	
	Area (km^2)	Percent	Area (km^2)	Percent
Undeveloped		17.0		8.1
Agricultural		17.5		22.6
Public and Semipublic Open Spaces		1.8		1.2
Government Offices and Universities		14.0		14.9
Residential		34.3		30.2
Public Utilities		3.3		.7
Commercial		6.3		3.9
Warehousing		1.9		1.4
Industrial		3.9		3.4
Streets and Alleys		NA[b]		13.6
Total	129.4	100.0	69.2	100.0

[a] See Reference 12.

[b] Not applicable.

The major river in the SMA is the Nha Be. This river forms the eastern boundary of the SMA; with its main tributary, the Saigon River, and minor tributaries, it forms the major drainage system for the area.

The geology of the SMA—deltaic—is composed of ancient and recent alluviums underlain, at unknown depths, by sedimentary rocks of mesozoic and paleozoic age (Reference 13). Beneath these lie a basement of granite, gneiss and other crystalline rocks of precambrian or a later age. The ancient alluviums are pliestone river terraces, deposited by the ancestral Mekong River which was subsequently tilted to the southwest by a continental flexure.

In the SMA the exposed ancient alluvium usually forms the higher ground. The recent alluvial deposits, still in a process of formation by river inundations, are normally of lower elevation. The ancient alluvial soils also differ from the recent alluvial ones; they are more consolidated, and contain laterites, greater sand content and layers of pebbles. The recent alluvium—composed of fine sand, silt and clays of differing colors—are more clayey than the ancient alluvial soils and are without the formation of laterites.

The major urban significance of the alluviums is that most of the intense urbanization in the SMA has occurred on the ancient alluvium. Saigon itself is sited on an island of the ancient alluvium as are most of the indigenous housing areas in the northwestern part of the SMA. This is not surprising because of the high elevations and better foundation conditions of the ancient alluviums. (See Figures 12 and 13.)

Climate. The Metropolitan Area, lying well below the Tropic of Cancer, has an equatorial, tropical climate controlled by seasonal alternation of the monsoons. Normal to the area are two monsoon seasons and two periods of transition. The southwest monsoon, occurring from May to October, is the wet monsoon bringing with it 85 percent of year's total precipitation. During this period, temperature, humidity and sky cover are high. The northeast monsoon, occurring from late November to early March, is the winter monsoon. During this period, the weather is somewhat cooler and drier. In the Saigon area, practically no rain occurs during the months of February and March. The transition period, from March to May, is the hot season; while the fall transitional period is noted for decreasing rainfall and temperatures.

Statistically, temperatures in the Saigon area are very uniform; in 1968, mean yearly temperatures were 25.8 degrees C, with a mean maximum temperature at 32.6 degrees and a mean minimum temperature at 23.7 degrees. Absolute maximum and minimum temperatures for the same year were 36.7 and 17.9 degrees C, respectively.

The major climatic significance to urban design is that, in a hot and humid climate, characteristic of Saigon, maximum use must be made of prevailing winds. There is nothing new about this notion: French engineers over 100 years ago made the monsoons a controlling design factor. It was not by coincidence that the French placed the main streets of central Saigon in a perfect southwest-northeast alignment. (See Figure 10.)

Transportation

General. The movement of poeple and goods in the Metropolitan Area is primarily by road. Movement of goods by canals, hampered by the war, has declined in importance, and a considerable shift to truck transportation has taken place. The basic road network, established prior to World War II, has been supplemented by a number of military-inspired roads during the last few years. Most of these have been built outside the Prefecture. The amount of land used as roads represents approximately 13.7 percent of the total area of the Prefecture and 2.7 percent of the SMA. These figures

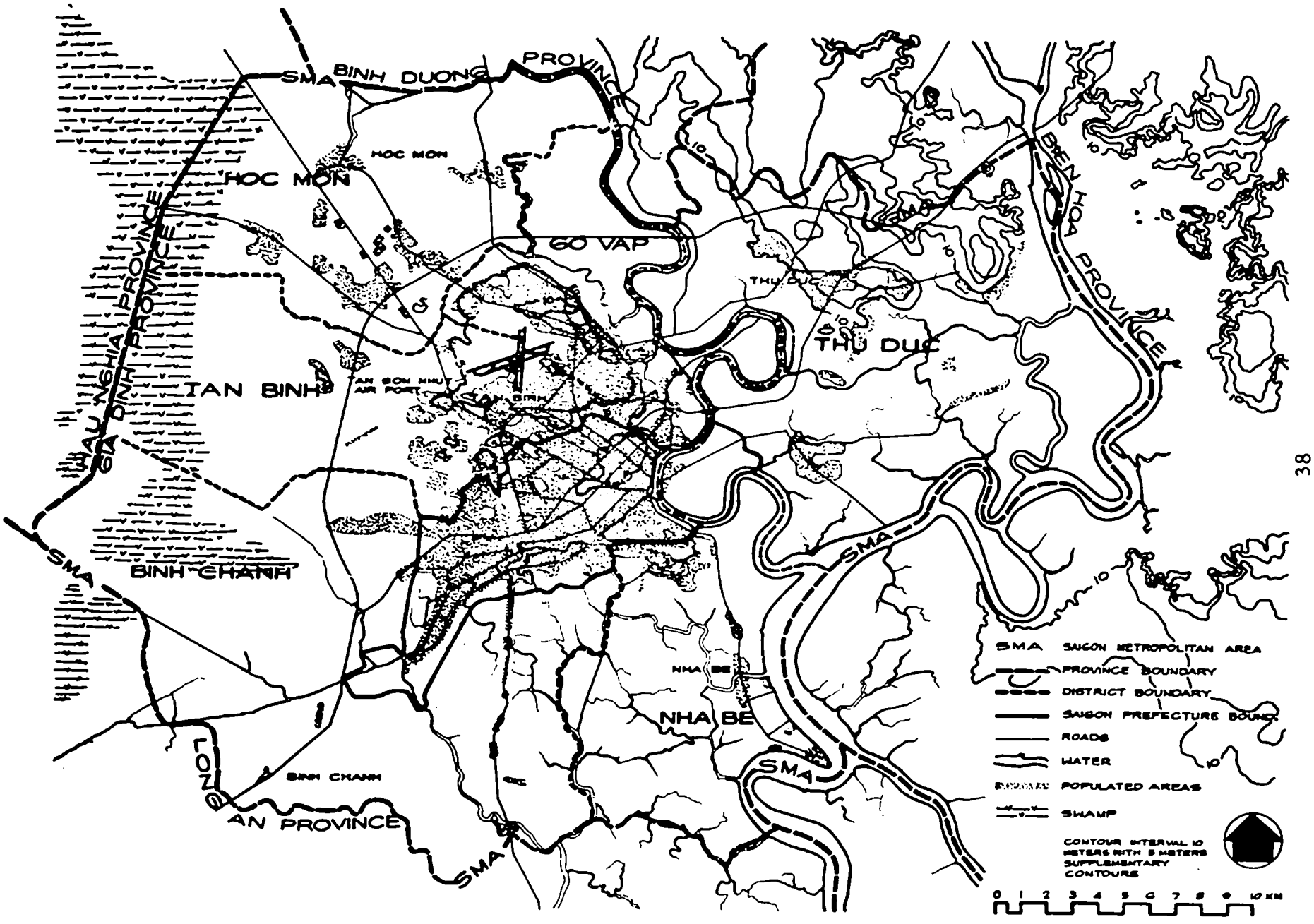


Figure 12. SAIGON METROPOLITAN AREA – TOPOGRAPHY

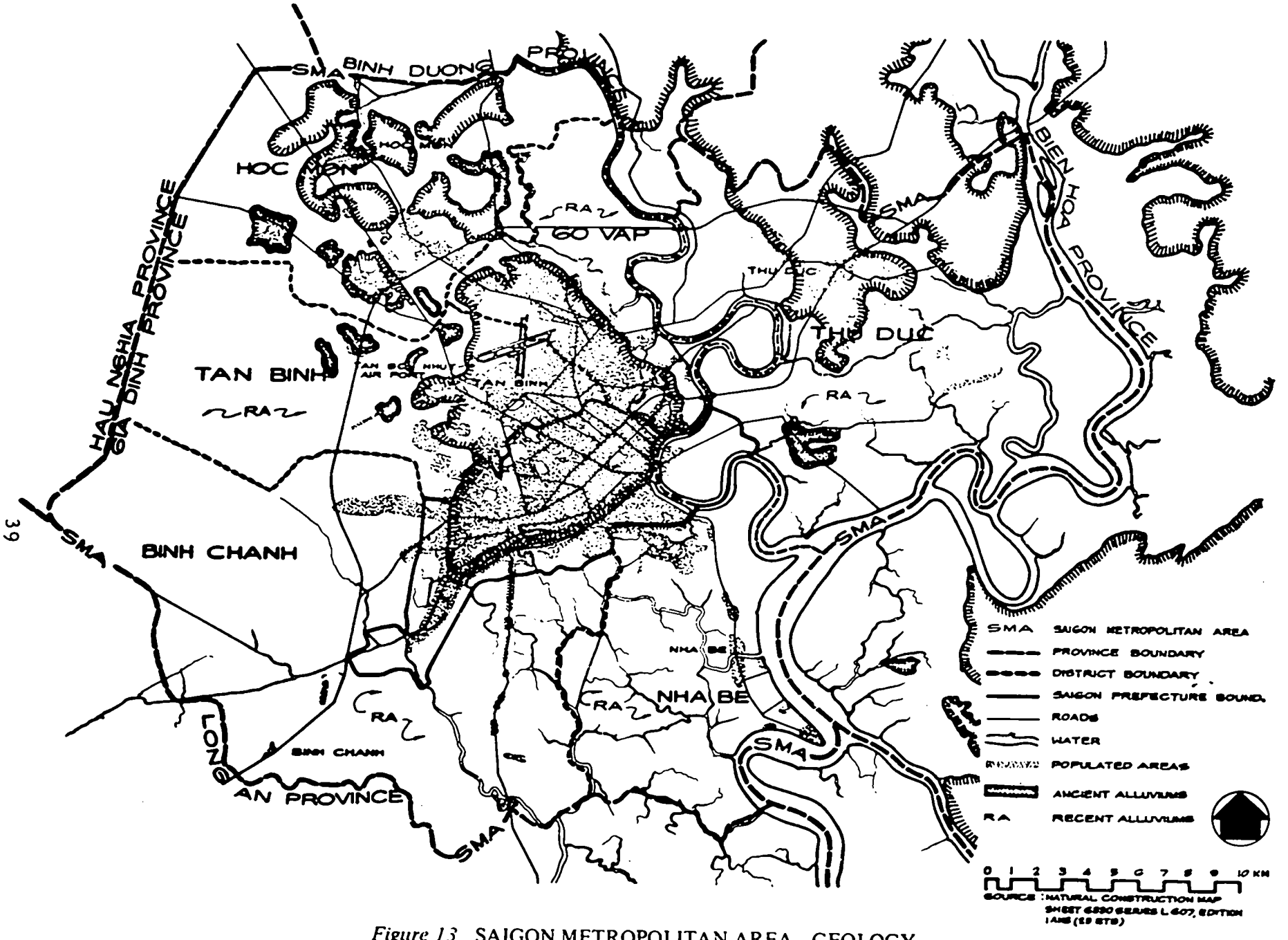
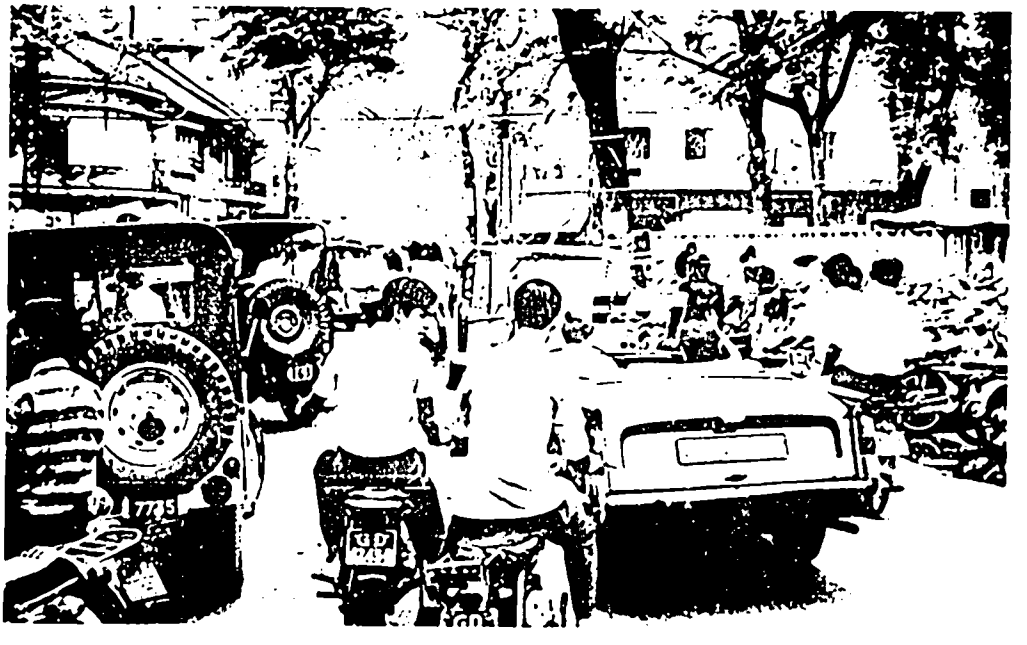


Figure 13. SAIGON METROPOLITAN AREA – GEOLOGY

are low.[1] Vehicular movement on this system is hampered by encroachment of vendors, buildings and other inappropriate uses onto right-of-ways. In recent years, warborne affluence has caused a drastic increase in the number and density of all types of vehicles. In 1971, there were 981,428 vehicles of every type registered in the SMA; approximately one to every 3.4 persons.[2] As with majorities of people everywhere, personal transportation is preferred to public transport. As a result of the low road ratio, combined with the unharmonious use of right-of-ways and the fast-growing motor vehicle population, there has been heavy congestion throughout the SMA.



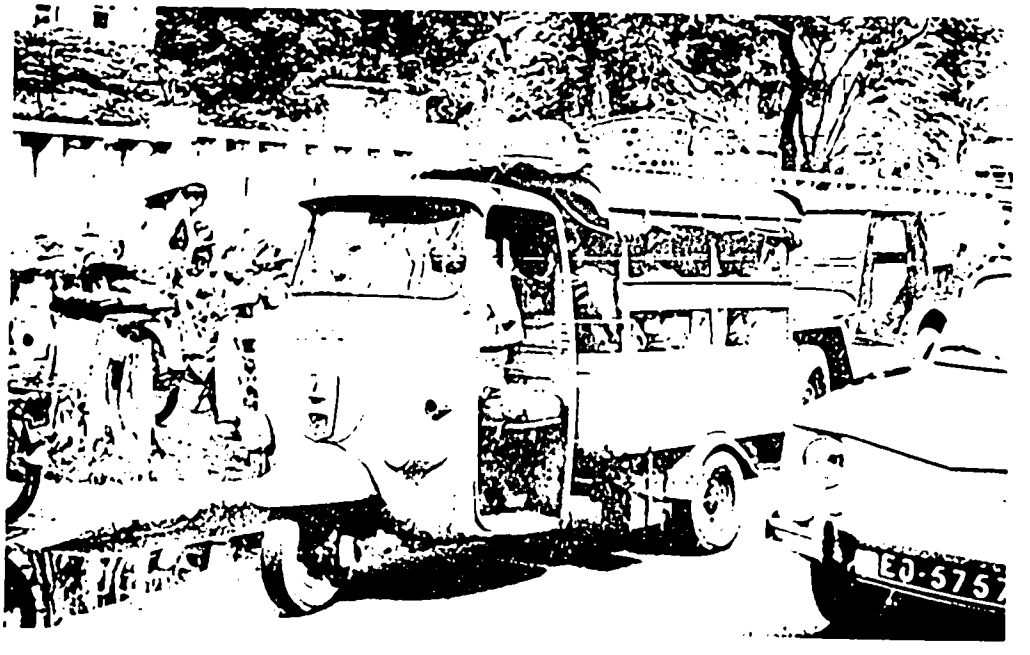
Mass Transportation. The movement of people within the SMA has reached very low levels indeed. Over recent years, the quality of transportation has gone down while the quantity has risen. Part of the city's bus inventory sits forlornly in the railroad yards, the result of a fiscal collapse in 1968.[3] The

[1] The average road density, expressed in kilometers of road per square kilometer of metropolitan area for 15 world cities (including four Asian cities), was 0.54 (Reference 15). The SMA has approximately 0.29 kilometers of road per square kilometer of Metropolitan Area.

[2] Small and heavy trucks, 62,186; automobiles, 90,323; motorscooters and tri-lambros, 160,594; motorized bicycles and motorcycles, 668,325.

[3] In testimony before the Senate Committee on Transportation and Postal Service, Mr. Tran Van Vien, Minister of Post and Communication, recently stated that the government was planning to reestablish the Saigon bus service next year. He hopes this will help solve in part the problem of traffic congestion in the capital city (Vietnam Economic Report, November 1971).

vacuum created by the demise of the bus company has been filled by a uniquely Asian solution: The Lambros, replacing the elephants, a great number of foul smelling jackasses. These three-wheeled, 10-passenger vehicles grew from a fleet of 40 vehicles in 1960 to 74 in 1964 and, with government encouragement, to 500 in 1967. In 1969, there were 2,087 licensed Lambros and estimates of more than 2,000 nonlicensed ones operating in the SMA (Reference 16). Without a doubt, there are even more today. The fare is cheap.[1] The comfort, safety and convenience is questionable. In fairness, it must be pointed out that the ubiquitous Lambros serve five times the number of people as did the bus system before its collapse. The owners-operators of the Lambros have also become a political force, recently forcing closure of an experimental passenger rail link between Cholon and central Saigon. Perhaps, with cultivation, the entrepreneural enterprise that developed the microbus system can be directed into a transport form of substance, beneficial to the SMA.



[1] Trips cost VN$ 15 (about 0.03 US$).

Local Government

A United States Aid report on laws governing local government has a succinct analysis of local government in the Republic (Reference 17). The following is adapted from that report:

Provinces today are basically central government operations, not local government: A province in Vietnam cannot be equated with a state in the United States. The province should be viewed as an arm of the central government with only incidental local government characteristics. The Constitution, however, classes the province as a local government, but yet this provision has not been implemented.

Autonomous cities are really small provinces: The name "Autonomous City" is a misnomer.[1] They have no more autonomy in their operation than the provinces. Generally, all laws applying to provinces also apply to the autonomous cities. About the only difference is that the top official is called the Mayor, rather than Province Chief.[2]

Districts are not legal entities: They have no budgets, no taxing powers and no right to own property. They are not mentioned in the Constitution. They are administrative units of the province and thus the lowest operating level of the central government.

REFERENCES

1. Smith, et al., Area Handbook for South Vietnam, U.S. Government Printing Office, Washington, D.C. (April 1967), p. 13.
2. Bogle, James E., Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, Metcalf & Eddy, Inc., Boston (March 1971), p. 13.
3. Government of Vietnam, Saigon (a plan published in 1968 by the Directorate of Reconstruction and Urban Planning), pp.5-11 (translated and modified extracts).

[1] Some Vietnamese officials have expressed the feeling that the word "Autonomous," which has much currency of use, is not the best translation of "Tự Trị."

[2] Decrees promulgated in April of 1968 provided for a reorganization of the autonomous cities. Under these Decrees, the Mayor of Saigon is nominated by the President of the Republic, appointed by the Prime Minister, and is responsible to the President, the Prime Minister and the Minister of the Interior. The Deputy Mayor is appointed by the Minister of the Interior and is responsible both to the Minister and the Mayor. The Chief of Cabinet is appointed by the Minister of the Interior and is responsible to the Mayor. The District Chiefs are nominated by the Mayor, appointed by the Minister of the Interior, and are responsible to the Mayor. The City Service Chiefs are appointed by the appropriate ministers responsible for those services, and are responsible to them. Finally, City Councilmen are elected at-large for a 4-year term. In Saigon, the present City Council of Saigon was elected in June 1970. The city has 11 Administrative Districts and 56 Phuongs (neighborhoods). Each Phuong has a Chief who serves coordinately with the District Chief and Mayor.

4. The World Almanac, Newspaper Enterprise Association, New York (1971), pp. 582-583.

5. National Institute of Statistics; USAID/Urban Development.

6. Time (magazine) (August 31, 1970), p. 35.

7. Henningson, Duran & Richardson, Inc., and Lyon Associates, Inc., Saigon Sewage Feasibility Study, Saigon, Vietnam, Vol. 1, Table 10.1 (February 1971), p. 10-4.

8. Jacobs, Jane, The Economy of Cities, Random House, New York (1969), p. 258.

9. Bogle, op. cit., p. 50.

10. Bogle, op. cit., p. 51.

11. Table Sources:

Bangkok – Keokungwal, Chalerm, Chief of the Research Division, Department of Town and Country Planning, Ministry of Interior.

Bombay – Report on the Development Plan for Greater Bombay, 1964, Bombay Government, Hong Kong Central Press, p. 24.

Hong Kong – Hong Kong Statistics, 1947-1967, Census and Statistics Department, Hong Kong (1969), p. 16.

Manila – Metcalf and Eddy Limited and Engineering Development Corporation of the Philippines, Second Stage Improvement Program for the Manila and Suburbs Waterworks System. Vol. I (June 1968), pp. 35, 36 and 47.

Saigon – Bogle, James, op. cit., p. 50.

Singapore – Yearbook of Statistics; Singapore 1968, Chief Statistician, Department of Statistics, Singapore, pp. 1 and 9.

Note: Statistics for Singapore do not break down the population into urban-nonurban classifications. However, from the figures given for workers engaged in agriculture, forestry, hunting and fishing, occupations appear to be very low (1,596 in 1968). Therefore, it would seem reasonable to assume that 10 percent of the total population (1,987,900) is nonurban. The statistical yearbook states that 31.1 percent of the land has been taken up with residential, commercial and industrial usage. The urbanized area would then be 180 square kilometers. Overall population density in 1968 was 34 persons per hectare.

Taipei – Oliver & Brigg, The Economics of Urbanization in Taiwan Province, The Republic of China, International Bank for Reconstruction and Development (1971), p. 15.

12. The Greater Bangkok Development Plan (1990), Department of Town and Country Planning, Ministry of Interior (1971), p. 14.

13. Rasmussen, W. C., Review of the Ground Water Potentialities of South Vietnam, USAID/VN, Mimeo. (July 1966).

14. 29th Engr. Bn. U.S. Army Topography Command, Map, 1:100,000, 1968, Stock No. L 607 x 6330888802.

15. Papageorgiou, G., Transportation Facilities, Ekistics, Volume 30, Number 176 (July 1970), p. 23.

16. Saigon Traffic Study, Alan M. Voorhees & Associates, Inc., Virginia (June 1969), p. 4.

17. Laws and Other Legal Directives Governing the Authority and Responsibilities of the Provinces, Autonomous Cities, Districts and Villages/ Hamlet in Vietnam, monograph, USAID/ADPA (August 1968).

III

A SHORT HISTORY OF URBAN PLANNING IN VIETNAM

III. A SHORT HISTORY OF URBAN PLANNING IN VIETNAM

FRENCH PLANNING

The extent and origins of French urban planning efforts are elusive. There is little information in Vietnam on the policies and programs that have shaped present-day urban patterns. What urban planning took place had very strong architectural roots; planning was of the "city beautiful" type. Inspection of Saigon, Da Nang, Phu Cuong, and even Tay Ninh, shows that the Beaux Arts School of Architecture has had its effect. Streets are wide, tree-lined and arranged in a formal grid. On this grid, a system of diagonal boulevards, streets and traffic rotaries was superimposed. Government buildings in these cities are, in the main, provincial baroque or classically inspired; facades are of a fine grain, ochre or off-white stucco over masonry, topped by roofs of red tile. They have been sited to take advantage of the climate. The townhouses, detached houses, village, and commercial buildings repeat the white wall-red roofed pattern, thereby providing fine design unity to the townscape. The ambience created was one of unhurried, casual and understated grace. Small rural towns also received attention; many of the plantation towns appear to have been planned during this colonial period. An example is the village of Phuc Hoa Hai in north-central Binh Duong Province.

VIETNAMESE PLANNING (Reference 1) [1]

Early Efforts

Departure from the traditional French approach to urban planning and Vietnamese entry into this discipline might be said to have begun with a decree issued by the Emperor Bao Dai in 1951, creating the Ministry of Reconstruction and Planning (Reference 2). In the organization of this ministry, the Minister of Reconstruction and Planning provided for a Directorate of Planning, charged with implementation of programs leading to an increase in national production and promotion of trade with the French Union; and a Directorate of Reconstruction charged with reconstruction at national and local levels (Reference 3). This Directorate also had an office of City Planning and Construction which dealt with local city planning projects.

The Ministry, as it was formed, was short-lived. In 1952, its functions were transferred to the Ministry of Finance and Economy as Secretariat of Planning and Reconstruction (Reference 4). Within this Secretariat were: a Directorate of Planning, again charged with national development; and a

[1] See references at the end of this chapter.

Directorate of Reconstruction, responsible for, among other things, city planning functions.

The Diem Regime (1953-1963)

"National planning, reconstruction and town planning continued to be associated together in the early part of President Diem's regime even though they shifted about considerably.[1]

It appears it was recognized that these two functions were related; but maximization of results was elusive" (Reference 1).

Finally, in August 1955, the General Directorate of Planning in the Office of the President was created in a November decree (Reference 5), and a January 1956 arrete (Reference 6). The responsibilities and organization were multifold, but planning was at a national, not a local, level. This disassociation of national development planning and reconstruction and urban planning was not permanent. In the fall of 1956, the Ministry of Reconstruction and Urban Planning was created (Reference 7). In accordance with the later arretes, this organization had eight parts; the strongest was a General Directorate of City Planning and Public Buildings (Reference 8). One of the organizations under the Directorate of City Planning was the Regional and Provincial Reconstruction and Urban Planning Service which, in 1959, was made into a Directorate General in the office of the President. This new organization was the beginning of the Directorate of Reconstruction and Urban Planning (DGRUP).

Post Diem Regime

The high status level of Reconstruction and Urban Planning lasted only until the overthrow of President Diem, early in November 1963. On November 11, 1963, Reconstruction and Urban Planning was placed in the Ministry of Public Works and Communications (Reference 9). Activities continued at about the same pace as before.

Existing Urban Planning

In the latest reorganization (1969), the present DGRUP organization was formed. DGRUP is now one of four Directorates General within the Ministry of Public Works (Reference 10).[2]

---

[1] Ministry of National Economy and Planning (1/1/54); Ministry of Reconstruction and Planning (9/29/54), and Ministry of Finance and Economy (5/10/55)

[2] The others: General Housing Management, Electricity of Vietnam, and Highways; in addition, lower ranked directorates existed for air bases and water supply.

The Directorate is charged with the responsibility for reviewing all building and development plans, both public and private, throughout the country and for authorizing the issuance of building permits by local governments; designing and constructing all public buildings for all ministries; designing and constructing housing for civil servants and military personnel; and developing long- and short-range plans for local governments. To carry out these responsibilities, a Directorate of Public Building, a Directorate of Urban and Rural Planning, and seven operating divisions (services) were established with the responsibility for reviewing all public and private building and development plans, approving subdivision and building permits, and developing long- and short-range plans for local government.

Through an involved 10-step process, land-use/street plans are produced. (See Appendix A.) Dating back to the Diem regime, studies anticipating development of land-use/street plans and programs of easement and construction were initiated for 52 communities in Vietnam.[1] Of these, about 20 have been approved by the issuance of decrees signed by the Prime Minister.

The completed plan consists of a map showing, by use of color, the various land use zones which comprise the urban area. Examples include residential, commercial and industrial lands; lands for public buildings (inclusive of religious areas); proposed or future special land uses; and street right-of-ways and proposed widenings. The map also has a title block, north arrow, legend, scale and space provided for approval by government officials at various phases of the planning process.

Lack of direct knowledge of the strict or liberal enforcement of all programs approved prevents analysis of, or comment on, the quality of enforcement.

PLANS FOR SAIGON (Reference 11)

The French Approach

Early maps and perspective paintings in Saigon's City Hall depict the city at various times during the period of French control.

1867. Early maps and drawings, dated 1867, indicate planning efforts were centered around the introduction of a formal grid street system that paralleled the main axes of the citadel and ran northeast-southwest and northwest-southwest. Climate orientation was the controlling factor for

[1] Some of these have been rather small areas which might, or might not, qualify as urban centers, depending upon the definition.

street alignment. Le Loi Boulevard, at that time, was a canal which ran perpendicular to another, whish is now Nguyen Hue. Streets of central Saigon, while laid out and dotted with trees and bridges, were not metalled. The drawings indicate a bucolic rural town with pretentions, but few buildings of consequence.

1898. A cadastral plan by Mr. Bertaux, Chief of the Cadastral and Topographic Service, defined Saigon as the area bounded by the Saigon River, Thi Nghe Creek and Le Van Duyet Street. This area, of approximately 7-1/2 square kilometers, had a population of 33,000 at an overall density of 44 persons per hectare (Reference 12). The plan showed the completion of the two gardens to the north, and proposals for the subdivision of a sizable quarter in the northwest. The gridiron pattern was continued in this new area. The perspective painting of Saigon at this time showed a more mature city. Canals were filled in; trees provided a softening touch to the streets and broad radials; and the streets were paved.

1923, 1928, 1932. Three official maps for Cholon and Saigon were produced. The first, in 1923, was an official sewage map. In 1928, an official right-of-way plan for existing and proposed streets was approved by decree and, in 1932, the streets were named (Reference 12). These plans physically joined Saigon with Cholon.. While the combined population of Saigon and Cholon was 343,000 in 1926, the plans indicated a larger, more formal city (Reference 13). The gridiron pattern was continued, and patterns for Cholon indicated a number of large avenues. These plans represent the last officially approved plans for Saigon and Cholon.

Project Pugnaire

In 1943, M. Pugnaire, a French urbanist working for the Prefecture of French Saigon, developed a land use plan for the city. The plan showing a unified Saigon and Cholon was for a design population of 1,200,000, a density of approximately 175 persons per hectare. The plan was for a city that functioned primarily as: (1) a regional capital and (2) a major commercial port. Other plan aspects reflected its strong residential character and concern for the improvement of small villages. Proposals for industry were limited to small industries. The plan gave very limited attention to the urban fringes lying outside the boundaries of Saigon and Cholon. The format of this plan and its techniques has had a strong influence on subsequent plans by the Directorate.

Du Grand Saigon

In 1958, the Ministry of Reconstruction and Urban Planning undertook the development of a new land use plan which appeared primarily to be a revision and extension of the earlier 1943 plan. The plan, which included the contiguous parts of Gia Dinh Province to the north, was created for a design population of 3 million persons in an area of 675 square kilometers. The plan surrounded the existing city with a ring of satellite centers; Saigon's functions were amplified with recognition of the city's role as the National's capital. The plan reflects this role and a dependency on the earlier plan and actual French models, as a number of grand boulevards with monumental rotaries were proposed. Envisaged also were a diplomatic enclave, industrial and port areas, a military district around the airport, and a business and commercial district in the old areas of Saigon and Cholon. The plan, however, was never implemented.

Plans D'Amenagement – 1959 and 1963

A series of schemes were concocted from the earlier plans, from the influence of the war and from the results of new infrastructure.

In 1959, Ngo Viet Thu, developed a scheme entitled "La Conurbation De Saigon Cholon," which was exhibited in Paris and Rome in 1959 and at the Saigon City Hall in July 1960. The main thought of the plans was the development of an administration center between the agglomerations of Saigon and Cholon. The rest of the areas were broadly zoned into segregated land activities.

In 1963, with the completion of the Bien Hoa Highway, political plans were made to:

1. Transfer the national administration function to Dalat.

2. Move the military area 30 kilometers north of Saigon.

3. Establish a university area at Thu Duc.

4. Establish an industrial district at Bien Hoa.

These proposals were, in part, carried out with some military areas established outisde the city, with the beginning of the university at Thu Duc and the industrial district at Bien Hoa.

Recent DGRUP Plans

Two other plans which bear mention are a 1965 plan for Saigon and parts of Gia Dinh, and a 1968 plan for Saigon. The first plan is for a design population of 2,500,000 persons; 1,700,000 of which are in Saigon. The later plan is only for Saigon and has the same target of 1,700,000 persons. Basically, these plans are modifications of the earlier plans. Significantly, parts of the plans have been approved, but not the whole concept. The plans are based on Western models, with segregated land uses.

The Doxiadis Study

In January 1965, Doxiadis Associates of Athens, Greece, submitted a report to the Government of the Republic of Vietnam about the Saigon Metropolitan Area. The document was prepared under a contract with the United States Operation Mission to Vietnam at the request of the Government of Vietnam. While primarily a housing study and not an urban planning program, the study did include recommendations for a proposed reorganization scheme for Prefecture Government; a 20- to 30-year development program for the metropolitan area; a comparative study of "house types" suitable for Vietnamese environmental conditions; and an inventory of technicians, draftsmen, and other skilled and unskilled workers available in Vietnam. The main emphasis was a pilot housing project for 1,000 units. A site study for Thu Thiem Peninsula (District IX, Saigon) was developed.

In their report, Doxiadis Associates also blocked out an area suitable for a year 2000 population of 9,200,000 which they projected, and discussed three alternatives for the integration of local government in the Saigon Area. In addition, they recommended staff augmentation for DGRUP, consisting of professional nationals and expatriates. [1]

Other Studies

American contractors, working independently of Vietnamese inputs, have hypostatized future land use plans in order to rationalize urban systems. These are, at best, academic exercises and not meaningful.

[1] It was pointed out that at least nine ministries provide facilities, and three more provide services to communities; and that the DGRUP, while assigned the function of coordinating and controlling physical development undertaken by each of the ministries, actually was only coordinating and controlling the implementation of plans and not the planning process. Noting policies and programs for economic development, but few policies and programs for physical development, the report recommended the formation of a national committee for housing and urban development reporting directly to the Prime Minister.

Summary and Conclusions

General. It is obvious from the fact that only 20 land use/street plans and programs of easement and construction have been finalized in the past decade, the existing urban planning process is not capable of producing plans fast enough to be effective in guiding the rapid urban growth throughout Vietnam. Enforcement of those plans which have been approved is questionable.

Specific. Vietnamese planning acknowledges the strengths and weakness of Saigon. Broad realistic proposals have been set forth in DGRUP's monograph, "Les Villes du Vietnam et la Metropole de Saigon," to ameliorate existing problems. It is recognized that the city must be decongested; practical written suggestions were made to achieve that goal. Unfortunately, the large-scale future physical plans produced for the Saigon area have little validity or practicability. The plans which depend on Western models and segregated land uses, have very little relation to Eastern life styles. More disturbing is that proposals for specific parts of the area disregard current trends and, idealistically, suggest grand vistas and boulevards in areas with growing industrial development. At best, all DGRUP's plans represent only thoughts and sketches of possibilities; there are few details, other than new road alignments, which can be implemented. The ability to develop realistic physical plans for larger areas seems beyond their existing technical capabilities. However, the urban and rural planning group has exhibited high professional competence in analyzing and planning for smaller areas within the city; their plans and report for the siting of the new parliament building are first class.[1] This very practical proposal is shown in Figure 14.

During this same period, there has also been a number of those bits and pieces which comprise urban infrastructure studied under American aid contracts. All these studies, while contributing to urban knowledge, have recognized the lack of available urban planning data. Lack of such data has prevented American contractors from carrying out what could have been Vietnamese-inspired urban objectives. In one case, an American design contractor, in what can only be termed desperation, hypostatized a year 2000 land use for the Prefecture in order to accommodate proposals for the specific urban service under study.

Part of this confusion lies with the lack of Vietnamese and American coordination. As indicated elsewhere, water, sewage and electrical systems; and medical and communication facilities have all been, or are being,

[1] The design was accomplished by Huynh Thi Kieu Noa and Doan Huu Khai of the Directorate of Reconstruction and Urban Planning.

PROPOSED
NEW PARLIAMENT
AND OFFICES
PRESIDENTIAL
PALACE
0m
100m
200m
300m
400m
500

studied for Saigon and other urban places in the Republic. Most of these American studies, when concerned with the same area, are not correlated. For example, three recent studies of urban infrastructure for the Saigon area have three differing study, or metropolitan,areas (Reference 14). The advantages of a consistent overall study area for studies of urban infrastructure should also be obvious. [1]

REFERENCES

1. Pavich and Mott, Urban Planning in Vietnam (extractions, in part), ADLD/USAID/VIETNAM, Mimeo. (July 1968).
2. Decree No. 22-KHKT (April 4, 1951).
3. Decree No. 17/MPR/ND (April 9, 1951).
4. Decree No. 570-MFEN/CAB (September 9, 1952).
5. Decree No. 17-TTP (November 14, 1955).
6. Arrete No. 385/TTP/KH (January 25, 1956).
7. Decree No. 119-TTP (September 11, 1956).
8. Arrete No. 50-BKTDT/VP/ND (January 16, 1957); Arrete No. 95-BKDTD/VP/ND (April 29, 1957); and Arrete No. 1962-BKTDT/VP/ND (August 23, 1957).
9. Arrete No. 32 TTP/NP (November 11, 1963).
10. Arrete No. 130-CCTG/QT/ND (June 3, 1969).
11. Sources: Directorate of Reconstruction and Urban Planning, Les Villes du Vietnam et la Metropole de Saigon, Mimeo., Ca., 11 pp., (1964); Doan Huu Khai, Director of Urban and Rural Planning, DGRUP; and Vuong Chi Ho, Chief of Reconstruction, Prefecture of Saigon, and others.
12. Decree JCI 1928, Office of the Governor General, French Indochina (October 27, 1928), p. 3125.
13. Saigon, a plan published in 1968 by the Directorate of Reconstruction and Urban Planning, Government of Vietnam.
14. Bogle, James E., The Coming Urban Crisis in Asia, Metcalf and Eddy, Inc., Engineers, Boston (March 1971), p. 42.

[1] Intensity of the studies could vary. Sewage studies might have a smaller area of impact than, say, a water or electrical report.

IV

PAST, PRESENT AND FUTURE URBAN AND POPULATION TRENDS IN VIETNAM

IV. PAST, PRESENT AND FUTURE URBAN AND POPULATION TRENDS IN VIETNAM

INTRODUCTION

If peace between the two Vietnams is realized, one of the hidden costs of the war will become apparent. The United States, in its pursuit of the war, has accomplished two objectives which will affect development in both Vietnams. First, it has defeated the Mao Tse Tung theory of a revolt against urban centers, by the urbanization of the people of South Vietnam; and second, in bombing North Vietnam, it has forced decentralization of the urban centers in that country. Given peace (and possible reunification), it is not hard to speculate on which of the two Vietnams may emerge politically and economically the stronger. The Republic's gross urban problems lie before it, while North Vietnam should be much better able to cope with fewer urban problems. Figure 15 shows the rapid, war-generated, population growth in the Republic's second city—Da Nang. The problems of Da Nang are easy to imagine.

Of course, the war cannot be totally blamed for the current urbanization in South Vietnam. Urbanization, which began to increase before the war started, will continue to grow in intensity after peace comes.

Much of the present urbanization in Vietnam is recent. At the turn of the century, Vietnam was a country composed almost entirely of self-sufficient villages, a number of small towns and five small cities which drew upon the surrounding countryside for their needs.[1] The conversion of the population, with essentially rural characteristics, to semiurban character has occurred within the last 30 years. The trend toward urbanization has accelerated within the last decade.

Regional Considerations

The Republic is part of the Southeast Asia region and, briefly, population trends in Vietnam have close regional parallels.

"There are four fairly new, and continuing, population characteristics of the Southeast Asia region:

1. The region's population, most fertile and with a declining death rate, is one of the world's fastest growing. The present annual growth rate reflects a population that is doubling every 25 years.

[1] Saigon, Cholon, Hanoi, Hai Phong, Hue and Tourane (Da Nang).

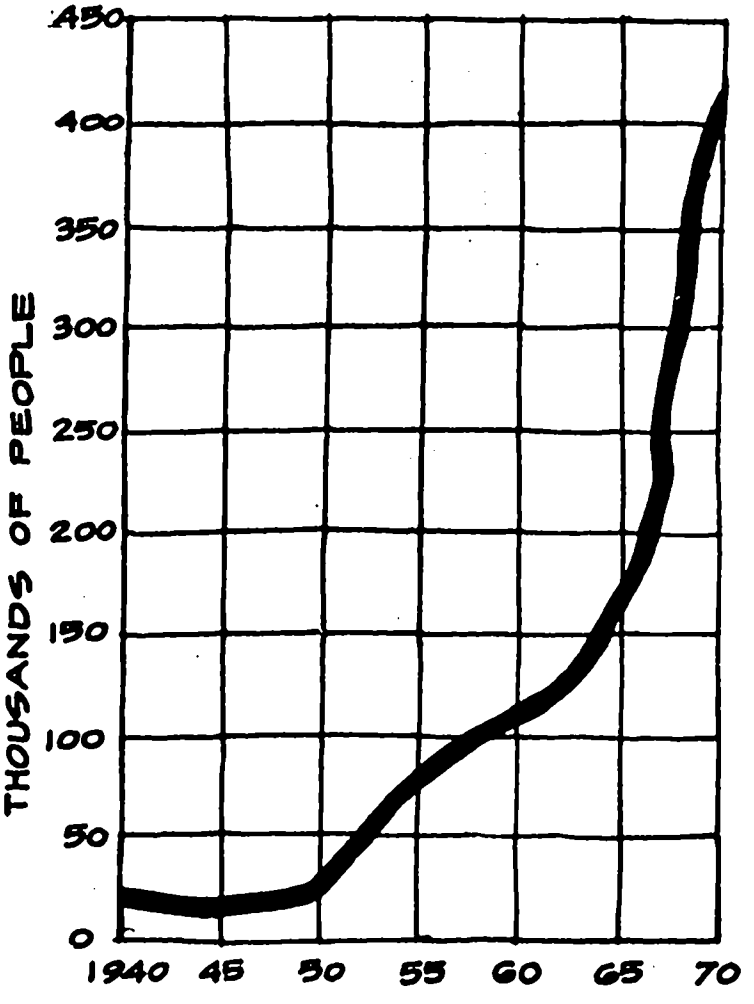


Figure 15. POPULATION GROWTH--DA NANG

2. The region's population is young, with an extremely large proportion—almost 50 percent—under 15 years old.

3. The region is just beginning to become urbanized, emerging from a rural character to a semiurban one.

4. The urbanization that is occurring is unbalanced, with a singular super, or 'primate' city dominating the urban structure of many Southeast Asian nations" (Reference 1). [1]

All these regional trends are true for South Vietnam. Regionally, it is estimated that by the year 2000, Southeast Asia could have as many as 500 million persons, or 1/12 of the anticipated world population. South Vietnam may have as much as 8 percent of the year 2000 total (the two Vietnams together may have as much as 17 to 20 percent). With the rapid increase brought on by declining death rates and high reproductive rates, Southeast Asia now has a high proportion of its population in the younger age groups.

Recently, the percentage of the population in Vietnam under 15 years of age was 45.8. Even larger, young populations can be expected once this youthful group matures.

Southeast Asia is in an early stage of urbanization. In 1950, only 10 percent of the region's population was urbanized, and most of that urbanization was concentrated in one city. This trend is also reflected in the Republic, where urbanization is unbalanced. In 1970, the Saigon Metropolitan Area accounted for 17.6 percent of the nation's total population and 52.1 percent of the total urban population. The population of the capital area was larger than the 50 next larger urban places in Vietnam combined. The city also outweighed its closest rival by almost eight to one.

Urban Definition

To know the scope and character of urban trends, defining what constitutes an urban settlement is necessary, although difficult. With the exception of a weak classification for autonomous cities, the government has not defined what constitutes a city, a municipality or an urban place. In addition, the partition of Vietnam in 1954, coupled with the lack of urban statistics, preclude all but a shallow and rudimentary exploration into urban trends in the Republic. The only available statistical classification that has urban meaning is the population of provincial capitals and the autonomous cities. These records go back only far enough to permit a short-term examination of trends.

[1] See references at the end of this chapter.

In the Republic, 11 urban areas are classified as autonomous cities.[1] In addition to the autonomous cities, there are 44 provinces, each with an administrative seat. In six provinces, the autonomous city also serves as a provincial capital. A majority of these small provincial seats politically consist of one or a group of contiguous villages with an urban infrastructure.[2] While these areas outwardly may have all the characteristics of a town structure, they politically are still villages. Quang Ngai, as an example, in Son Tinh District, is the capital of Quang Ngai Province. Quang Ngai, although it is spiritually a town, exists only as a place name.

The urban area called Quang Ngai is formed by Cam Tanh Village which has four hamlets. Other provincial capitals have some characteristics usually recognized as urban, but some are geographically extensive with a population more rural than urban.

However, lacking other data, or a better definition, these 51 places, composed of autonomous cities and provincial seats, are considered to be urban and will be used for the analysis. Details are presented in Appendix "P."

How valid is this definition? A computer study in 1969 on the development of an urban definition found the following (Reference 2):

	Concepts of Urban Definition	Estimated Percent of 1969 Population
1.	Autonomous cities and province capitals plus Gia Dinh Province	31
2.	Autonomous cities and villages of 25,000 or more	30
3.	Autonomous cities, provinces and district capitals	32
4.	Villages of 50,000 or more population; villages of from 5,000 to 49,999 with a density of 10 persons or more per hectare; and all provincial capitals	36

Although disagreeing with conclusions of the study, which chose the last concept, the closeness of proportions among the concepts is consoling.

---

[1] Autonomous cities are in reality small provinces: The name is a misnomer since they have no more autonomy in their operations than provinces. The mayor is appointed by the national government.

[2] The English word village is in Vietnam a generic term for a political subdivision. The political village is actually a subdistrict, and the groupings of human settlements within that subdistrict, or village, are termed hamlets. The Vietnamese hamlet would normally be known elsewhere in Asia (India, Thailand, Burma, Laos, Malaysia, etc.) and in the English language as a village. The definition of what separates a village from a hamlet by either Western or Eastern terms is difficult.

RECENT POPULATION OF VIETNAM[1]

The cost of Vietnamese independence from France was unity. Prior to 1954, available population statistics were for a single political unit. With independence came a shuffling of statistics and a net North Vietnamese population loss of 900,000 persons (Reference 4). From an estimated population of 13 million in 1900, the combined population of the Vietnams grew to an estimated 39,310,000 as of the end of 1970, of which South Vietnam's population of 18,770,000 was 47.75 percent of the total. (See Table 7 and Reference 5.)

Table 7. POPULATION GROWTH IN VIETNAM

Year	Average Annual Growth Rate for the Preceding Period Percent	Population (in thousands)		
		South Vietnam	North Vietnam	Total (in thousands)
1900	-			13,000
1915	0.95			15,000
1937	1.06			18,972
1954	3.83	← Partition →		26,000
1960	2.38	14,072	15,917	29,989
1964	2.68	15,900	17,500	33,400
1966	2.04	16,543	18,250	34,793
1970	3.05	18,770	20,540	39,310

The recent average annual growth rates, in keeping with those to be found in other Southeast Asian countries, are indicative of a fecund population.

RECENT URBAN TRENDS IN SOUTH VIETNAM

Due to partition, transposition of a large segment of the population, and the recent urbanization brought on by the war, exploration of urban trends beyond the last 10 or so years would have little meaning. Since the Republic was founded, there has been no census. However, population data are derived from registers kept in District (Phuong) offices. Most, but not all, Vietnamese Nationals comply with registration laws. Changes indicated by registered population in urban areas certainly can be used as a guage of magnitude of trends.

[1] Past, present and future order of population magnitudes were derived from an assignment with Metcalf & Eddy, Inc., in 1971 (Reference 3).

A 10-year trend of urbanization in South Vietnam is presented in Table 8; details are given in the appendices.

Table 8. URBAN-RURAL POPULATION AND AVERAGE ANNUAL GROWTH RATE REPUBLIC OF VIETNAM

Year	Urban Population			Rural Population			Total Population		
	In Thousands	% of Total	Annual Average Growth Rate (%)	In Thousands	% of Total	Annual Average Growth Rate (%)	In Thousands	% of Total	Annual Average Growth Rate (%)
1960	3,082	21.9	-	10,990	78.1	-	14,072	100.0	-
1970	6,339	33.8	7.5	12,431	66.2	1.3	18,770	100.0	3.0

The growth rates of the urban population are appreciably above the high national ones; the growth of the urban population has been well over 7 percent annually, while the national population has grown only 3 percent. The current urban growth rate marks a population which doubles itself every 10 years.

The Capital City

Urbanization in Vietnam is by no means evenly distributed. South Vietnam is a country of one great city: Saigon. For a long period, from 1937 to 1950, the population ratio of Saigon to national totals remained fairly constant. From 1950 onward, however, it has grown appreciably. The city also accounts for most of the national urban total. The urban greatness of Saigon is shown in Tables 9 and 10.

The 8.4 percent ratio of Saigon and its metropolitan area to both Vietnams compares remarkably to the 8.1 percent for Bangkok's 1970 ratio to Thailand's total population (Reference 6).

The recent and current ratio of the population in the SMA to totals for the Republic and national urban population are even more startling.

In addition, in 1970, the inhabitants of the Saigon Metropolitan Area outnumbered the residents of Da Nang, the Republic's second city, almost 8 to 1. These are simple facts, but they show that the Republic of Vietnam has an urban pattern based on the primacy of one city. Additional indicators of

Table 9. HISTORICAL RATIOS OF THE SAIGON METROPOLITAN AREA TO SOUTH AND NORTH VIETNAMS' POPULATION TOTALS

Year	Population (in thousands)		Percentage	
	SMA	National	SMA	Total National
1913-15	248	15,000	1.7	100.0
1937-39	540	18,972	2.8	100.0
1954	NA[a]	26,000	Partition	
1960	2,054	29,989	6.8	100.0
1970	3,300	39,310	8.4	100.0

[a] NA—Not available.

Table 10. RATIO OF THE SAIGON METROPOLITAN AREA TO SOUTH VIETNAM'S NATIONAL URBAN AND TOTAL POPULATIONS

Year	Population (in thousands)			Percentage		
	Saigon (SMA)	Total Urban	Total National	Saigon (SMA)	Total Urban	Total National
1960	2,054	3,082	14,072	14.1	21.9	100.0
1970	3,300	6,359	18,770	17.6	33.9	100.0

Saigon's dominance on the national urban scene can be seen in the following set of figures:

The SMA has 52.81% of all university students in South Vietnam;
100.00% of all taxes registered in South Vietnam;
38.98% of all South Vietnam's labor force in trade;
32.88% of South Vietnam's industrial labor force;
38.58% of South Vietnam's service labor force;
53.28% of South Vietnam's construction labor force;
81.50% of South Vietnam's utilities labor force;
94.75% of South Vietnam's transportation labor force;
54.08% of all banks in South Vietnam; and
52.10% of South Vietnam's urban population (Reference 7).

Other Urban Places

Considering size patterns of settlements that range from an infinite number of villages (common to Vietnam) to one great primate city, i.e., Saigon (common to the Southeast Asian Region), urban settlements falling between these extremes are sparse indeed. Today, those urban nodes in rural Vietnam hardly provide a real range or hierarchy of mature urban settlements of any consequence. Yet, there is reason to consider the fact that a change appears to be taking place.

Partly, because of the growth of population and partly because of the trend toward urbanization, there has been a strong drift away from the small and very small urban places to ones of moderate and large size. In 1960, 43.1 percent of all urban places contained less than 10,000 persons; and 64.7 percent were under 20,000. Both groupings together only held 8.6 percent of the 1960 population. Excluding the SMA, the next largest bulk of the 1960 urban population appeared in places of 20,000 to 50,000 persons. By the end of the next decade, a change had occurred. Again excluding Saigon, the bulk of the 1970 urban population now lived in larger sized centers of 50,000 to 500,000 persons. By 1970, a noticeable decline took place in urban areas under 20,000 persons, which then constituted only 29.5 percent of urban places and 2.8 percent of urban population. In 1970, centers with populations ranging from 100,000 to 500,000 persons more than tripled in number. Also, the ratio of national urban population within these centers strengthened considerably—increasing from 6.8 to 21.5 percent. (See Table 11.)

Table 11. PERCENTAGE DISTRIBUTION OF URBAN PLACES AND POPULATION 1960 AND 1970

Size	Population (in thousands)	Distribution of Number of Urban Places		Distribution of Urban Population by Size of Urban Places	
		1960	1970	1960	1970
Small	10 & under	43.1	11.8	3.5	0.4
Small	10-20	21.6	17.7	5.1	2.4
Moderate	20-50	27.4	27.4	16.1	7.6
Large	50-100	2.0	27.4	1.8	16.0
Very large	100-500	3.9	13.7	6.8	21.5
Primate	3,000+	2.0	2.0	66.7	52.1
Total		100.0	100.0	100.0	100.0

There is also another interesting aspect to urban trends. A gradual decline of the Saigon Metropolitan Area with respect to other urban centers. (See Table 12.)

Table 12. PERCENTAGE DISTRIBUTION OF URBAN POPULATION

Year	Saigon Metropolitan Area	Other Urban Places
1960	66.7	33.3
1970	52.1	47.9

While the position of Saigon, as South Vietnam's primate structure, is unquestionable, there is hope that a leveling process may be occurring. The ratio of Saigon to the nation's second city, Da Nang, also reflects this possibility. (See Table 13.)

Table 13. POPULATION RATIO OF THE SAIGON METROPOLITAN AREA AND DA NANG

Year	Saigon Metropolitan Area	Da Nang	Ratio
1950	1,500,000	30,000	50:1
1960	2,054,000	106,000	20:1
1970	3,300,000	412,000	8:1

This leveling-off process is also indicated in the urban-rank diagram for the first 10 urban places. (See Figure 16.) It is interesting to note that the Republic's 1960 distribution closely approximated that of 1970 Thailand. This would seem to indicate that South Vietnam's urban distribution posture is better, statistically at least, than Thailand's.

As was indicated in Table 10, over 33.9 percent of the people in the country were living in urban areas by December 1970, a gradual increase from the 21.9 percent of 10 years earlier. The disparity between urban-rural population ratios during the same period also closed. The urban distribution by region, shows that the percentage spread of urban population in all regions is increasing.[1] (See Figures 17 and 18.) The most remarkable changes

[1] South Vietnam has three major geographic regions: (1) The Mekong Delta which, in South Vietnam, is formed by the five branches of the Mekong River and three smaller rivers; (2) the Chain Annamitique, the southernmost spur of the rugged mountains which originate in Tibet and China; and (3) the Central Lowlands, which extend along the sea from the Demarcation Line southward to the Mekong Delta. The official limits for these geographical regions, as presented in the *National Statistical Year Book*, follow provincial boundaries and do not quite agree with natural limits.

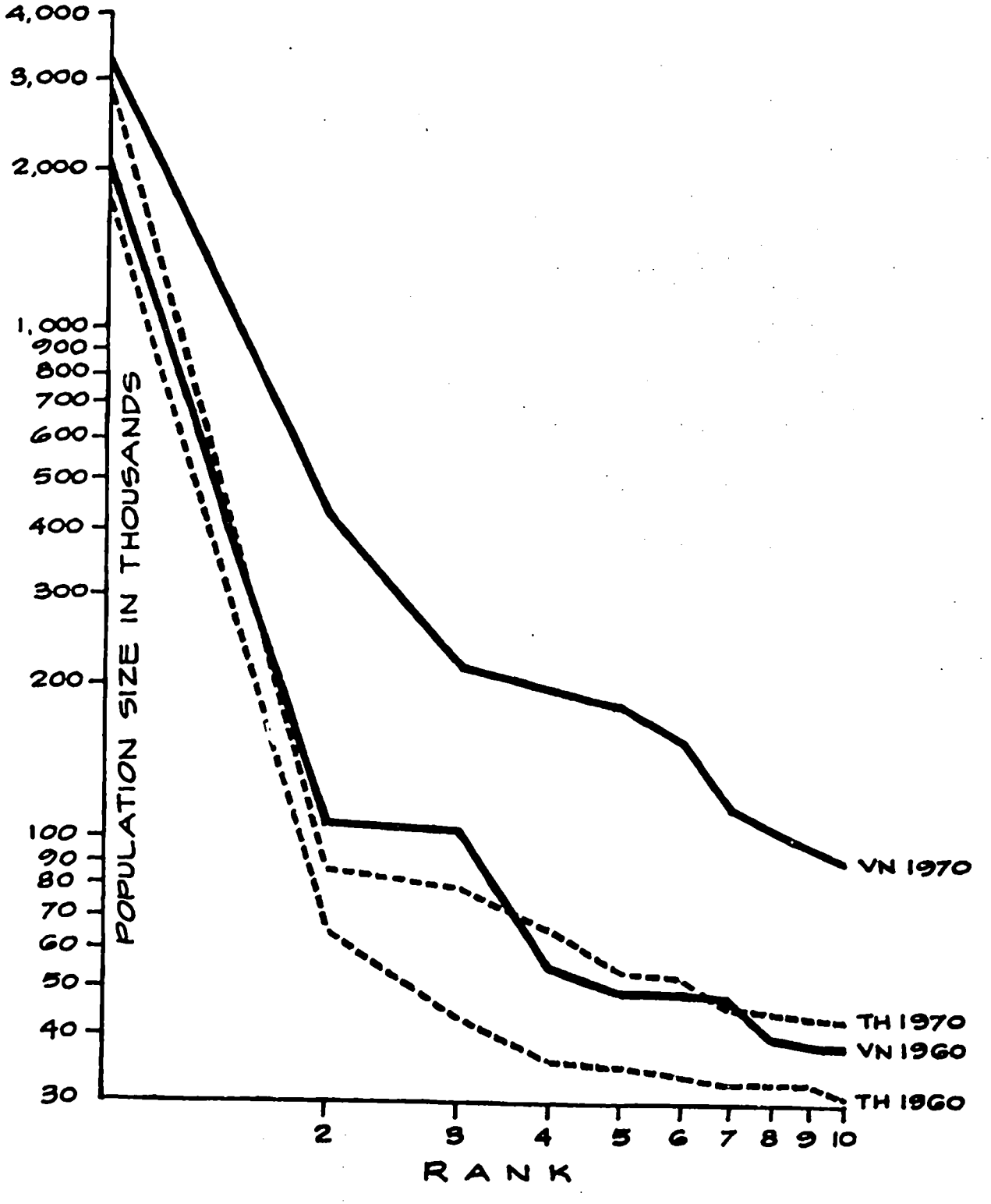


Figure 16. URBAN RANK SIZE DISTRIBUTION FOR SOUTH VIETNAM, 1960 TO 1970
(Thailand Added for Comparison)

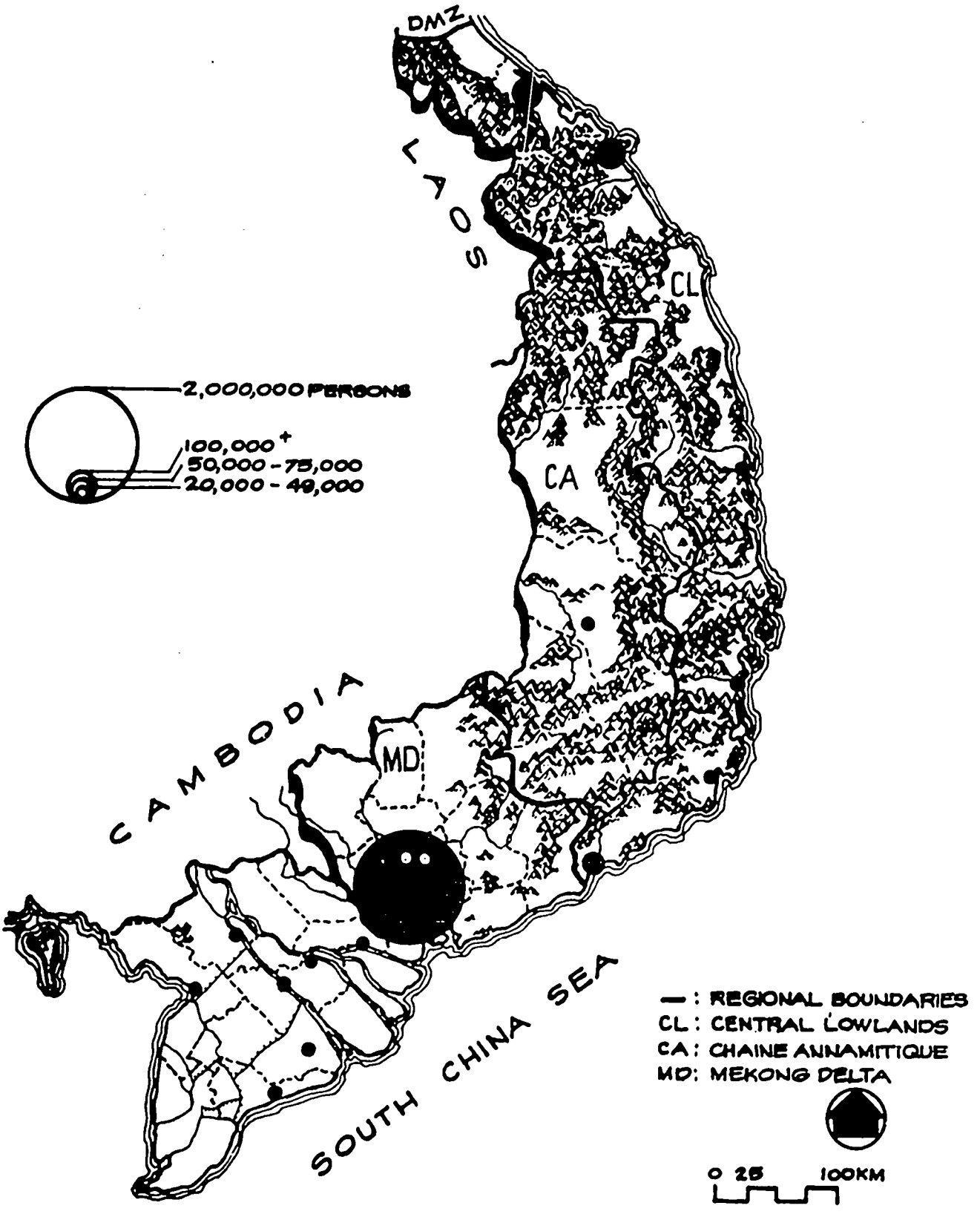


Figure 17. REPUBLIC OF VIETNAM – URBAN PATTERNS, 1960

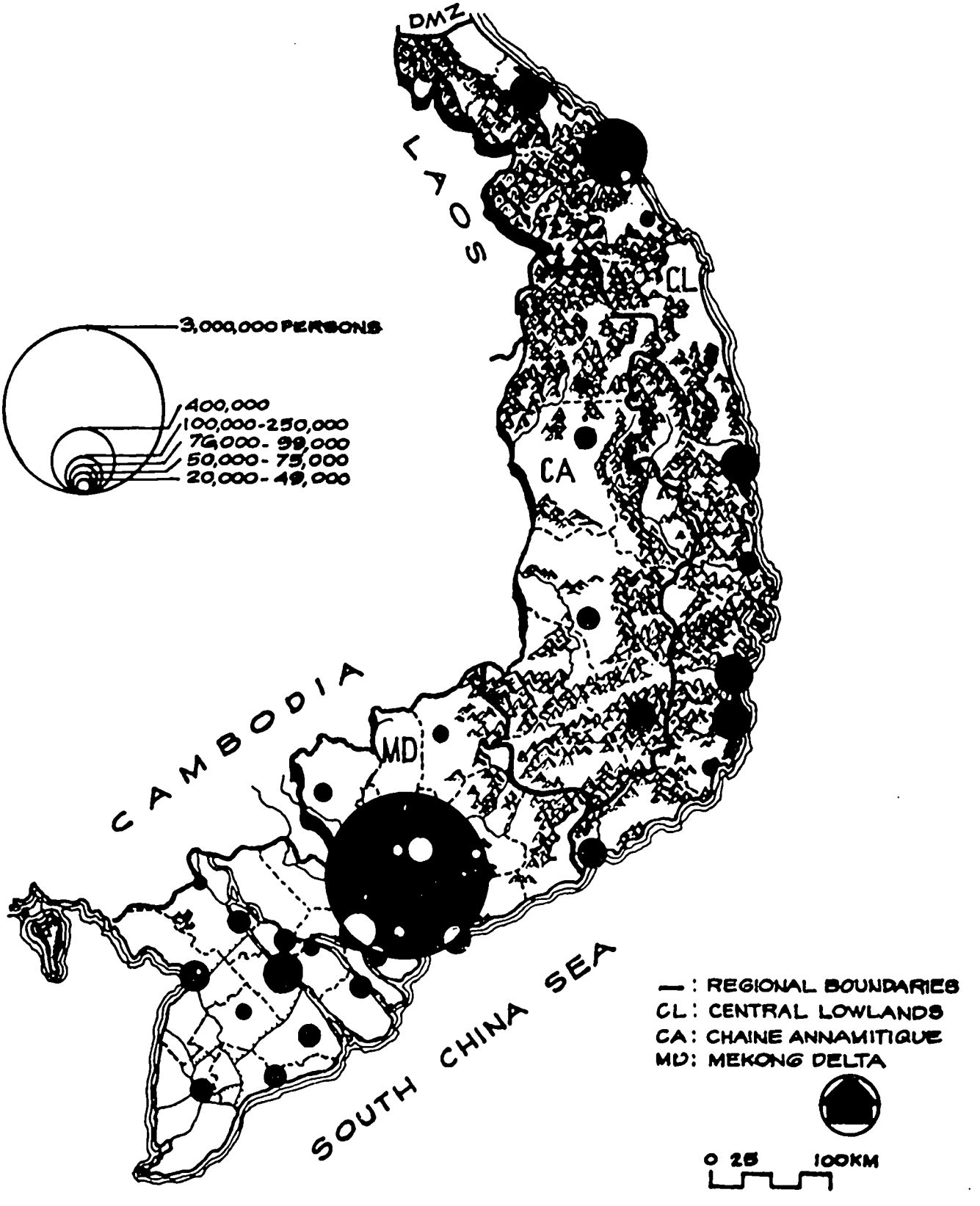


Figure 18. REPUBLIC OF VIETNAM – URBAN PATTERNS, 1970

have occurred in the Central Lowland region, where now over 27 percent of the population lives in urban areas as compared to 10 percent a decade earlier. This growth, of course, was war-generated. The foregoing, and other, facts are tabulated in Table 14.

Table 14. POPULATION IN URBAN AND RURAL PLACES AND URBAN-RURAL RATIO BY REGIONS, 1960 AND 1970

Year	Whole Country	Central Lowlands	Chaine Annamitique	Mekong Delta
I. Percentage of Each Region's Population Living in Urban Places				
1960	21.9	9.9	17.0	27.9
1970	33.8	27.6	31.4	36.5
II. Percentage Distribution of Total Urban Population by Regions				
1960	100.0	3.3	14.1	82.6
1970	100.0	4.5	22.7	72.8
III. Urban-Rural Population Ratio				
1960	1:4.6	1:9.0	1:4.9	1:2.6
1970	1:3.0	1:2.6	1:2.2	1:1.7

By population, the Mekong Delta dominates the urban structure primarily because of the capital city complex. This region, again because of Saigon, is strengthening its urban posture. However, if the capital city and its metropolitan area were extracted from urban totals in the Mekong Delta, then the urban population in the Central Lowlands would be slightly greater. In the period from 1960 to 1970, the rate of urbanization was much less in the Mekong Delta than in the other regions. (See Table 15.)

As has been previously pointed out, during the same period, there was an increase in the number of moderate and larger sized urban places. While

Table 15. AVERAGE ANNUAL PERCENTAGE INCREASE OF URBAN POPULATION BY REGION

Period	Whole Country	Central Lowland	Chaine Annamitique	Mekong Delta
1960-1970	7.5	12.7	10.7	6.1

the Central Lowlands and the Mekong Delta had about all of the 10 largest urban places in Vietnam, it is important to note that in 1970 the next four largest urban places (after Saigon) were in the Central Lowlands. (See Table 16.) In addition, in the 10 provinces immediately surrounding Saigon, urbanization was of a low profile. Despite the fact that two other centers (Tay Ninh and Vung Tau) near Saigon had been designated as autonomous cities, none of the urban areas in the 10 provinces ranked in the next nine places (after Saigon), either in 1960 or 1970. This pattern of the primate city dominating its immediate hinterland by the exclusion of larger urban areas near it, has parallels both in Thailand and India.

Table 16. DISTRIBUTION BY REGION OF THE 10 LARGEST URBAN PLACES IN SOUTH VIETNAM

Period	Whole Country	Central Lowland	Chaine Annamitique	Mekong Delta
1960	10	4	1	5
1970	10	5	1	4

In Table 17, the place name includes regional location; populations are also given for these urban areas. (See Figure 19.)

Table 17. TEN LARGEST URBAN PLACES IN VIETNAM, 1960 AND 1970

Rank	1960		1970	
	Place	Population	Place	Population
1	Saigon (MD)	2,054,200	Saigon (MD)	3,300,000
2	Da Nang (CL)	104,800	Da Nang (CL)	427,834
3	Hue (CL)	103,870	Hue (CL)	209,217
4	Phan Thiet (CL)	55,180	Nha Trang (CL)	194,146
5	Can Tho (MD)	49,310	Qui Nhon (CL)	179,676
6	Nha Trang (CL)	49,150	Can Tho (MD)	135,422
7	Da Lat (CA)	48,840	My Tho (MD)	115,847
8	My Tho (MD)	40,070	Cam Ranh (CL)	102,174
9	Bac Lieu (MD)	39,737	Rach Gia (MD)	98,792
10	Khanh Hung (MD)	39,690	Da Lat (CA)	89,656
Total		2,584,847		4,852,784
National Urban Totals		3,081,630		6,338,672

CL = Central Lowlands CA = Chaine Annamitique MD = Mekong Delta

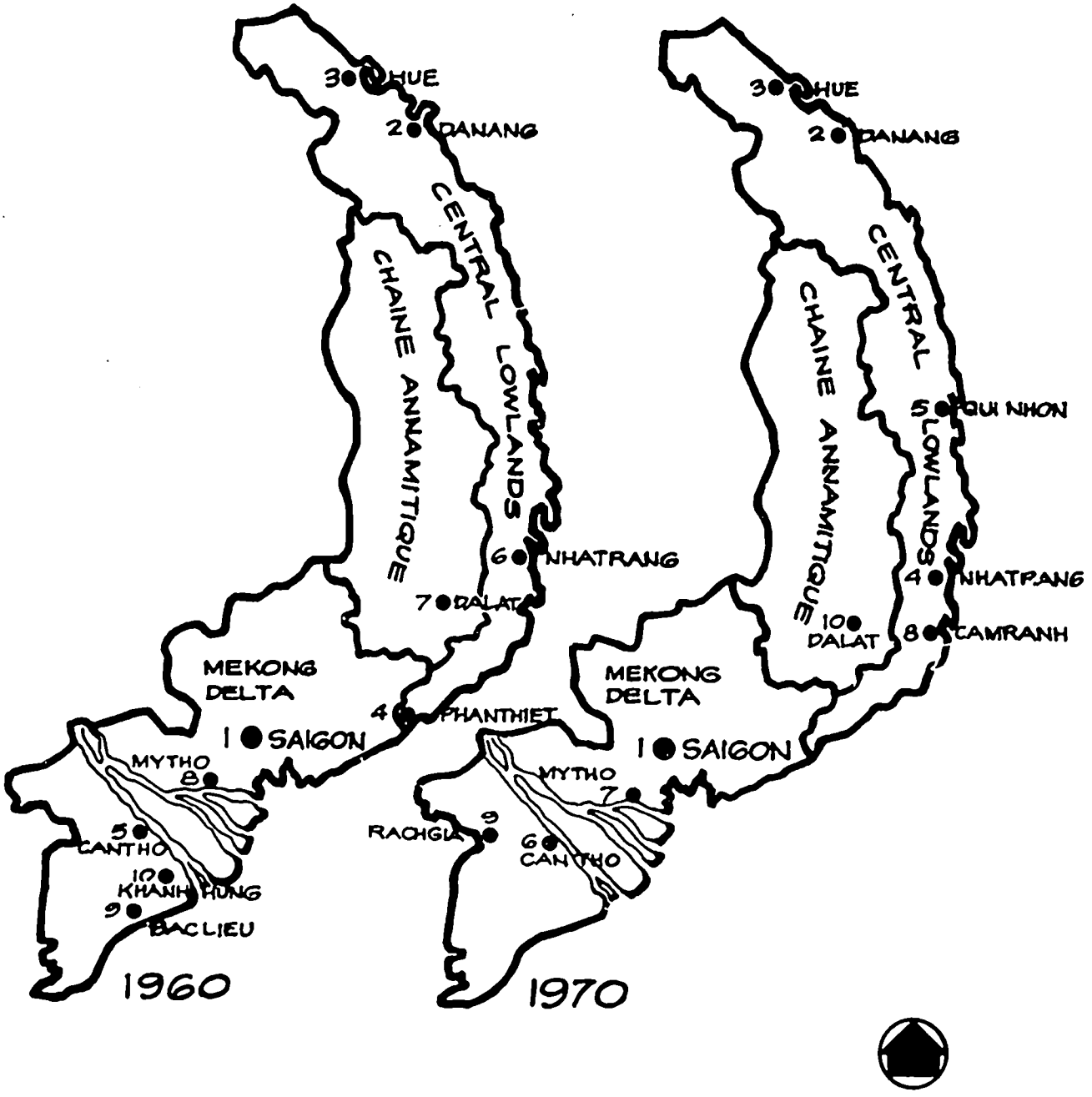


Figure 19. LOCATION OF THE 10 LARGEST URBAN AREAS – SOUTH VIETNAM, 1960 AND 1970

More importantly, the population ratio of Saigon to the next four largest urban places in the Republic has declined. This is a significant trend, which can best be understood when compared to neighboring Thailand. (See Table 18.)

Table 18. POPULATION RATIOS OF THE PRIMARY (CAPITAL) CITIES OF SOUTH VIETNAM AND THAILAND TO THE NEXT FOUR LARGEST URBAN PLACES

Year	South Vietnam	Thailand[a]
1960	1:6.6	1:9.8
1970	1:3.3	1:10

[a] See Reference 6.

FUTURE URBAN EXPECTATIONS

Future National Populations

The projected year 2000 population for South Vietnam is 41 million (Reference 1). Projected populations, quinquennially, to the year 2000 are given in Table 19. Recent and projected population growth is shown in Figure 20.

Table 19. POPULATION PROJECTION FOR SOUTH VIETNAM

Year	Population
1970	18,770,000
1975	21,626,000
1980	24,940,000
1985	26,604,000
1990	32,485,000
1995	36,641,000
2000	41,081,000

Probable Urban-Rural Distribution of Year 2000 National Population

The following should be considered as an attempt to indicate order-of-magnitude population distribution into urban-rural areas. The phenomenon of the continuing urbanization of Asia and Southeast Asia has been recognized. The year 2000 projections of urban-rural population distribution made by

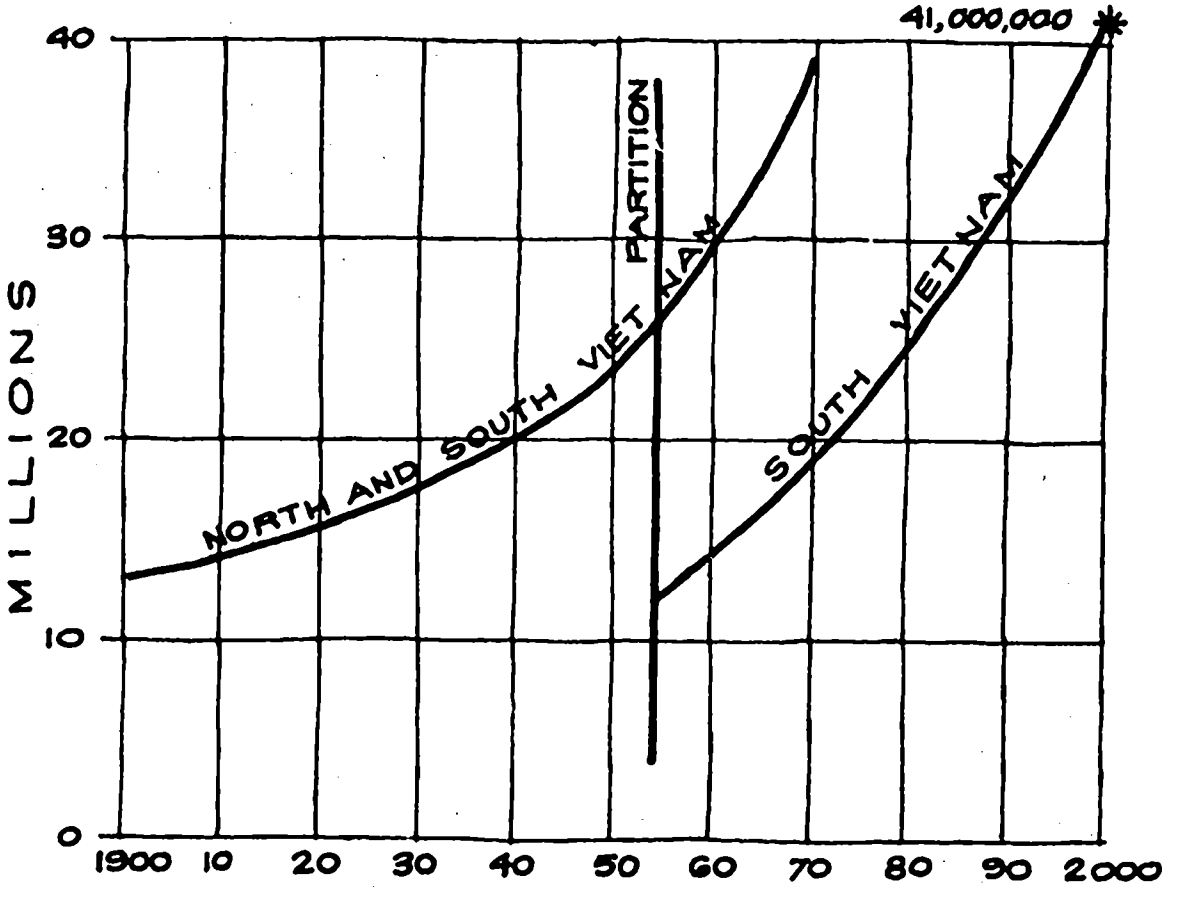


Figure 20. RECENT AND PROJECTED POPULATION GROWTH IN VIETNAM

Hoyt for Asia would seem to be an appropriate guide for Vietnam (Reference 8). An urban-rural distribution of Vietnam's possible year 2000 population is given in Table 20.

Table 20. SOUTH VIETNAM'S POSSIBLE YEAR 2000 URBAN-RURAL POPULATION DISTRIBUTION

Size of Urban Center	Percent of Total Population	Population (in thousands)	Probable Number of Such Centers
1,000,000 plus	20	8,200[a]	1
500,000-999,000	6	2,460	3
300,000-499,000	5	2,050	5
100,000-299,000	8	3,280	8
Subtotal, Urban Center Over 100,000	39	15,990	17
Villages and Towns of 2,000 to 5,000-99,000	11	4,510	--
Rural Areas and Villages of Less Than 2,000 to 5,000	50	20,500	--
Total	100	41,000	

[a] Assumed to be contiguous, urbanized areas; the projection for Saigon and its total Metropolitan Area is higher.

From the rough approximation in Table 20, we can assume that by the year 2000 about 50 percent of the total population of the Republic will have become urbanized, living in population centers of 20,000 or more. The continuance of Saigon as the nation's primate city is indicated in the population projection for cities in excess of 1 million. In view of present trends throughout Southeast Asia, there will be only one city in this category: Saigon.

Population Projection for the Saigon Metropolitan Area

Projected populations and average annual rate of increase for the Saigon Metropolitan Area to the year 2000 are presented in Figure 21 and Table 21 (Reference 9).

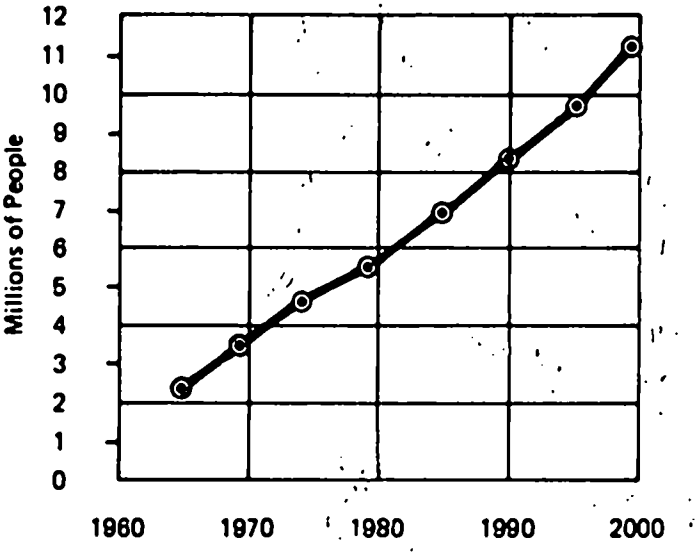


Figure 21. POPULATION PROJECTION FOR THE SAIGON METROPOLITAN AREA

Table 21. POPULATION PROJECTIONS FOR THE SAIGON METROPOLITAN AREA WITH AVERAGE ANNUAL RATE OF GROWTH IN PERCENT

Year	Population (in thousands)	Average Annual Rate of Growth for the Preceding Period (percent)	
		5 years	10 years
1965	2,353[a]		
1970	3,300	7.0	
1975	4,364	5.7	
1980	5,562	5.0	5.3
1985	6,935	4.5	
1990	8,400	3.9	4.2
1995	9,845	3.2	
2000	11,230	2.7	2.9
Average annual rate, 1970-2000			4.2

[a] Source: NIS/USAID/Urban Development.

Comments

Projected year 2000 population for the Republic is 41 million which appears to be reasonable. The average annual growth rate of 2.48 percent to the year 2000, as derived from the projection, conforms reasonably well to rates of growth projected for other Southeast Asian countries. When estimates for Saigon are analogized with estimates for other Asian cities, similarities of population growth can be seen. Year 2000 estimates for Bangkok and Manila, neighboring Southeast Asian cities, are as high as 11 million and 14 million, respectively.

Population estimates for selected Asian cities are presented in Table 22 for comparison (Reference 10).

Table 22. FUTURE POPULATION PROJECTIONS FOR SELECTED ASIAN CITIES

City	Estimated		Projected		
	Year	Population	Year	Low	High
Bangkok	1970	2,914,000	2000	7,289,000	11,845,000
Bombay	1968	5,400,000	1991	9,800,000	14,000,000(2000)
Calcutta	1971	8,627,000	1986	11,220,000	13,410,000
Delhi	1970	4,200,000	1981	6,300,000	
Manila	1970	3,900,000	2000	14,500,000	
Saigon	1970	3,300,000	2000	11,230,000	

Thus, the projection for Saigon clearly conforms with trends elsewhere in Asia.

SUMMARY

Today, Saigon, the capital, with over three million inhabitants in its metropolitan area, accounts for over one-half of the nation's urban population and 17.6 percent of the total national population. There are sure indications that this unbalancing of urban growth, in relation to the nation's future growth, will not only continue but will grow disproportionally wider. In the year 2000 there may be an urban population in the SMA of 11,230,000 persons and a national population of 41 million. Consider this: if the projected population figures for the year 2000 are realized, Vietnam will have about 27.4 percent of its total population concentrated in one huge urban agglomeration.

Therefore, it is difficult, if not impossible, to consider the nation's urban future without considering Saigon's overwhelming dominance on the national scene.

The Republic's ability to respond adequately to Saigon's projected growth is extremely questionable. The cost to the available economic resources of providing infrastructure for almost one-third of the population in one huge megalopolis needs to be understood. It will become quite evident, quite soon, that this one issue will probably far outweigh all future development plans for Vietnam.

Saigon is illustrative of Jefferson's thought that once a city becomes primate, inertia tends to keep it that way (Reference 10). However, in Vietnam the growth of moderate- and large-sized urban areas gives hope that a new urban pattern may be emerging—one that could be cultivated.

It would seem that, with the demonstrated decline of population ratios between the SMA and the next four largest urban places of the Republic, there hopefully remains the latency of further regional urban growth: growth that will decrease population ratios between Saigon and these towns even more, and will provide cities for the regions.

REFERENCES

1. Bogle, James E., Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, Metcalf and Eddy, Inc., Engineers, Boston (1971), p. 13.
2. Johnson, George, Development of Urban-Rural Definition in Vietnam 1968, typewritten paper, 9 pp.
3. Bogle, op. cit.
4. Buttinger, Joseph, The Smaller Dragon, A Political History of Vietnam, Praeger, New York (1966), pp. 53-54.
5. Bogle, op. cit. p. 27.
6. Bogle, James E., Urbanization in Thailand, 1971, International Bank for Reconstruction and Development (October 1971), p. 4.
7. National Institute of Statistics, Vietnam Statistical Yearbook, 1970, Volume 16.
8. Hoyt, Homer, World Urbanization Expanding Population in Shrinking World, Urban Land Institute Technical Bulletin No. 43, Washington, D. C., Table 17 (1962), p. 50.

9. Bogle, op. cit. p. 75.

10. Sources:

Bombay, Bombay, Marg Publications, p. 33; Calcutta, Calcutta Metropolitan Planning Organization (CMPO). Basic Development Plan—Calcutta Metropolitan District, 1966-1968, Government of West Bengal, India (1966), p. 69; Delhi, Town and Country Planning Organization, Government of India, What Should be the Population Size of Delhi in 1981 (April 1969), p. 5; Manila, Metcalf and Eddy Limited and Engineering Development Corporation of the Philippines, Second Stage Improvement Program for the Manila and Suburbs Waterworks System, Vol. I (June 1968), p. 49.

11. Jefferson, Mark, "The Law of the Primate City," Geographical Review, No. 29 (1939), pp. 226-232.

V

PROBABLE FUTURE GROWTH DRIFTS AND FORESEEABLE RESULTS OF CONTINUING TRENDS AND THE LACK OF EFFECTIVE PLANNING FOR THE SAIGON METROPOLITAN AREA

V. PROBABLE FUTURE GROWTH DRIFTS AND FORESEEABLE RESULTS OF CONTINUING TRENDS AND THE LACK OF EFFECTIVE PLANNING FOR THE SAIGON METROPOLITAN AREA

INTRODUCTION

Future urban trends in a metropolitan area are derived from present conditions. A look at Saigon, today's troubled metropolis—cast into a future role as a larger, and perhaps even more mature, urban structure—results (if comparisons are made with other Southeast Asian and world cities) in some postulations of future trends. These form both a loose matrix for possible plans and, more importantly, in Saigon's case, serve to portend misfortune.

With cities throughout the world moving into a period of ever-increasing growth and crises of great diversity, the anticipatory results of an unplanned future are unthinkable. Yet, what would be the result of a continuation, or slight diminution, of present trends? The following population projections; distribution; and hypostatized economic, environmental and social considerations are presented for Saigon and its Metropolitan Area.

ROLE OF THE CITY

Saigon will remain as the primate city of South Vietnam, whether it will remain as the capital is a question with many ramifications.[1] Conceivably, if reunification occurs, Hue may reassume its former role. If reunification doesn't occur, the capital may be moved to another site near, but still without, the Metropolitan Area. This latter thought has been proposed many times by various government departments. Indeed, given the poor prognostications of the future urban environment, the government may be forced to relocate. However, Saigon in its role as a primate urban structure will remain as a military strongpoint, and the center for transportation, commercial, financial, and institutional activities for quite a number of years.

PHYSICAL TRENDS

Military Presence

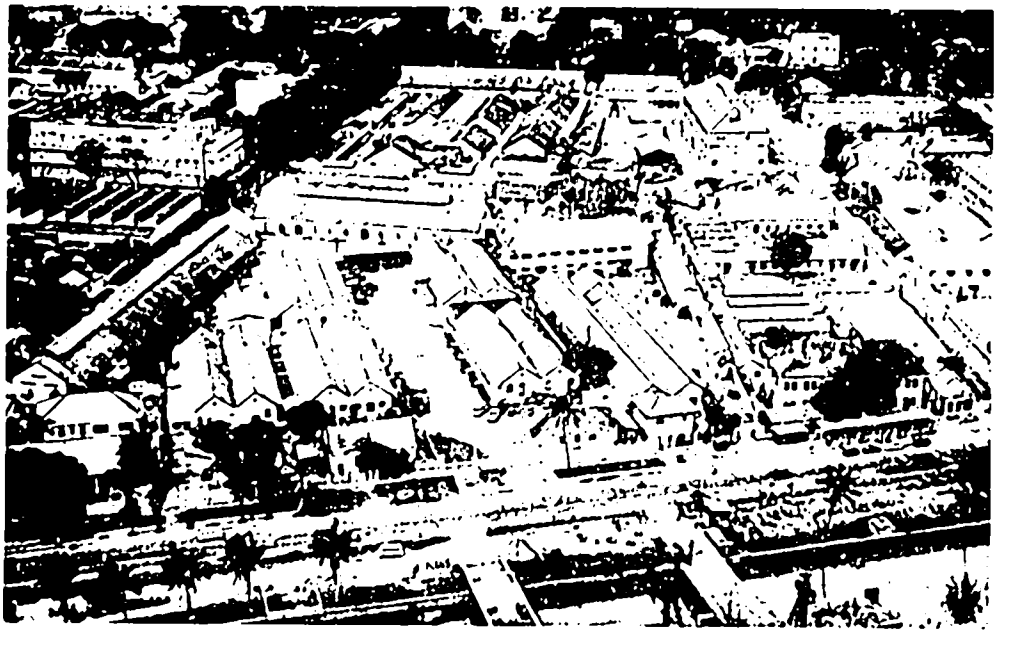
An urbanist can only look with envy at the large amount of choice military lands situated within the SMA. Speculating, or even hypostatizing, their

[1] In a future 30-year context. It is reasonable to assume that if anything might happen, reunification of the two Vietnams probably will. If that political event occurs, reunited Vietnam may have two primate cities, Saigon and Hanoi, serving a total population of some 90 million people by the year 2000. More than one primate city is quite possible; India has three primate cities today serving large unurbanized hinterlands.

civilian reuse would seem futile. The military profile of the city will remain high—a characteristic of primate capital cities with unstable political conditions. Each national service branch requires area within the city as a politico-military base. Traditionally, the primary function of these bases is to support, oppose or neutralize existing governments or their opposition. It is not expected that the military will remove itself from Saigon and lose its power structure. The only exception would be a domination by force of one branch over the other services, which may force relocation of a weaker service branch. Hence, within the foreseeable future, it can be expected that:

1. The Air Force will remain, maintain control of Tan Son Nhut Air Base and resist relocation to, say, Bien Hoa. In fact, it will be easier (and much more realistic) to move the civilian activities to Bien Hoa than the military ones.

2. The Navy will keep its base in central Saigon.

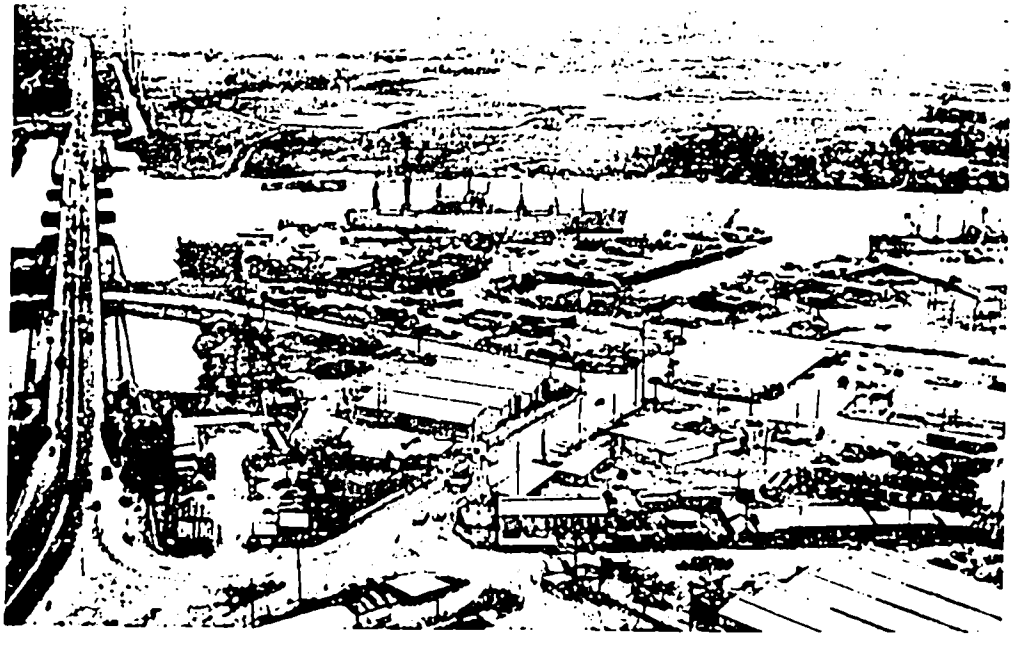


Navy base in central Saigon.

3. Army and national police enclaves scattered throughout the city will be maintained.

Existing Infrastructure

Scarcity of capital precludes provision of much new infrastructure. In some cases in the past, this lack of capital has been a saving grace. Lovely, old buildings have been retained and are in use today as government offices, whereas in Western cities they would have been destroyed and replaced. Some major facilities that were poorly sited, or have come to interfere with the growing city will unfortunately be retained. Among the latter is New Port which, due to security pressures, was placed up river from the city, far from more desirable locations down river.[1] Bridge construction downstream, across the Saigon River, has now become prohibitive in cost because of clearance requirements.[2]



Northern edge of New Port showing the Bien Hoa Highway Bridge across the Saigon River. Note should be taken of (1) the infrastructure and accesses to New Port and (2) the open character of the land across the river.

Central Saigon

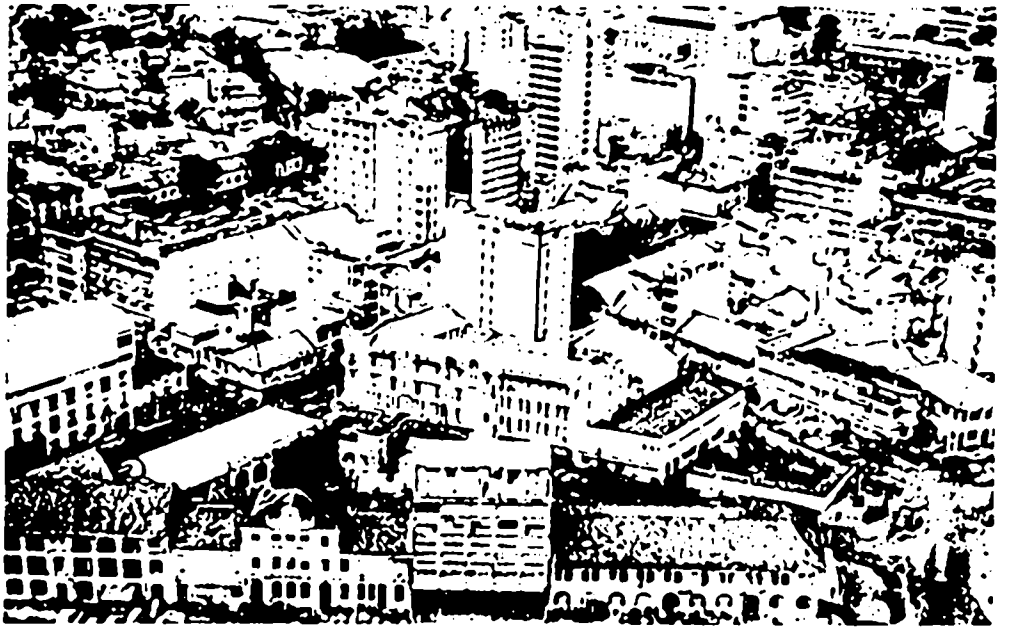
The French core will continue to be the downtown area of Saigon, with new commercial growth and other center-city-type activities being gradually

---

[1] In the sense of accommodating growth of the city. There are also indications ..... New Port's pile foundation has subsided 15 centimeters recently; however, this should not prevent its continuing use.

[2] Tunnels are being considered but the costs are also high; the technology is new.

assimilated. For a while at least, this formal, but loosely structured area, will grow by increasing its density of use even more than it did in the past decade. The original, fine scale will be destroyed with the development of a number of high-rise buildings. After the process of increasing density of use has taken place, the central area of Saigon will expand into adjacent areas at the expense of other land uses.



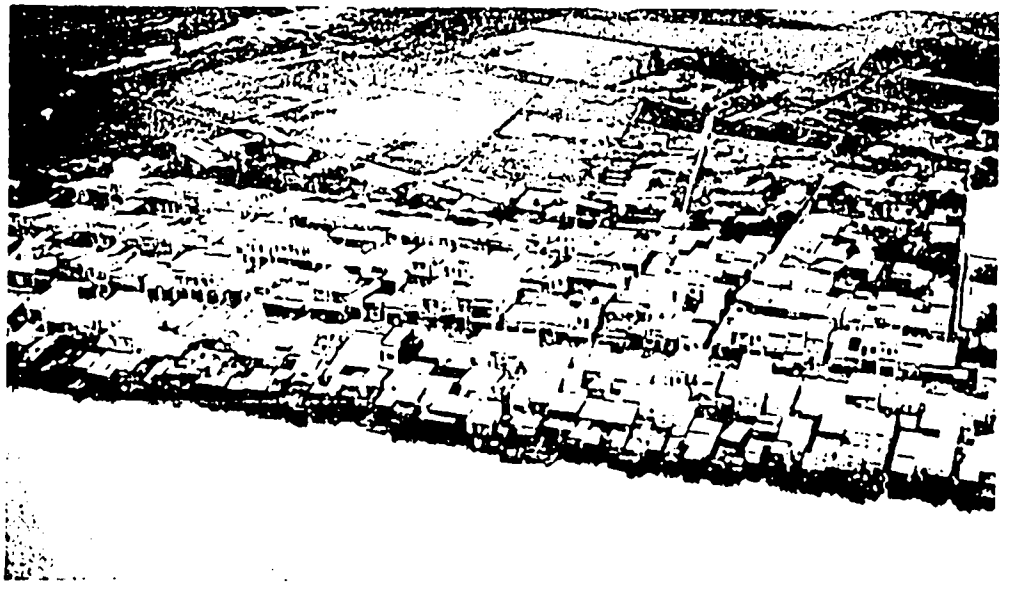
Tu Do Street in downtown Saigon, showing the new high-rise structures amidst the old lower, tiled roof buildings.

Squatters

Squatters will become a major problem. As the pace of wartime activities slows, military and civil installations in the more rural parts of the Saigon Metropolitan Area will become targets for belligerent, hard to displace, interlopers. These people will cling to that gained illegally, most tenaciously, thereby disrupting both normal growth patterns and the intelligent urban reuse of the surplused facilities.

Topographic

The swampy lands to the west and south of the city will become urbanized very slowly, if at all.



Settlement in District VIII, Prefecture of Saigon, squeezed between the Doi Canal and the marshes to the south.

Directional Development of the City as the Population Grows and as the City Moves Through Time

Generally, there will be five main movements, or migrations, in the Saigon area as it grows.

1. Urban growth will first move in lines of least resistance.

    a. Northwest of Saigon, following existing roads and past trends. Urbanization here will continue to occupy sites on islands of ancient alluviums. These sites, now encrusted with rural-type settlements, will evolve into densely populated urban suburbs. Eventually, less desirable sites on recent alluviums between these suburbs will begin to fill in. An important result of these growth patterns will be the pincering of Tan Son Nhut Airfield, and the urban encroachment of its approaches.

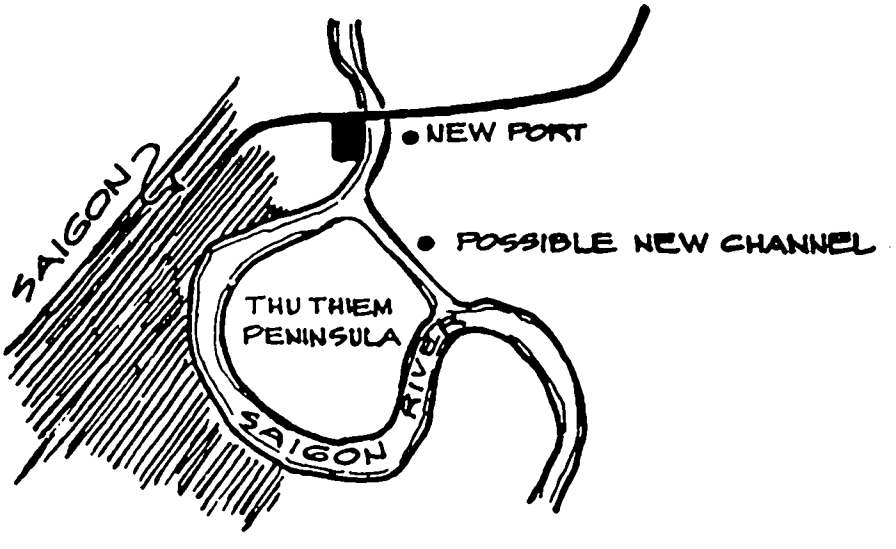
    b. Along the Bien Hoa Highway toward the east and northeast.

    c. Along, and in areas contiguous to, the new Saigon circumferential highway, and other highways yet to be built.

2. Later, urban growth will cross the Saigon River, bypassing valuable orchard lands. [1] Lowlands with good access will be filled and used (a process that is already in evidence). [2]

3. International civil aviation activities will, in all likelihood, first be transferred to Bien Hoa, and much later to another new site in the area.

4. If New Port is retained, a new access channel may be cut across the neck of Thu Thiem Peninsula, making connections and development of the peninsula possible, with low level bridges across the Saigon River. [3]



5. Later movements will be into the orchards. (See Figure 22.)

SIZE-POPULATION PARAMETERS AND DISTRIBUTION [4]

Population

Outmigration. The rural immigrants that flooded into the city in the 1950s and 1960s will not return to ancestral villages and paddies. They are now

---

[1] This development would parallel the growth patterns of Bangkok, whose orchard lands are mostly undeveloped although contiguous with city growth.

[2] This process is not necessarily bad, since land fill activities in Asian Delta Areas use a great deal of unskilled labor; during Bangkok's expansion in the sixties, land filling seemed to be the city's biggest industry.

[3] This thought has been expressed by others: on the surface and for many reasons; i.e., the provision of fill for the development of Thu Thiem Peninsula, the inexpensive construction of low level bridges across the Saigon River, which will assist with the continuing use of New Port; and the navy facilities on the Saigon River. The idea of a bypass channel would appear to be reasonable.

[4] The majority of the projections and assumptions for this section of the chapter come from an assignment with Metcalf and Eddy, Inc., in 1970 to 1971.

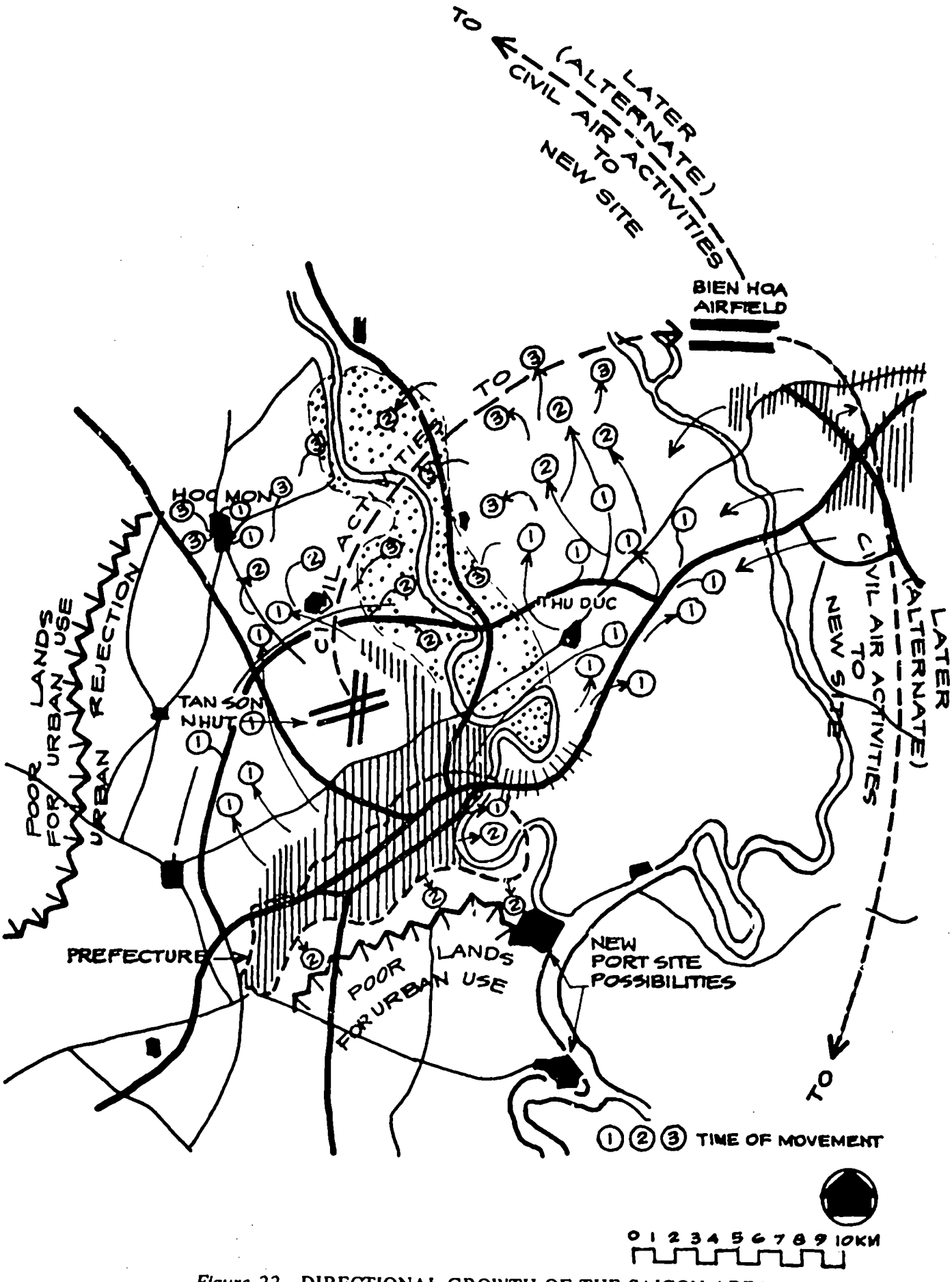


Figure 22. DIRECTIONAL GROWTH OF THE SAIGON AREA – MOVING FORWARD IN TIME

older: the bucolic life forgotten by the children they brought and unknown to the children they begot in the city. They have learned to cope with, to draw from and even to like the city and its opportunities. Their roots have been successfully transplanted.

Immigration and Population. Rural to urban immigration will tend to abate; population growth, in the Saigon area, will not. The root cause is high urban fertility. Unless the government intervenes with strict controls, the year 2000 population projection of 11,230,000 will hold (Reference 1).[1] Projected population for the SMA, by decennium to the year 2000, is presented in Table 23.

Table 23. POPULATION PROJECTIONS FOR THE SAIGON METROPOLITAN AREA

Year	Population
1970	3,300,000
1980	5,562,000
1990	8,400,000
2000	11,230,000

Urban-Rural Distribution

It was estimated that in 1960 about 79 percent of the SMA population was urban; the rest, rural (Reference 2). By 1970, this ratio had changed to 87 percent of the population urban and 13 percent rural. Table 24 contains estimates of the changing dimensions of the urban-rural relationship (Reference 3).

Table 24. ESTIMATED URBAN-RURAL POPULATION PROJECTIONS FOR THE SAIGON METROPOLITAN AREA, 1960-2000

Year	Urban Population		Rural Population		Total Population (in thousands)
	Population (in thousands)	Percent of Total	Population (in thousands)	Percent of Total	
1960	1,623	79	431	21	2,054
1970	2,857	87	443	13	3,300
1980	5,062	91	500	9	5,562
1990	7,875	94	525	6+	8,400
2000	10,669	95	561	5	11,230

[1] See references at the end of this chapter.

It will be noted that the actual number of rural inhabitants is expected to increase by only a small amount over the next 30 years.

Geographical Distribution (Reference 4)

Of the 83,085 hectares (rounded) which comprise the SMA, 63,335 were considered rural in 1970. Thus, approximately 75 percent of the land was in rural use and 25 percent in urban use. Average densities in 1970 were 145 persons per hectare in urban areas and seven persons per hectare in rural areas. By the year 2000, with more profitability expected from new agricultural techniques, rural densities may increase. Certain rural areas close to Saigon will certainly become urbanized, taking land out of agricultural production and thereby increasing rural densities. In addition, rural population may include family members who live on the farm but work in the city. Among urban dwellers, the tendency toward higher densities will increase, as projected low incomes, increasing population and scarcity of transportation combine to encourage the tendency to overuse the land rather than to spread out.

The present overall density of the Prefecture is approximately 300 persons per hectare. Year 2000 urban population in the SMA may be expected to reach this density. Table 25 contains projected estimates of land areas in urban and rural use, with corresponding densities; and Figure 23 shows a hypostatized year 2000 urban-rural distribution.

Table 25. ESTIMATED URBAN AND RURAL DENSITIES AND LAND USE IN THE SAIGON METROPOLITAN AREA, 1970-2000

Year	Population (in thousands)			Density (p/ha)			Land Area (hectares)		
	Urban	Rural	Total	Urban	Rural	Average SMA	Urban	Rural	Total
1970	2,857	443	3,300	145	7	40	19,750	63,335	83,085
1980	5,062	500	5,562	200	9	67	25,300	57,785	83,085
1990	7,875	525	8,400	250	10	100	31,500	51,585	83,085
2000	10,669	561	11,230	300	12	135	35,500	47,585	83,085

Infrastructure Costs

In the SMA, with a population of 11,230,000, the implications of massive short- and long-term capital outlays for the provision of new urban infrastructure are very clear. There are other problems: the aging city core,

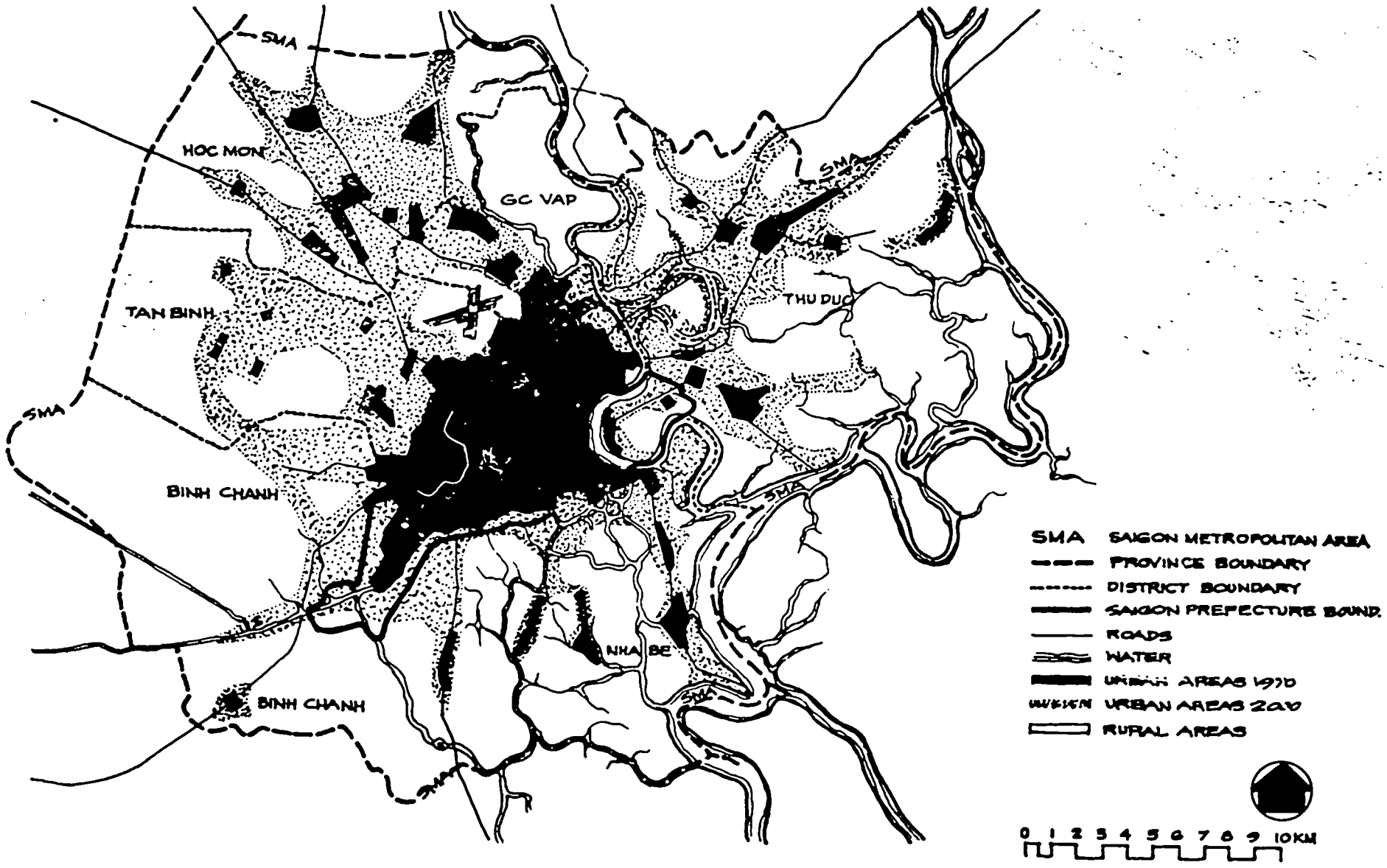


Figure 23. POSSIBLE YEAR 2000 URBAN-RURAL POPULATION DISTRIBUTION IN SAIGON METROPOLITAN AREA

which has already been outpaced by the population; the inadequate sanitary sewers, which have nearly broken down; and the need for repair or replacement of many of the public buildings, already inadequate for an expanding government and student population. Not only will new infrastructure be needed, but massive renewal may also be required if the city is to provide properly for its people's needs.

The cost to provide infrastructure for a city of 11,230,000 persons cannot be fully measured. There are too many inputs of a specialized nature and many areas of overlapping between the private and public sectors of the economy. However, order-of-magnitude costs for infrastructure, excluding housing, could range between $6 billion and $8 billion, as shown in Table 26 (Reference 6). Housing may cost as high as another $9 billion (Reference 5).

Table 26. POSSIBLE FUTURE INFRASTRUCTURE COSTS FOR THE SMA

Year	Cumulative Additional Population After 1970 Base Year	New Urban Infrastructure Costs (in US$ million)[a]	
		At $720 Per Capita	At $1,000 Per Capita
1980	$2,262,000	$1,628	$2,262
1990	5,100,000	3,672	5,100
2000	7,930,000	5,710	7,930

[a]See Reference 6.

The financial strain placed on the Republic to provide urban infrastructure for the capital city in the amounts of $4 to $15 billion would seem unbearable.

ENVIRONMENTAL CONSIDERATIONS

Economic Environment

Expressed in regional terms, but applicable to the Republic and to Saigon, the following can be expected: Population growth in Southeast Asia is not expected to slow down; as a result, it is predicted that the Gross National Product (GNP) per capita for this region will be very low, in fact, the second lowest in the world. It is projected—in terms of 1965 U.S. dollars—that by the year 2000, GNP per capita for Southeast Asia will be only $215 (Reference 7). In addition, observers in the field of urbanization in developing countries are not optimistic.

"The prospect is indeed uninviting, if not gloomy, for urbanization appears likely to continue at a pace in excess of economic development sufficient to cope with this urbanization" (Reference 8).

and

"It is very doubtful that, over this span of time, the underdeveloped nations can attain economics to meet Western standards of living for their present and future city dwellers. The fundamental economic objective of the underdeveloped areas is that of increasing productivity; and the many difficulties in meeting their efforts to attain this objective are likely to be exacerbated rather than ameliorated by present and prospective rapid rates of urban growth (Reference 9).

Social Environment (Reference 10)

If present trends continue and projections become reality, the next generation of Vietnamese can be expected to experience the most rapid urbanization in Vietnam's history. Most of this urban growth is predicted to occur in the SMA. By the year 2000 about 27.4 percent of the total population of the Republic will be living in, or around, Saigon. By the year 2000, the intensity of urban living in the Metropolitan Area will increase to a constant series of major crises. Economic growth will not materialize; scarcities will increase; service will falter; and environmental deterioration of air, water and land will add to the general unpleasantness. The lack of economic growth, environmental and moral deterioration, coupled with insufficient technological and organizational progress to cope with the needs, can only result in social disaster. The quality of life, very low for most inhabitants, will result in dissatisfaction. Expectations not met, added to noticeable gaps in living standards between segments of the urban population and other more fortunate nations, can only result in riots, urban guerrilla warfare or other forms of violent action.

REFERENCES

1. Bogle, James E., Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, Metcalf & Eddy, Inc., Engineers, Boston, Massachusetts (1971), p. 71.
2. Doxiadis Associates, Saigon Metropolitan Area, Urban Development Program and Plan, (January 1965).

3. Bogle, op. cit., p. 72.

4. Bogle, op. cit., p. 67.

5. Doxiadis, op. cit.

6. Sources: VECCO, Four Year (1972-1975) Plan of Infrastructures Development Part 1: Planning Report, Ministry of Public Works (August 1971), p. 4.3-5. Bogle, op. cit., p. 77.

7. Kahn, Herman, and Wiener, Anthony J., The Year 2000, New York: McMillan Co. (1967), p. 154.

8. Breeze, Gerald, Urbanization in New Developing Countries, Englewood Cliffs, N.J., Prentice Hall, Inc. (1966), p. 142.

9. Hauser, Philip M., The Social, Economic, and Technological Problems of Rapid Urbanization, in Bert F. Hoselits and Wilbert E. Moore (Eds.), Industrialization and Society, Paris: UNESCO and Mouton (1963), p. 203.

10. For additional discussion, see: Papaioannou, John G., "Future Urbanization Patterns: A Long-Range World-Wide View," Ekistics (magazine), Vol. 29, No. 175 (June 1970), p. 368.

VI
PROPOSALS

VI. PROPOSALS

INTRODUCTION: A FEW CONSIDERATIONS AND PROPOSITIONS

The City—Roots, Functions, Human Purposes, Problems and a Theme for Development

Roots. It is of interest to note that for the greater part of recorded history the city-state was the largest viable social unit known; the larger nation-state is only a few hundred years old.

Since the invention of the city, about five and one-half millenniums ago, with the founding of the ancestral cities of Kish and Eridu in ecologically favorable niches in the valleys of Mesopotamia, the city has been the growth center of civilization. With the current and anticipated growth of world urbanization, cities, more than ever before, will be the fountainheads of their societies and civilizations.

Function. Functionally, in its evolution, the city has exuviated the roles of stronghold and market, emerging into new relationships with its inhabitants and government. The function of the modern city and its evolving relationship to government has been succinctly stated by Lewis Mumford:

> "The chief function of the city is to convert power into form, energy into culture, dead matter into the living symbols of art, biological reproduction into social creativity. The positive functions of the city cannot be performed without creating new institutional arrangements, capable of coping with the vast energies modern man now commands: arrangements just as bold as those that originally transformed the overgrown village and its stronghold into the nucleated, highly organized city" (Reference 1).[1]

The Human Purpose. Over three milleniums ago, Aristotle said, "Men come together in the city to live; they remain there in order to live the good life" (Reference 2). While life styles and aspirations vary with culture, class and time, and the meaning of "the good life" escapes precise definition, nevertheless, the Aristotelian human purpose for the city is the best to be found.

Problems. It would seem that cities relying on aging institutions, infrastructure and today's fragile technology are most vulnerable; and their mass populations are very interdependent.

---

[1] See references at the end of this chapter.

Concerned with the future of cities in developing countries, a writer questions, "Is the past a prologue?" (Reference 3). The question should be the concern of government in the Republic. Saigon with its compounded quandaries—from the problems of people, squatters, traffic and economics, to the issues of security, law and order—dominates much official thought in the Republic today. Neither Saigon, nor any other Southeast Asian primary city can solve these, and other, urban problems alone. The problems belong to the country's whole society, and the solutions to these problems lie rooted in the state of their institutions, technology, economy and the interest of their national governments.

Given the current emphasis on urban problems with unrest, and even urban warfare occurring throughout the world, the Republic cannot afford to ignore the challenge and responsibility of making its cities, especially its primate city, habitable, enjoyable and controllable. Lewis Mumford told a United States Senate committee in 1969:

> "Unless human needs and human interaction and human responses are the first consideration, the city, in any valid sense, cannot be said to exist."

Sophocles said: "The city is people."

Theme. The urban challenge is to develop natural and adequate responses, capable of realization for both human and national needs. The primary focus of all proposals should be human; for cities are not buildings, but large numbers of persons gathered together. The secondary consideration, in a country burdened with war, a low economic profile and heavy population growth, should be practicality.

Possibilities of Controlling and Planning for the Future Growth of the SMA

Discussion. At the end of 1970, population in the SMA was estimated at 3,300,000 persons. Projections for the year 2000 are for 11,230,000 persons (Reference 4). A reasonable, finite population holding capacity for the SMA is even greater. Metropolitan populations of magnitudes of 11 million to, say, 15 million are not only difficult to imagine but, if achieved, are totally without redeeming virtues. What a rational population target should be for the SMA by the turn of the 21st Century is a matter of conjecture. Hoyt projected that, in Asia, over 20 percent of all national population will be in cities of 1 million or more inhabitants (Reference 5). Given the Southeast Asian urban patterns which are based on extreme primacy, this group of large city populations will probably be contained in one super city. Based on South Vietnam's projected population of 41 million by the year 2000,

Hoyt's projections would indicate about 8,200,000 persons in the urbanized parts of the SMA. Population in the SMA itself, however, could be higher.

If stringent controls, as suggested later in this paper, are instituted, it may be possible to hold SMA population to below 20 percent of the year 2000 national totals. From the examples given in Table 27, a year 2000 difference of 4 million persons between the upper and lower limits of population possibilities is indicated.

Table 27. EXISTING, PROJECTED AND HYPOSTATIZED POPULATION RATIOS: SMA TO SOUTH VIETNAM'S NATIONAL TOTALS

Condition	Year	SMA	RVN	Percent
Estimated	1970	3,300,000	18,770,000	17.6
Projected	1980	5,562,000	25,000,000	22.2
	1990	8,400,000	32,500,000	25.8
	2000	11,230,000	41,000,000	27.4
First Hypostatization Possibility[a]	1980	4,400,000	25,000,000	17.6
	1990	5,720,000	32,500,000	17.6
	2000	7,216,000	41,000,000	17.6
Second Hypostatization Possibility[b]	1980	4,500,000	25,000,000	18.0
	1990	5,850,000	32,500,000	19.0
	2000	8,200,000	41,000,000	20.0
Third Hypostatization Possibility[c]	1980	5,000,000	25,000,000	20.0
	1990	7,312,500	32,500,000	22.5
	2000	10,250,000	41,000,000	25.0

[a] Constant percentage ratio.

[b] Hoyt's estimates modified.

[c] Assumes supervention of some RVN governmental policies and controls on projected population growth rate.

Summary. The projections for national population, like projections for the SMA already predicated on diminishing birth rates, would not be readily subjected to modification. Table 27 merely indicates size alternatives. Until the government launches programs that will affect projected populations in the SMA, it would seem wise to consider: projected figures-reality, the constant ratio most desirable, Hoyt's figures as a gage of possibilities, and modified figures based on some restraints as realistic probabilities.

Normally, fixed population plans and remedial actions to reach planned population and development goals should go hand in hand. If that were to be the case, then perhaps a year 2000 plan with a population target of 8,000,000 to 8,500,000 could be entertained as both possible and desirable. However, hope at this time for an improved demographic situation is just that—hope. Therefore, it would not be wise to plan on that occurring and, in so doing, develop fixed population plans for the SMA. Given the limited resources available for all future national urban infrastructure needs, plans which are suitable to house and service a Saigon population of 11 million to 12 million would have to be at the expense of other urban areas, and would be most counterproductive. Planning, for a while at least, must be accomplished on another basis.

Planning and Form

Economists, urbanists and others are coming to realize that: "Planning often leads to a paralysis of action." Over 40 years ago, when the combined population of the cities of Saigon and Cholon was a little better than one-third of a million persons, a French master plan for the area was adopted. Since then, the population has increased six times. That plan is still on the books. Is it still valid? Hardly. Its present value is, at best, historical.

Is any master plan for a city valid? Perhaps, but it would seem to be, from past experience, only a very flexible guide into the uncharted future. Professor C. Northcote Parkinson and others are questioning the institution of formal planning with a master plan that soon becomes dated, and its failures. Parkinson states:

> "Should the old plan still be pursued, the whole effort is apt to be lifeless, cumbered by the dead hand of the past" (Reference 6).

The Vietnamese efforts at urban planning have previously been explored. It should now be apparent that Eastern planners, coping with different life styles, laws and economic circumstances, should question the adaptability of Western planning experience, techniques and urban design to their own cities. It would seem natural that Eastern planners should encounter difficulties in forcing unfamiliar concepts, laws or urban patterns onto governments or people, no matter how lofty the goals. Planners of Saigon should strive to let the city be representative of the best of modern Vietnamese civilization. The form of the city should develop from its past and be controlled by laws responsive to its own special needs and life style. Edmund Bacon states a truth applicable to all cities.

"The building of cities is one of man's greatest achievements. The form of his city always has been and always will be a pitiless indicator of the state of his civilization" (Reference 7).

What of Saigon's past and its relationship to the present state of Vietnamese civilization? The form of central Saigon, as was stated earlier in this paper, is one of the best examples of Western urban design to be found anywhere in Asia. For in central Saigon a Western planner finds much to admire. However, it must be kept in mind that Saigon reflects a foreign civilization that tired and died in the early forties. The Vietnamese, in quest of a cultural signpost that points toward a form compatible with both their past and future life styles, should not look to Saigon for inspiration but elsewhere. In the Republic, the best examples of the autochthonous past are to be found in Hue, Hoi An, Quang Tri and other urban areas, but not in Saigon or Da Nang. [1]

Size, Scale and Citizen Participation

In today's super Southeast Asian cities people are overwhelmed, or repelled, by shear size. Rural immigrants, lost in the immensity of the urban mass, suffer cultural shock, withdraw and form familiar rural enclaves either without or within the major urban structure. Natives of the city become disenchanted, disattached and, in effect, drop out by withdrawing, neither noticing nor caring. As a result, garbage and trash appear everywhere, services break down and major problems of control arise. The city becomes inoperable. Most local governments are either too big or too small—too big to deal with small problems, too small to deal with big ones. Primate cities of Southeast Asia are also hampered by being national capitals: the local government normally is inundated by the national one.

Making people responsive to, and part of, the city should be a major objective of urbanists. Today, urban planners are striving to develop, within major metropolitan areas, smaller self-contained urban units—larger perhaps than a neighborhood but smaller than a city. New urban thoughts envisage a form of government that ranges from a large regional body—dealing with metropolitan problems, i.e., the development of a mass transit system, environmental controls, police and metropolitan institutions—to smaller governmental organizations that concern themselves with schools, garbage collection, birth, marriage and death registrations, building controls, recreation, etc. The smaller organizations may be a form of district government which is amplified to include elected councils. Time magazine made the following observations.

[1] As a case-in-point, the first citadel in the Saigon area was designed by a Frenchman who, following the best military techniques of his day, produced a formal, star-shaped fortification.

> "In some respects, modern society will require even more centralization than now exists; in some respects, to make it bearable as well as workable, it will require more decentralization. Achieving a balance between these two needs is perhaps the most important and difficult problem for the near future, reaching far beyond schools or other services to the heart of government" (Reference 8).

How big should the units be? Present projections of the primary cities in Southeast Asia will average about 12 million persons by the year 2000—some world cities are now approaching that mark. Unless national governments develop urban policies of decentralization and birth control that are capable of implementation, these population projections will be realized.

What is an optimum size for smaller local units? Nobody knows in reality. In the 16th Century, Leonardo da Vinci suggested that congested Milan be organized into units of 30,000 persons. Jane Jacobs suggests that New York be broken down into units of 100,000 persons. Planners in London are advocating boroughs of 200,000, and Lewis Mumford says "a human lovable city must range somewhere between 30,000 and 300,000 people."

Controls

With few exceptions, controls over land by the use of zoning ordinances, subdivision regulations, etc., have not been successfully transplanted from the United States and Europe to modernizing countries. In fact, their effectiveness is now being questioned in the United States (Reference 9). Regulations and standards for land use are usually set too high and are based on models from a middle-class affluent society. Vested interests among landowning high officials also interfere with law passage and enforcement. According to a writer on the subject, not only do these Western land use control standards have little relation to economic reality, but they also do not reflect the values, needs and behavioral patterns of the low-income urban households which represent a very large and growing segment of the urban population (Reference 10).

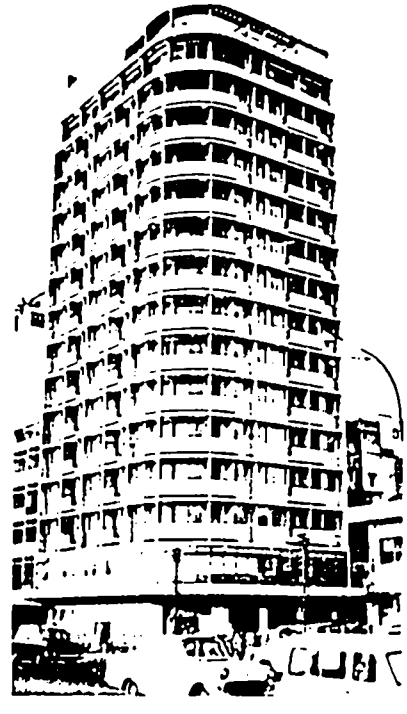
In addition, the insistence upon the separation of residential and nonresidential uses by zoning would not only seem unenforceable, but also undesirable. The traditional living pattern is so oriented that mixtures of uses are not considered a nuisance but, in fact, a necessity. A majority of the extended urban families of low and even middle incomes require combinations of residence and small workshops, stores, etc. While controls over land use by zoning seem difficult, controls over building construction,

setbacks and off-street parking requirements seem possible.[1] Also possible would be controls based on the availability of utilities, so they will not become overused. This may take the form of a density restriction controlled by registration at a district office. Those not allowed to register due to lack of ample urban services would not be allowed to reside.

Experience in India would indicate that public acquisition of urban and undeveloped land adjacent to the city appears essential for the orderly development of the urban area. Public ownership, combined with infrastructure programs, can influence efficient use of the land; then it can later be profitably resold. This approach would focus the need for improved condemnation laws and coordination of action among public agencies.

Natural Renewal or Urban Renewal

Observations in Saigon over a period of years would seem to indicate that use of land, in some cases, is being upgraded to higher economic use. This would seem to reflect both changing land values and low real estate taxes. If this trend could be analyzed and cultivated with proper concessions and guidelines, perhaps urban mass renewal projects will not be necessary, except in impacted areas.



The Palace Hotel, which has just opened in central Saigon, is built on the site of a number of small shop houses.

Mass Transit

A prerequisite for the use of land is access, and no man-made improvements influence the land uses and character of the city more than its roads, railroads, airfields and other parts of its transportation system. The need for roads, railroads and airfields seems to be well understood by officials in Saigon. The need for a mass transit system is not understood as well. Saigon was originally built primarily to accommodate the pedestrian, the horse and, to a much smaller extent, the boat, but not the automobile.

[1] The whole concept of zoning has the drawbacks of: (1) being abstract and (2) policing being dependent on complicated legal procedures. Both aspects are hampered with difficulties of comprehension and enforcement.

Motor vehicles in the Republic today are relatively new, a luxury introduced by the war.[1] There is no doubt that rising aspirations will increase the density of motor vehicles in the future more than today. Hopefully, to avoid the continuing blighting effect caused by motor vehicles, parts of Saigon should be designed to reduce access by motor vehicle. At the same time, transportation in urban areas should not be designed for the wealthy few who own cars; good mass transportation should be available to all the people. Plans for the SMA should include provision for a mass transit system, no matter how technologically rudimentary.

Need for Experimentation

There are no set solutions or easy answers for Vietnam's urban problems. There is much discussion in academic circles, but little consensus on what is happening and what to do about the urban problem in both developing and more fully developed countries. There is one way out of this quandary—simple experimentation. The case for governmental experiments was well stated by Kermit Gordon, President of the Brooking Institute, who made the following observations, which seem applicable to Vietnam's present urban situation (Reference 11).

> "We are coming painfully to recognize that the identification of social problems and the provision of funds to attack them do not easily lead us to an understanding of how to translate federal dollars into visible social gains. Surely one of the most urgent tasks confronting government is to devise effective ways of finding out what works. How is this to be done? When the problems are so complex that they overwhelm simple deductive reasoning, and when (as is usually the case) hard evidence is lacking, the government must itself produce the evidence by experimenting with alternative approaches in order to identify the most promising strategies. The need will not be met by the familiar "demonstration project," in which it is rarely clear what is being demonstrated and in which the activity is rarely intended to yield findings that will make possible its evaluation. The experiments must be systematic, and they must be designed to test alternative techniques under comparable conditions and to yield data that will permit the measurement of their effectiveness. This is more easily said than done; the technical problems of designing, conducting, and accessing

[1] During the late 1950s, one of the loveliest sights in the East occurred during the rush-hour traffic in Saigon when thousands of women on bicycles clad in colorful ao dais peppered the street like so many beautiful butterflys.

> such experiments are formidable, and numerous practical obstacles stand in the way. Yet the need for clearer understanding has become so apparent that the hazards must be accepted. . . . A waning confidence in the competence of government is a dangerous social disorder, but the failure of a society to treat its social ills effectively is even more ominous."

The subsequent suggestions are proposals for experiments. They are empirical in nature, and are conditioned by the qualifications made in the introductory chapter.

URBAN GOALS AND PLANNING STRATEGY FOR THE SAIGON METROPOLITAN AREA

General Objectives

Proposals for standards of urban achievement should not be unlike the three "Rs" of learning: realistic, reasonable and reachable. In Vietnam's probable future economic and social environment, only plans which help ameliorate present urban conditions, move the coming urbanization into controllable patterns, accommodate even the low aspirations demonstrated by urban inhabitants, and can be implemented would seem to have any real validity. Giving voice to impossible dreams of major satellite cities, linear systems, or even the development of conventional master plans for unrealistically low population targets serves to confuse urban issues and, in reality, is just talk. Plans for the SMA should have both tactical and strategic importance and be capable of influencing governmental decisions. Implementation and financing should be able to carry out those plans. Therefore, the guiding objective of any planning proposals for the SMA is: They should not be complex. Proposals for urban systems, forms, controls and implementation should be characterized by Spartanism. They should be conceptually simple and financially possible.

Human Focus

The major target for future urban plans in Saigon should be the low-income families; this group constitutes the bulk of today's urban population. Tomorrow, those people from the squatter settlements, who have crowded the land, and those who will later join them, will shape and form the city, or destroy it.

An Important Political Cynosure

Urban land is important as a means of redistributing wealth and income. Just as the Republic has engaged in a successful "Land to the Tiller" program for

its rural areas, a means must also be found to provide urban land, complete with adequate social and physical infrastructure, to the bulk of the population who lives and will live in the primate city. Such schemes will tend to stabilize urban populations and meet some of their aspirations.

An Achievement Consideration

There are many plans and proposals now mouldering in government offices in Saigon. A few of these even have official sanction. None has been achieved. There is a need to reduce gradiose plans and proposals to those that can be accomplished. Once smaller schemes are realized, a sense of achievement will provide the confidence necessary to undertake and complete larger ones.

Other Objectives

Broadly, these should be in response to the future urban needs of the region and nation. Important also is the development of an urban character not only in harmony with past trends, but also attuned to present and future needs as well as to the increasing aspirations of the inhabitants.

PROTOTYPAL SETTLEMENT UNIT

A Brief Exploration of Indigenous Urban Morphology[1]

As a background to a proposal for a suitable urban system, the forms of several Vietnamese urban areas are explored. There is no attempt to suggest that the re-creation of supposedly, viable elements, found in those examples of autonomous cities, should be the basis for a new Vietnamese Saigon. The walls of Hue, the unserviced villages of Da Nang, or the small white-washed, red-roofed buildings of Hoi An need not be built in the SMA in order to add Vietnamese culture to French Saigon What is sought is a model which, when conceived in forms of past and current human needs, will also be attuned to future Vietnamese urban life styles.

Hue, which is situated in the northern part of the Republic, lies about 80 kilometers south of the 17th parallel, 645 air-kilometers north of Saigon and 540 air-kilometers south of Hanoi. With a population of about 171,000

[1] Extracted, in part, from an assignment with Development and Resource Corporation (Reference 12). The urban centers examined were visited in the summer of 1969. These three places Hue, Quang Tri and Hoi An are situated in the three northernmost provinces of the Republic. Since Vietnamese settlement took place there long before that of the Mekong Delta and before French influence became strong, the urban patterns may be both purer and more representative of indigenous culture.

persons (1969) at a density of 130 persons per hectare, Hue is South Vietnam's third largest city.

Hue's citadel is relatively modern. Hue, the monument, as it is known today, was begun in 1805 and is the realization of two Emperors of the Nguyen Dynasty—Gia Long and Minh Mang. Hue is also a Confucian center and the home of many of the nation's elite. However, more significantly, Hue was the Imperial Capital of all Vietnam for over 2 centuries.

It is also important to understand that Hue, though historically much more recent than Ayuthia in Siam, Pagan in Burma, or other early indigenous capital cities, has all the trappings and aspects of a "sacred city." Whether Hue ever entered the ranks of these earlier sacred cities may be debatable; however, in view of the importance of the city in the minds of the Vietnamese people, the appelation "sacred" does seem appropriate.

Hue, then was both—an indigenous capital city and a sacred city. Walls and moats, enclosed both the royal temples, palace and ancillary buildings. The river and a moat, coupled with square brick fortifications, enclosed the city. [1]

---

[1] Hue's form is interesting and appears to be of Chinese influence. The layout of the walled city closely follows the classic principles of Chinese architecture and planning. The Kao Kung Chi, a document dating from the Warring States period (481 to 205 B.C.), prescribes the general principles to be followed in city building—enclosed walls, gateways and corner towers, symmetry, axiality orientation (which should be north-south, but does not quite apply to Hue) and a courtyard system. These principles also apply to the design of all buildings, whether a village house, an imperial palace or a temple. Peking, a much older and larger capital city, is characterized by a square shape as are the provincial capitals of North China. A writer on the subject makes the following speculation (Reference 13).

> "Why the Chinese should have preferred the square to any other geometric form for town planning is difficult to say. It may be connected with the early Chinese concept of the universe and the earth. In ancient China, the earth was thought to be square, and was worshipped by means of a square alter with sacrifices presided over by the ruler in his role as a dynastic high priest. The ruler was believed to be associated with the earth deity, and by a natural extension of symbolism the royal precinct was also built as a square. The number "four" has been very popular in Chinese thought, being related to the sides of a square."

The contrast of Hue's form with that of another Southeast Asian walled city, Bangkok, is interesting, since Bangkok was evidently developed from Indian influences rather than Chinese. Just as Hue can be compared with Peking, Bangkok can be compared with Indian-walled cities. The physical resemblance between Bangkok and the walled city of Old Delhi is quite apparent. Both cities have a strong organic character and a high efficient use of available land which minimized defensive perimeters. In 1782, about 23 years before the beginning of Hue, Bangkok was begun.

King Rama I, after assuming the sovereignty, for political and military reasons, moved the capital to the site of the old fort on the east bank of the Chao Phraya River. The new site had many natural military advantages and, at the time, this constituted an important factor. The site chosen by Rama I was the point where the river makes a large curve toward the west (similar to the Huong River at Hue), forming a large peninsula on its eastern bank. The peninsula was protected by an expanse of water against attacks from the west, north and south. To the east, at that time, there stretched a vast swampy plain which also made progress extremely difficult for any army attacking from that direction.

The ancient name of Bangkok (Ban Koc—Village of the Wild Plum Tree) was in use when the whole region was a garden and duly recorded on maps by early cartographers and has retained currency to this day. Bangkok, as capital, was grandly given a Hindu appellation by Rama I, "The Jewel City of the God Indra." (Even this is but a brief translation of the city's full name which in transliterated Thai is: "Krungthep, Pramaha Nakorn, Amorn Ratanakosindra, Mahindrayudhya, Mahadilokpop Noparatana Radhani, Burirom, Udom Rajnivet Mahastan, Amorn Pimarn Avatarn Satit, Sakkatutiya Vishnukarm Prasit.")

Besides the river, the wall—more than anything else—influenced the early physical development of Bangkok. The wall and its gates, with the traditional routes connecting them, formed a rigid frame for the expanding town. When the wall was built (about 1790), there were 63 gates, 16 large gates and 47 small openings. About 15 forts were built connecting to the city walls. Their spacing was uneven due to military need rather than aesthetics. The wall was the boundary of the city, and the area it enclosed was 3.46 square kilometers. A tidal moat, Klong Ong Ang, was easily dug through the alluvial mud to give additional protection to the citadel.

Rama I left essentially a medieval citadel, 400 to 500 years after its Western prototypes had flourished. Bangkok, like the walled towns of the middle ages and Asia, sprang from contemporary conditions of national unrest and social instability. Monumentality was only to be achieved on an asymmetrical basis.

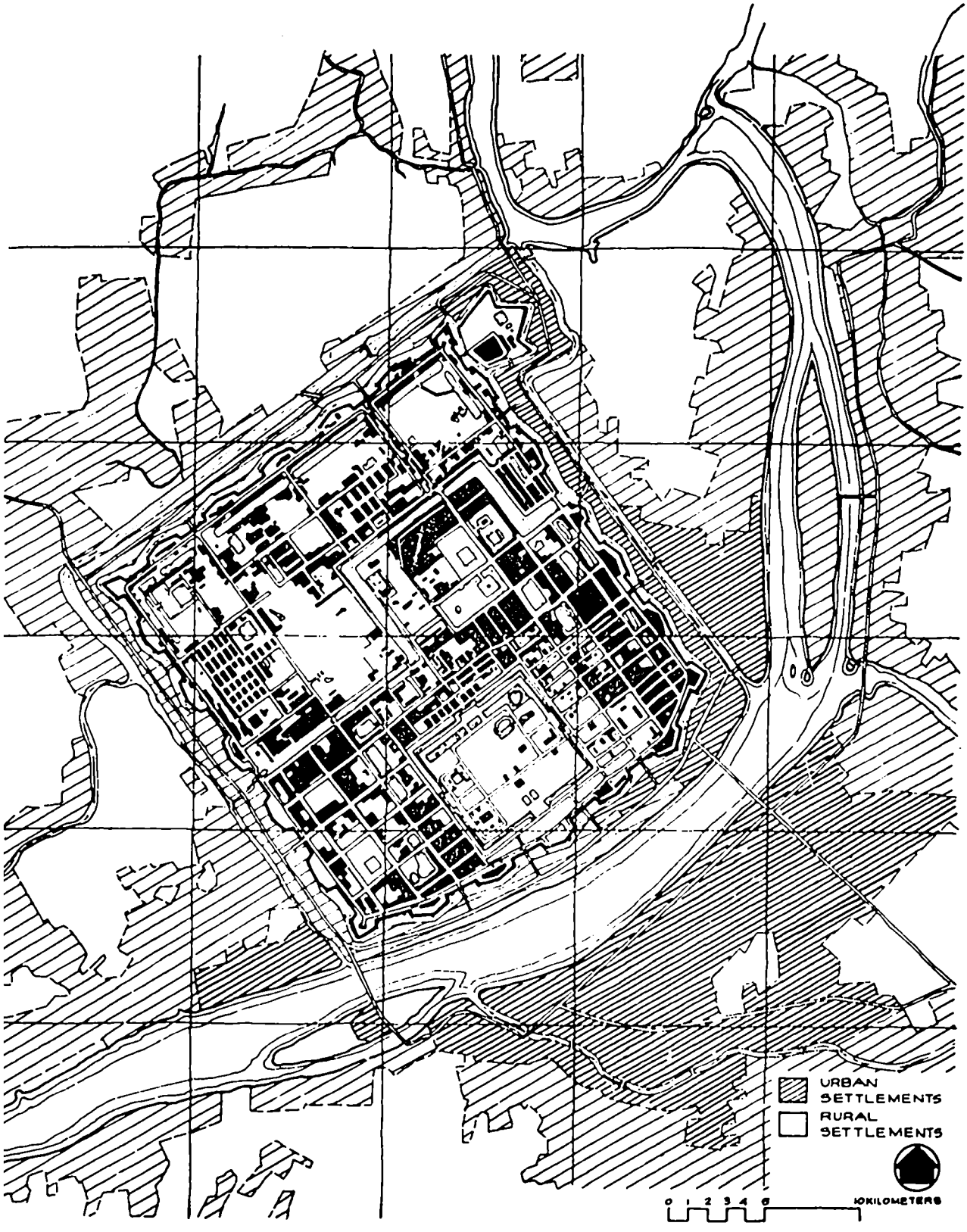


Figure 24. URBAN MORPHOLOGY – HUE

Hue's clearly conceived functional demands, both ceremonial and military, led to its form. Hue, like its European medieval counterpart, was conceived as a three-dimensional unit. The vertical accent of temples, buildings, gates and forts were all formed together within the plan. It can be imagined that the city did not develop from a fixed two-dimensional plan but from a visualized picture. It was urban design in its very best sense. (See Figure 24.)

The old citadel is surrounded by a number of villages which form riverine-type settlements along the river, streams, canals and even the moats. The earlier villages and rural market adjacent to the northeastern part of the walled city have hardened and become part of the urban area. This area was evidently at the exits from the main gates which strategically controlled traffic to and from the city. The university campus area directly across the Huong (perfume) River from the citadel (which is growing in urban intensity as open spaces fill) is surrounded by a number of densely packed villages. Pleasantly enough, within the walls of the citadel, built-up areas are not continuous, but intermixed with open spaces and treed areas.

Quang Tri, in the far northern reaches of the Republic, is the last major town before the Demilitarized Zone (DMZ). Quang Tri, historically, has served as a fortified outpost; this is still true today. Quang Tri is a modern military stronghold, not dependent on walls for protection, in spite of its position near the DMZ. It is estimated that the current (1969) population of Quang Tri's urbanized area is about 60,000. Quang Tri contains about 20 percent of the total population of its province.

Quang Tri has grown around an old citadel which, placed on a high river embankment, became a natural site for urbanization once Route 1 crossed the Thach Hai River. (See Figure 25.) The citadel, square in its basic form, with corner bastions, is ringed with roads on the outside of its moat. It is this fort, with its surrounding roads, which is the major physical feature in Quang Tri and has done much to anchor newer urban growth to the site and give the city its present form. The citadel appears to be contemporary with Hue, which would indicate that the city is approximately 150 years old.

Despite the size of its population, Quang Tri and its metropolitan area, from the air, look quite open; the urban form dispersed. Densities of urban character only occur to the immediate south of the citadel and along the Thach Hai River. These areas are older urban growth. The rest of the built-up area near the citadel is semirural in character. The village-type settlements that flank the citadel to the north and south along the river have a form that is somewhat linear. Morphologically interesting is that the newer villages, forming to the north, are markedly detached from the contiguous southern growth by open fields and a closed river mouth.

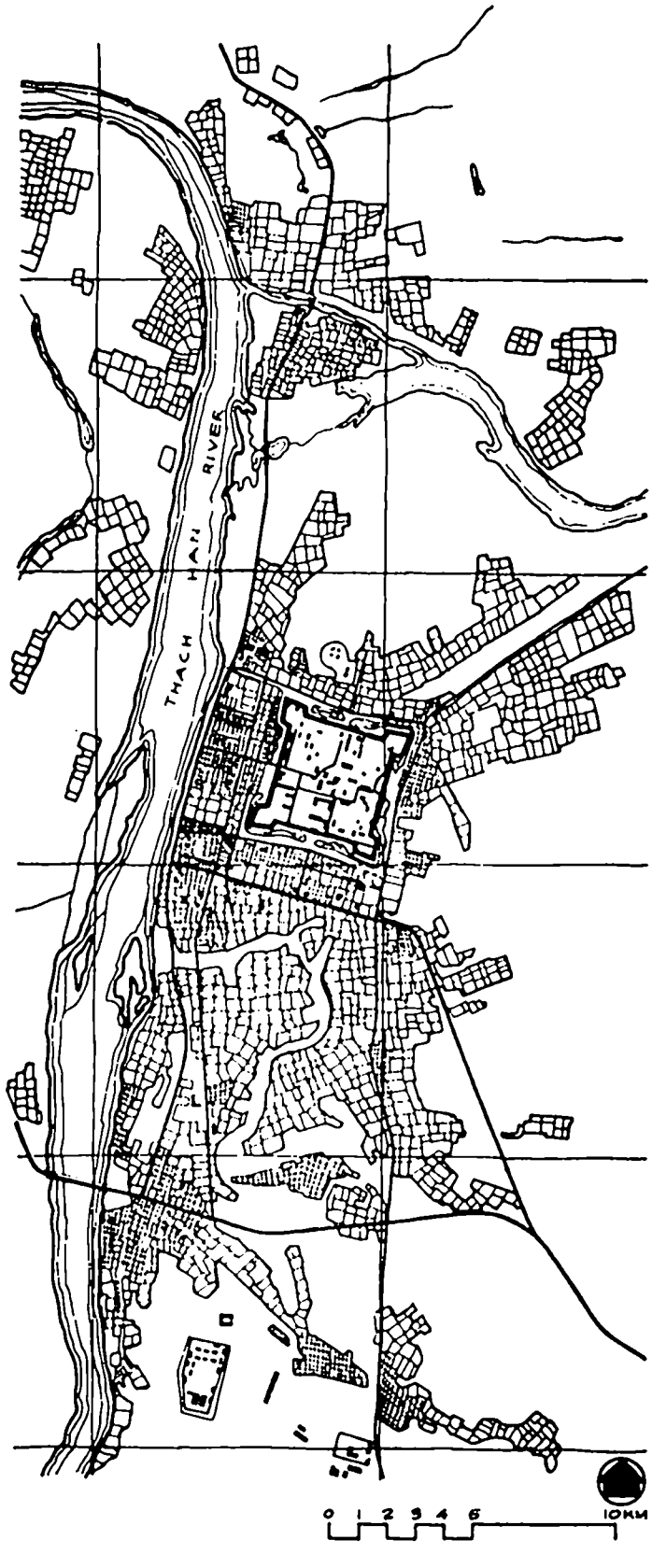
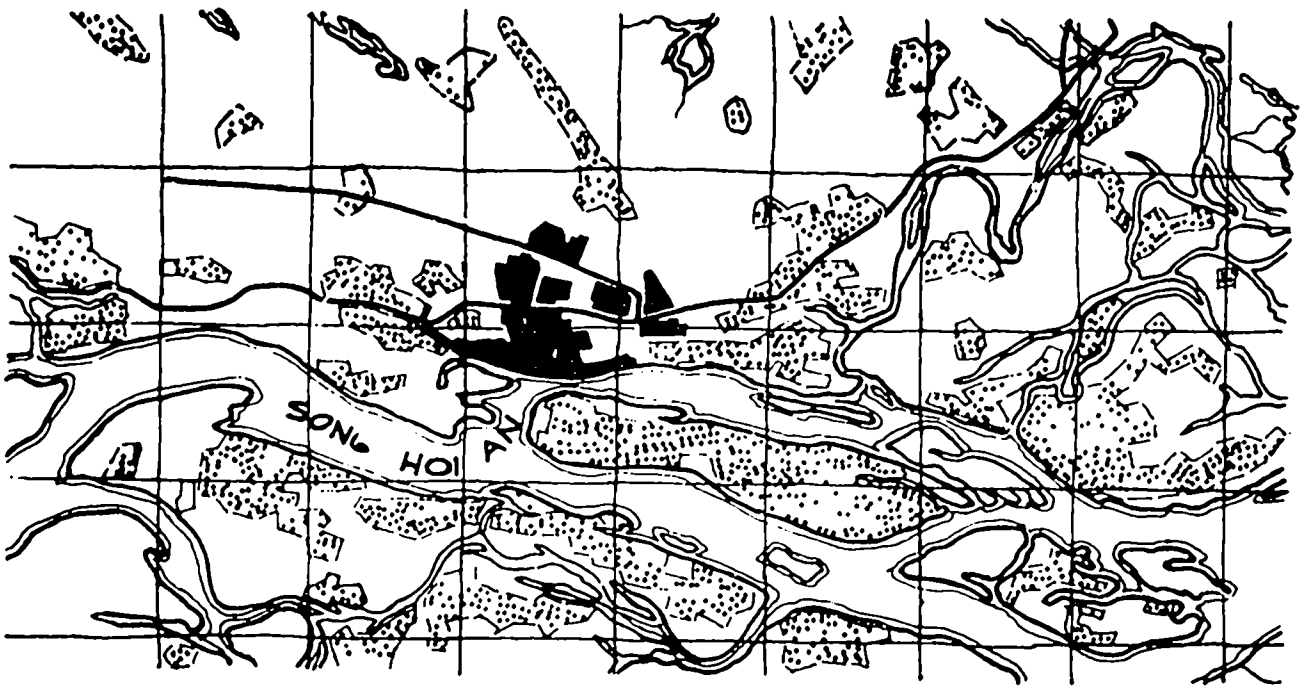


Figure 25. URBAN MORPHOLOGY – QUANG TRI

Hoi An, with a present population of approximately 36,000 persons, lies 25 kilometers southeast of, and is dominated by, Da Nang. The latter, however, was not always the case. Hoi An, originally called Fai Fo, was formerly the commercial port for the Nguyen dominions. It was a market rather than a city. "When the Portuguese began to trade there, the Chinese and Japanese, who had long frequented the place, formed the bulk of its population" (Reference 14). Portuguese traders who came in the beginning of the 16th Century were active in the area for over a hundred years. During this period, Hoi An dominated European commerce with Vietnam.

The city with its cluster of red-roofed houses, huddled near the market along the Hoi River, is most picturesque and is probably one of the most attractive indigenous urban areas in Vietnam today. The city has great charm and character, with many white-washed houses and their browned, well-crafted woodwork. These closely packed structures along the clean, narrow streets are indicative of an urban structure geared to a leisurely mode of living and pedestrian use; the urban structure is delicate.

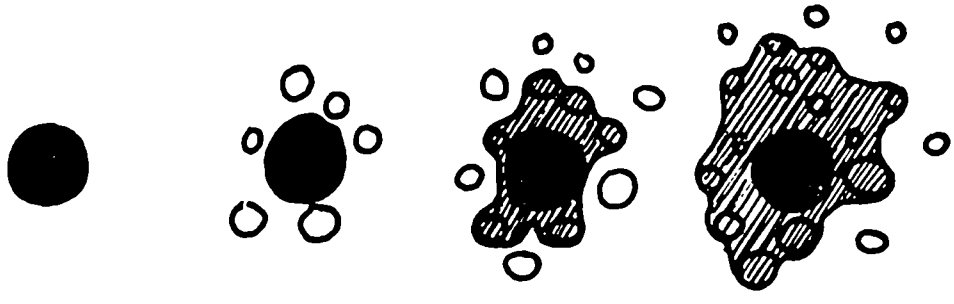
The old tightly knit urban core is surrounded by clusters of rural-type settlements separated from Hoi An by open areas.



Summary. In all cases, the indigenous suburbs were formed by rural-type villages. Those units, placed at sites of opportunity or happenchance, were spotted around the walled city, or autonomous or French cores.[1] These

[1] The latter in the case of Da Nang, Nha Trang and Saigon.

well-understood, small settlement units were flexible and responsive to the immediate needs of the inhabitants. They were rural in character; housing within was of a rural-type, simple and easy to construct. The plan was open. Usually, the units lacked urban services. As the city grew, it coalesced with these smaller units. The process kept repeating itself; recently formed, self-sufficient villages in the newer suburbs were enfolded into the growing urban center. Many of the villages survived for long periods (some even until today) as rural enclaves. Eventually, total urban fusion took place, with the provision of urban services, increasing densities and the replacement of rural-type buildings with more permanent structures. Afterwards, perhaps only the village's name remained as the area's name; a reminder of its origins.

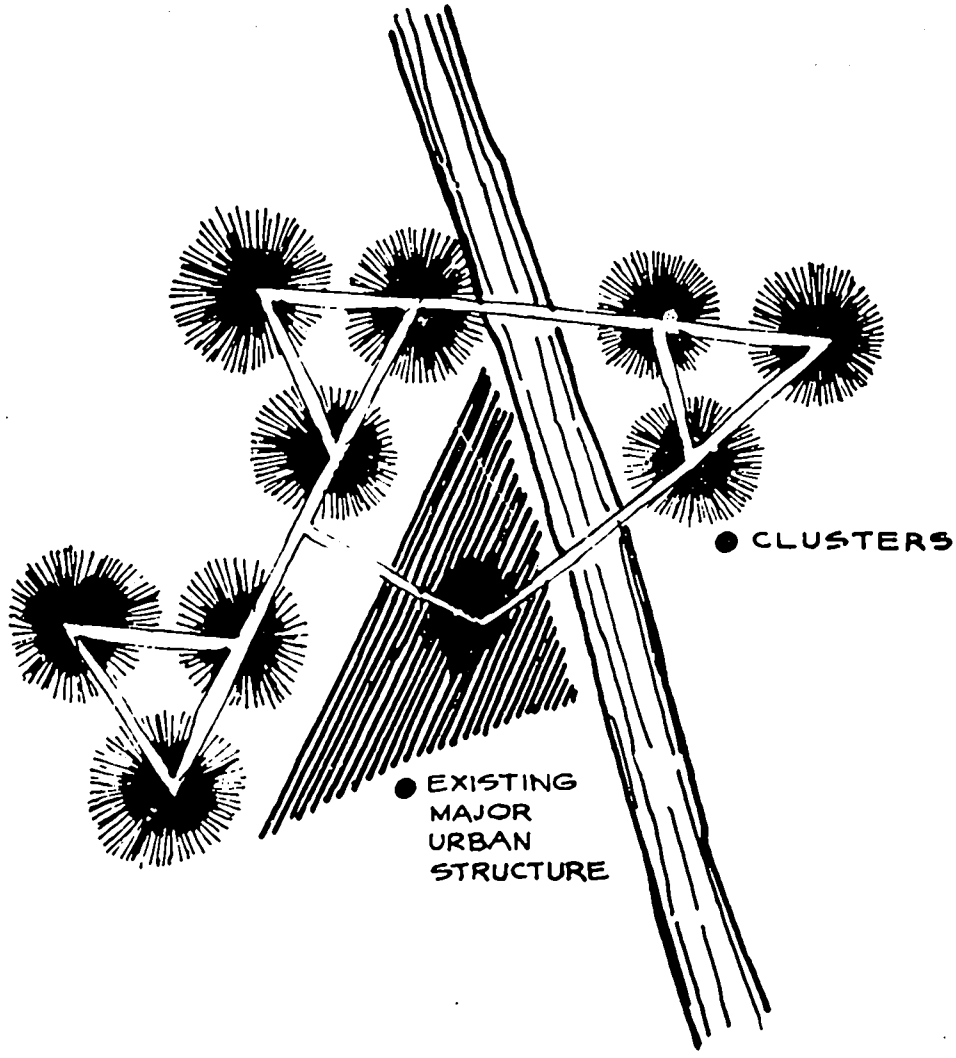


There is nothing unusual about this type of urban formation; it occurs elsewhere in the world. Modern Bangkok is one example of this type of growth, Seoul another. This urban growth pattern is also natural to Vietnam and for that reason alone, merits consideration.

Proposal for an Urban Form

It would seem that this organic growth process, as evidenced in Vietnam's past, may be used as an urban system and form for the future by using self-contained units larger than villages as a basic urban module. If the SMA were to be considered as a series of flexible self-contained urban units, defined by open spaces, motorways, rivers, and with mass transit systems linking the centers of the units together, perhaps some urban order would arise out of today's unplanned chaos. If so, a new low-cost urban model, compatible with past Vietnamese life styles, will have been found. (See sketch on the following page.)

Western set population plans hardly seem realistic, flexible or responsive to the city's human and economic needs—neither do proposals to increase the population holding-capacity of Saigon by the development of a lineal water city as one link between Bien Hoa and Saigon. The Saigon area needs


CLUSTERS
EXISTING
MAJOR
URBAN
STRUCTURE

neither increased population nor reactionary atavisms. The urbanization trends in Southeast Asian Delta cities are removed from water orientation. The people have found a lack of such an orientation.

This system concept—a major urban structure surrounded by clusters of small and possibly specialized urban units—has advantages other than perhaps having roots in the Vietnamese urban past. Other attractive facets of this model are:

1. It is flexible and accommodates site and population readily. The areas required are not unhandily large, and can readily be placed on sites available within the metropolitan area.

2. Other than the population within the unit, there are no criteria or dependency on a fixed metropolitan population plan.

3. It offers the inhabitants a wider range of environments, especially if the settlements are allowed to develop a distinctive character.

4. It preserves the special human considerations of the rural areas, because these units would provide the citizen with: (a) relief from the stress imposed by the city, (b) identification with a neighborhood or district that possesses visible character, (c) an identifiable relation of the part to the whole, and (e) if properly designed, openness (Reference 15).

5. The system is one that has been proposed by Vietnamese themselves for the Saigon area.

6. If considered as a series of urban building blocks, it provides the opportunity to achieve comprehensive planning on an incremental basis.

7. With the form of the unit not preconceived, ample leeway is left for the mentioned experimentation. Each successive unit should profit from what has preceded.

Size

Size of the Housing Problem: Short-Term Aspects. At projected rates of growth, some 1,114,000 persons will be added to the SMA by 1975. Approximately 40 percent of this addition will be from immigration; the rest through natural increase. The larger the urban area, the more flexible would seem its ability to absorb growth. To a certain extent, most of the new arrivals

can be accommodated within the urban structure. The majority of the immigrants will, for a while, be able to find space in squatter communities, the babies in existing households. There are, of course, finite limitations. New families formed from existing population, and later immigrants, will make new squatter communities to the detriment of the Metropolitan Area. In the next 4 or 5 years, room will need to be found for approximately 400,000 immigrants.

In addition, almost one-third of the existing population in the SMA is housed submarginally.[1] Therefore, if it is assumed that approximately 10 percent of the present poorly housed population in the SMA will want to move by 1975, these people, coupled with immigrants, show that over the short-term there will be need to house about 100,000 persons annually.

Human Aspects and Size. Based upon the discussion in this chapter's introduction, habitable human communities would seem to have a size limitation of approximately 300,000 persons. Arbitrarily, a population of 100,000 is selected as the size of a prototypal settlement unit.

Densities, Character, Form, Land Uses and Other Related Aspects

Density. The design of a criteria for density is a problem. Low densities are unrealistic; while very high densities, without proper economic support, cause social and health problems. The present overall density in the Prefecture of Saigon is 300 persons per hectare. This order of density, while high, is not out of line with densities in other Asian cities. Under conditions of continuing trends, a density of this order harbingers more intense future densities. As was previously indicated, Bombay City had an overall density of 428 p/ha in 1961. A density of this magnitude is quite possible for a future Saigon. There are also other factors: major cities throughout the world are being choked by automobiles, and the atmosphere polluted. The automobile should be restricted in the new settlement units as much as possible. This can be done by increasing densities and providing some acceptable form of mass transportation.

Other reasons for high density proposals are:

1. Land values: Land costs in the SMA will continue to be high, much higher than in Western cities, compelling more intensive use of the

[1] There are 189,595 dwelling units in the SMA that are classified as "condensed housing." This is a condition category rather than a housing type. Within the condensed housing classification there may be an occasional, well-constructed dwelling, but most of the houses are chiefly slums. With an average household size of 6.0 to 6.5 persons, the number of people living under these poor conditions ranges from 1,140,000 to 1,230,000.

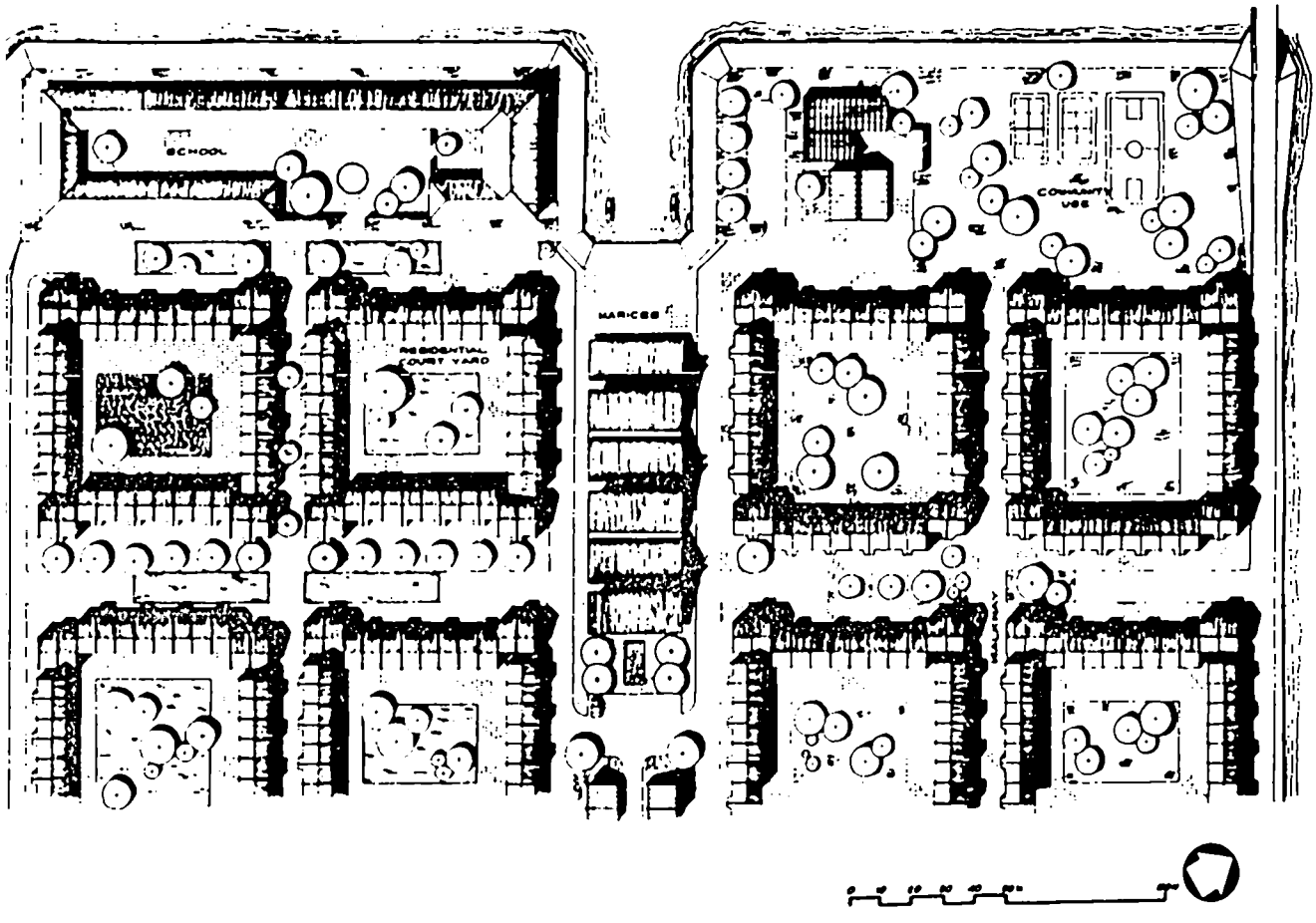


Figure 26. PROPOSAL FOR MEDIUM DENSITY COMMUNITY DISTRICT VII – SAIGON

land. Although infrastructure cost to serve a given population is higher when land is used intensely rather than extensively, cost (and filling) of land and annual maintenance of shorter utility systems and road lengths will overcome this drawback.

2. Convenience: With proper design, a large commercial and civic center, a school or small park would be within a short walking distance.

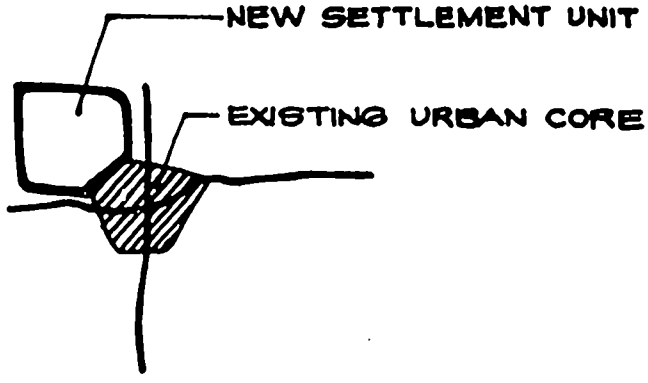
Arbitrarily, the proposed overall density for the prototypal units is 250 p/ha. While representing a 16.7 percent diminution of existing densities in the Prefecture, this density is still considerably higher than the 40 p/ha to be found in the SMA. At this rate, with each square kilometer containing about 25,000 persons, 4 square kilometers would be required to make a settlement unit.

To indicate that high densities do not have to be grim, even with two-story residential structures, Figure 26 shows a housing proposal for 225 p/ha. This design by Fred P. Swiss for District VII, Saigon, is indicative that with good urban design, openness and an uncrowded quality of space are possible at higher densities.

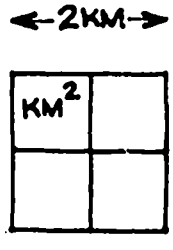
Neighborhood densities within the unit would be flexible, with densities ranging from 150 p/ha in peripheral areas, for instance, to 600 p/ha in areas close to the core.

At the proposed overall density, no more than 12 to 15 minutes would be required to walk to the core from the edges of the settlement unit.

Character. The character of the unit will be urban and derived from the proposed densities. It should not be considered either as self-contained or as a dormitory; the unit is a community within the Metropolitan Area. Therefore, (1) the unit would have available to it and its inhabitants all the available services, i.e. hospitals, universities, recreation, employment, etc., to be found in the SMA; (2) hierarchical considerations of size are not important since the SMA is dominant, and each unit may contain approximately the same number of persons; (3) the unit may or may not have industrial and other employment areas; (4) the unit would have commercial areas large enough to serve its own population and perhaps some of the surrounding population; (5) the unit would have infrastructure for the needs of 100,000 persons, i.e., schools, clinics, industrial service areas, etc. The unit, if grafted onto an existing urban area, may obtain a special character from the host.



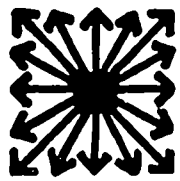
Form. Final form will be derived from detailed studies, analyses and final engineering design. Nevertheless, some settlement-unit form considerations are necessary to allow application of the concept to metropolitan conditions and to permit costing. The following thoughts are not to be construed as conceptual but only as the beginnings of an open discussion. For use in the SMA, an orderly geometric system would seem to have much merit. As an example, the gridiron patterns imposed upon early American colonial towns served these towns well initially and during later periods of expansion.[1] Although the gridiron pattern is not proposed, this simple geometric system does have the grace of orderliness and flexibility, and the form of the settlement unit should have the same quality. Demonstrated geometric simplicity would seem to assure future flexibility of change. Therefore, a quadrilateral-type form is suggested. A square form, given the proposed densities, would have to be 2 kilometers square to house 100,000 persons.



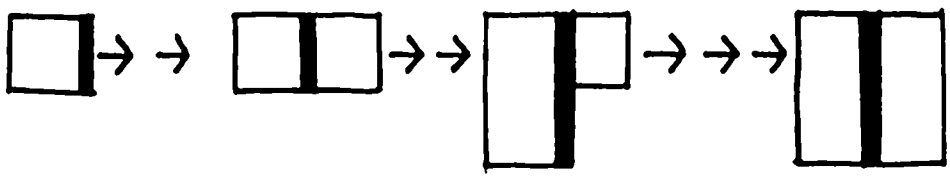
For this exercise, a square will be used as the basic shape for the settlement unit. It is of note, though not important to this thesis, that the square form also has indigenous roots, i.e., Hue.

A square is compact, with a distance from the center to any peripheral part of just over 1.4 kilometers.

[1] Philadelphia, Pennsylvania is noted for its gridiron street system and the five parks established between the Schuylkill and Delaware Rivers. Savannah, Georgia's original gridiron pattern has been expanded manyfold with fine results.



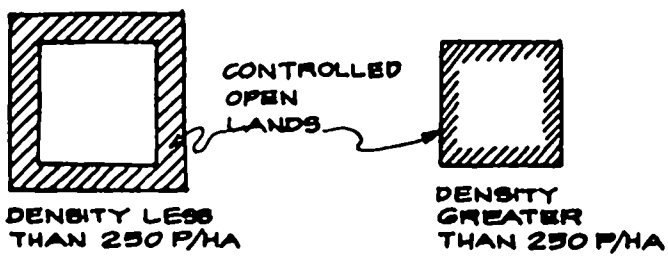
The square form lends itself well to staging.



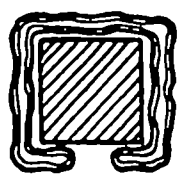
A square shape also lends itself readily to simple engineering practices.

Other aspects of form are definition, services, minor expansion and land uses.

The settlement unit should be defined. Peripheral lands should be controlled by acquisition. This is to prevent fusion of the settlement unit with squatters or with other undesirable adjacent uses. This may require either additional area, higher densities, or both.



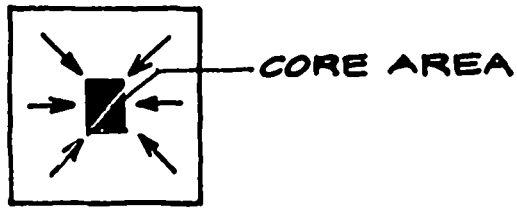
If needed this peripheral land could provide fill material for low sites; it could be a water area and, perhaps, used for rainwater ponding and oxidation ponds.



Land Uses. The unit, as part of the SMA, will not require the comprehensive inclusion of all land uses of a self-sufficient new town. It is assumed that industry, employment needs, specialized schools, special services, optionally, may or may not be included in the unit. To cut down on the financial burden, it is also assumed that a large part of housing (other than flat-type housing) will be of the self-help type. This will conform to present housing construction patterns in the SMA today. The major difference is that the land will be filled, engineered and served with water, sewage, electricity, and roads or lanes. Therefore, natural growth without zoning is accepted with residential location and densities controlled by the provision of urban services.

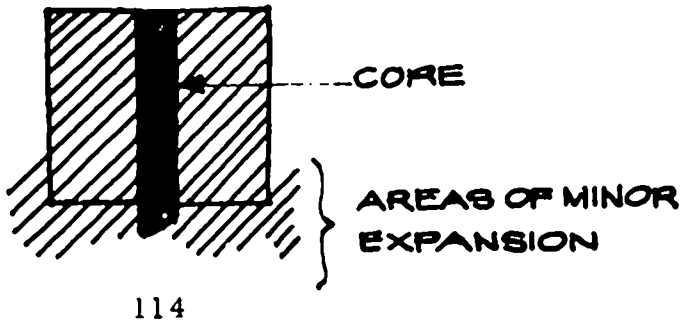
Regardless of residential and other land use patterns, there must be a center or "core"—the heart of the settlement unit. Located here would be the central services of the settlement unit, i.e., stores, shops, apartments, banks, government buildings, offices, schools, recreational amenities, the best restaurants, etc. These are facilities used by the population as a whole—the unit's own inhabitants and those who live within the unit's service area as well.

Natural gravity toward the center of the unit would probably make that area the core area.



Important to the commercial center is a means for expansion and natural growth. Usually, centers surrounded by housing can only be expanded at the expense of that housing. In the experience of Western cities, such expansion has been the cause of much blight and slums; some allowance should be made in a plan for future expansion of the core.

Minor expansion is also important to the rest of the settlement unit area. This can be done by allowing the edges to expand under controlled conditions. In any case, expansion should be minor since it would be preferable to start a new unit.



This relationship of the core (town center) to inhabitants is a judgment—the final report of the English New Towns Committee suggests about 1 acre per thousand. This is equivalent to 405 hectares per thousand, or 4 m^2 per person. Sufficient land should also be reserved in the core for more sophisticated commercial uses, such as bowling alleys and small department stores, which probably will not appear on the commercial scene for a number of years. For this core-type use, it is felt that 2.0 square meters per person would be adequate and would provide room for some expansion. For a population of 100,000 persons, 20 hectares would be required.

The proposed urban density, coupled with the high cost of maintaining large open spaces (to say nothing of the need to control squatters), suggests that the designers of the unit should concentrate on the development of very small, well-selected parks. These parks should be kept clean and well-maintained; they will be used intensively. Larger, open recreational uses will be located elsewhere in the SMA.

Western cities today are striving for ratios of 2.5 to 5.0 hectares per thousand persons as a basis for planning recreational areas within cities or regions. In the West these standards are generally accepted. It is more practical that an attempt be made to obtain a ratio of 0.2 hectares per thousand persons in the proposed open spaces of the units. For a population of 100,000 this standard would require about 20 hectares.

Roads and lanes would constitute an important use. However, not all houses would be served by a road. The existing pattern of small lanes radiating from main roads would be continued; the only difference would be that the width and turning radius of the lanes be made wide to accommodate emergency vehicles. If the system is properly designed, individual homes and buildings will be related to each other, the lanes and the core. The lanes, if not formalized, could deliberately follow the wayward path of the pedestrian and, if replete with trees and vistas of quality, would effect a balance in human needs for scale. Reflecting also the increasing use of motorized vehicles, 15 percent of the total area of the settlement unit is allocated for this use. (The Prefecture of Saigon today has 13.6 percent of its total area in roads and alleys.)

Miscellaneous uses would include other commercial areas, land for public utilities, schools, industrial and other employment areas. This classification, if used for a specialized activity, might also lend character to the unit. If most of the area available under this category were used for, say, a normal school, industry, or an office complex, the development of the unit would be influenced by that distinctive use. Arbitrarily, 10 percent of the unit's available land area is allocated for this flexible usage. Table 28 summarizes the suggested land uses.

Table 28. SUGGESTED LAND USE COMPOSITION OF A SETTLEMENT UNIT

Use Classification	Area (hectares)	Percent
Mixed—Primarily Residential	260	65.0
Core—Some Residential	20	5.0
Parks—Open Spaces	20	5.0
Roads—Lanes	60	15.0
Miscellaneous—Some Residential	40	10.0
Subtotal	400	100.0
Protective Belt (10 meters wide)	8.6	-
Total	408.6	

The Unit As a System

Once planned and understood, the unit can be easily repeated on the flat deltaic soils of the SMA with only reasonable topographic considerations. Initial design and institutional flaws can be adjusted and corrected. Repetition of the system will make administration, mobilization and provision of urban infrastructure efficient. The unit will also readily lend itself to advanced social, political and systems analyses, similar to those being used by technologically advanced countries for defense and space needs. The units can be considered as urban building blocks that can be formed or arranged to produce larger urban units.

There is another important consideration: After seeding with public funds, the unit, through the sale or long-term lease of serviced lands, can return capital and generate profits. The capital can be used to develop new units and to redevelop impacted urban areas in the SMA. The units can also be used as a land reservoir to resettle people from renewal areas. These qualities and an approach to phasing are shown diagrammatically in Figures 27 and 28.

MASS TRANSPORTATION (Reference 16)

General

Mass transportation is a derived demand: The original demand in Saigon was amplified by the war, which caused great numbers of refugees to pour into the area. Yet, despite the density of population and the increased

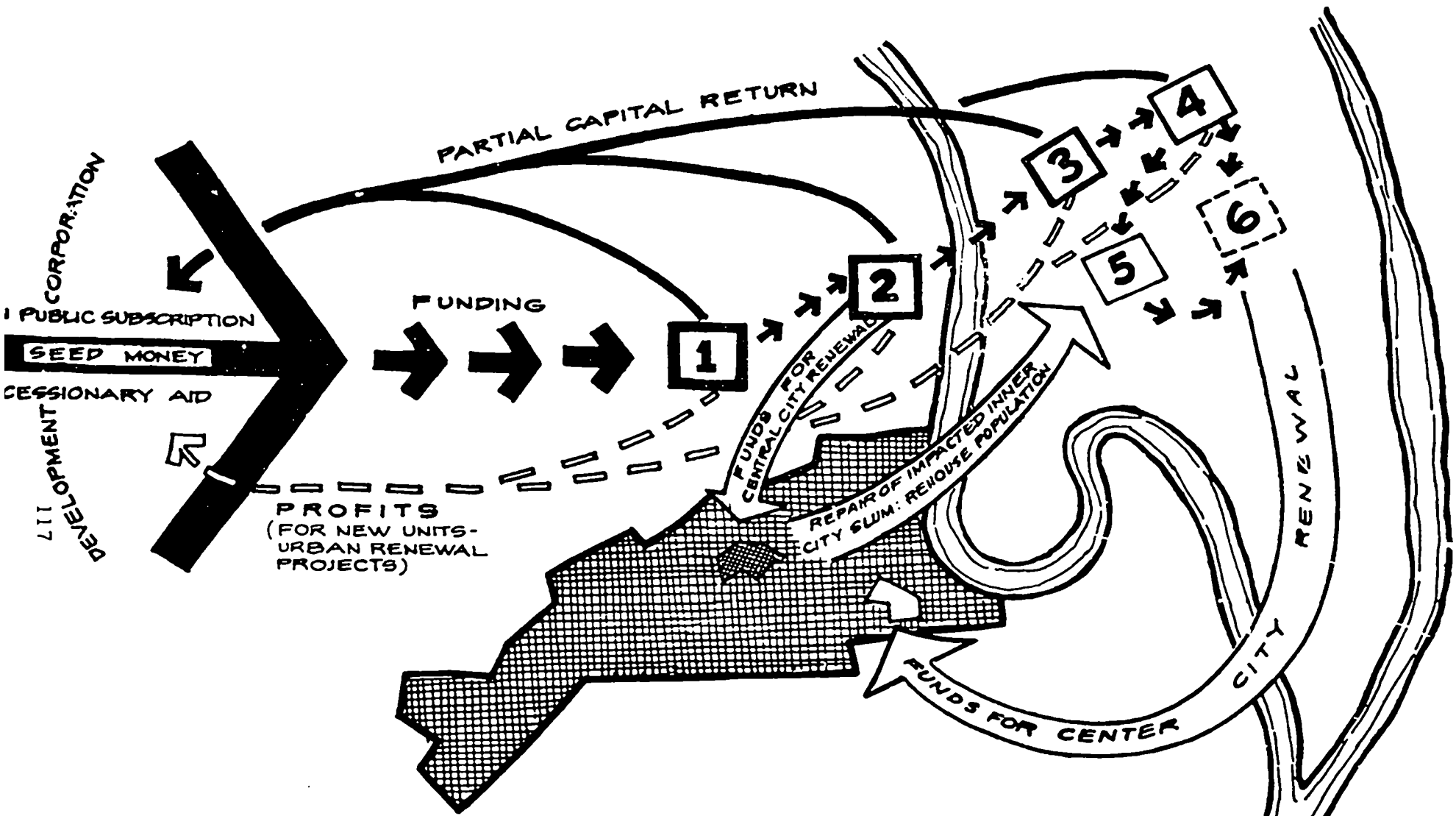


Figure 27. THE SETTLEMENT UNIT AS A DEVELOPMENT SYSTEM

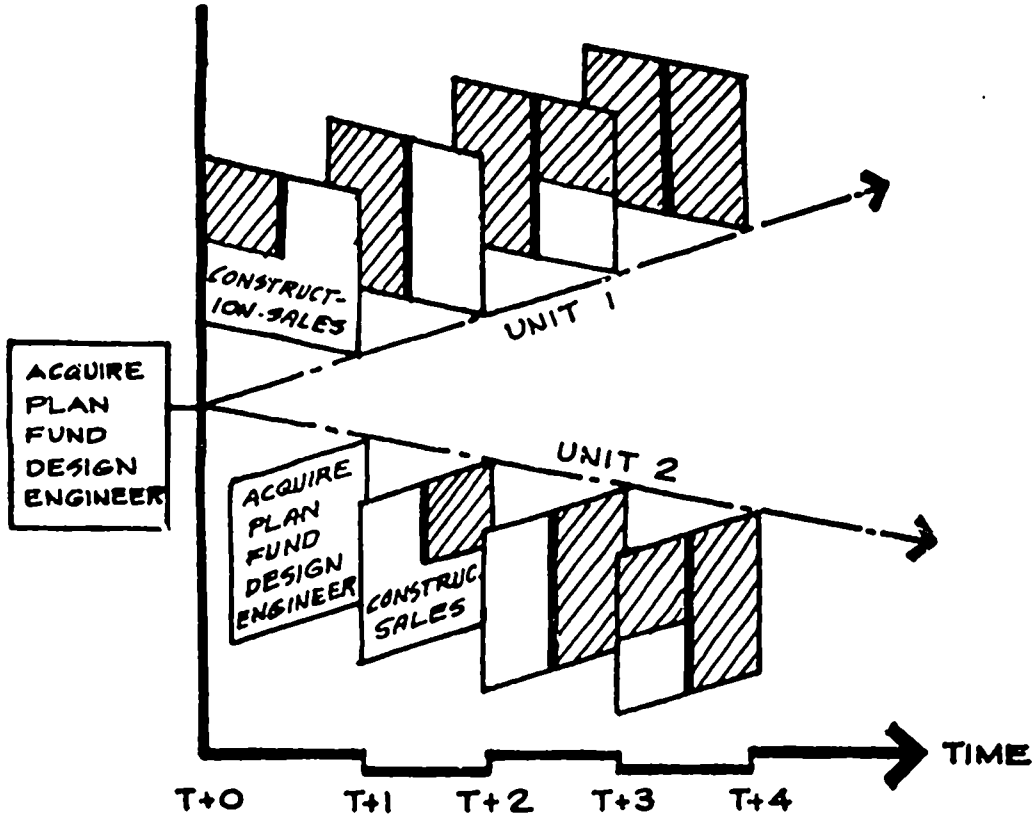


Figure 28. SYSTEM TRAJECTORIES FOR THE FIRST TWO SETTLEMENT UNITS

requirement, there is for all practical purposes, no mass transit system in the Saigon area—only the need for one.

In a growing metropolitan area, new kinetic fields are required to make urban services and employment opportunities available to more of the population.[1] Until very recently, the kinetic fields in Saigon were based on man's walking ability, and the result was a small, compact, intimate city. With increasing growth spreading outward from Saigon, motorized bicycles, motorcycles, scooters, taxis and three-wheeled microbuses (Lambros) have recently enlarged the kinetic field of the average inhabitant. More services and job opportunities have come within the range of more people in the SMA, but the costs of public transit by small, low-capacity vehicles are high. Among these are increasing traffic accidents, congestion and air pollution. The time-distance factor is also poor. During rush hours, a 5- to 6-kilometer intracity trip by motorcycle takes 1/2 hour; shorter distances (3 kilometers) by Lambro can take up to 1 hour, if seats are available.[2]

In 19th Century Western cities, kinetic fields were enlarged by constructing new streets and boulevards to accommodate horse-drawn vehicles. Later, subways and trolleys in London, Paris and New York extended the traveling range of the great masses of people living within these cities. During this period in parts of the United States, speculative trolley lines were extended into the farmlands and, soon afterward, urban growth followed the trolley lines. Today, most of the trolleys have disappeared in the West and have been superceded by the automobile. In the West today, great emphasis is being placed on the development of new forms of mass transit to replace the damaging effects of the automobile. The 19th Century pattern of trolley-line development bears a relationship to today's Saigon. (This subject will be discussed later in more detail.)

Mass transit systems for modern cities will be the major influence on the formation of new land use patterns and environmental concepts. In Western cities many forms and types of mass transit systems are being experimented with—monorails, minirails, automated bus routes, elevated and submerged systems, high-speed rail lines, automated automobile pallets, moving sidewalks and other sophisticated systems. These complex systems require advanced technological and economic systems to support them. (See Appendix D.)

---

[1] Kinetic fields, in this context, refer to the practical limits of man's day-to-day movement throughout his environment. The more efficient the means of movement, the larger the potential area of interaction; the more primitive the means of locomotion, the more compact the area over which the pursuit of daily undertakings takes place.

[2] Reported by an office worker who travels by Lambro during rush hours from Duong Ba Trac Street in District VIII to Phan Dinh Phung Street in District I with a change of Lambros at the Central Market.

Mass Transit Guides for the Saigon Metropolitan Area

To make Saigon more satisfying—from the point of view of man's movement within the city, while alleviating some of the congestion and pollution caused by Hondas, the Lambros and private automobiles—a system should be developed that will move large numbers of people from place to place within the SMA conveniently and at a reasonable cost. The system will have to accommodate the present levels of technology and economics found in the Republic if it is to work. The following guidelines are suggested.

1. Comprehensive, optimum, long-term plans are to be avoided.

2. Design options should preserve flexibility to accommodate changes in the total urban system (i.e., land use and housing, the sizes of which may change radically in the future).

3. Experimentation should be the rule in order to develop the best system for present and near-future societies.

4. Design innovations should be tested on a small scale.

5. In the case of the Republic and the SMA, the initial system should be simple and easy to accomplish.

Proposal

It bears repeating that complex transportation systems require advanced technologies and large amounts of capital. The vehicular form of transport best understood in the Republic is the motor vehicle. One major fallout of the war has been the advancement of motor vehicle technology. Many drivers, mechanics, body repairmen, dispatchers and other transportation specialists have been formally trained by the Vietnamese allied forces and American contractors. Today, there exists all the infrastructure necessary—fuel distribution, body building, motor overhaul, tire repair and parts distribution—to service a motor transportation system. In addition, the cost of going into business is not high. In Southeast Asia there are many one- or two-vehicle bus lines, with an enterprising owner-driver operating the company. The present privately owned Lambro system, if upgraded by the use of special tax incentives, could form the basis for a mass transit bus system.

Bus Lanes

In order to have an effective mass transportation system, certain conditions must be met: the service must be timely; it must be economically feasible;

and it must obviate the need, if not the desire, for a form of personal transportation. A mass transit system, running on its own right-of-way, could be designed that would meet the above criteria. However, attempting to superimpose a network of unique right-of-ways over an existing metropolis could rapidly prove to be an expensive undertaking. Nevertheless, segregating traffic in the SMA would very likely ease congestion and reduce traffic injuries and fatalities. In the Republic it is virtually impossible to limit the use of roads, even new roads (Reference 17). There are no limited access highways and, for the same reasons, there can be no limited bus cartways at this time. However, with minimum enforcement and experimentation in specially designed highways, bus lanes may be feasible. One such possibility is shown in Figure 29.

A cartway limited to bus-Lambro use, if slightly depressed or elevated, would make turns onto it by private vehicles difficult and would be easily enforceable if police blocks were established to limit its use. A driver of a private vehicle would have a difficult time evading such a blockade.

Over a period of time, given increased demands, advancing technology and financial resources, the reserved bus cartway could evolve and be used for a high-speed rail or other mass transit system. A tentative suggestion for right-of-way rearrangement is shown in Figure 30.

APPLICATION OF SETTLEMENT UNITS IN THE SMA, WITH COSTS AND RETURN FOR A SINGLE UNIT

Metropolitan Employment

The placement of the settlement unit in the SMA poses few problems; the land requirements are not excessive; and land is available. In addition, utilizing the concept of the unit as an urban building block has value for metropolitan planning and development.

If it is concluded that, on an interim basis, the unit provides a tool to change today's uncontrolled urban sprawl into one of guided growth, patterns can then be fashioned by a system of units. This system of units, coupled with simple controls over some land uses in the SMA, can serve to synthesize metropolitan form.

The unit can be placed in the more rural areas. Access roads and bus service, like the trolley lines of late 19th Century Western cities, will serve to make these rural areas available to the city dweller.

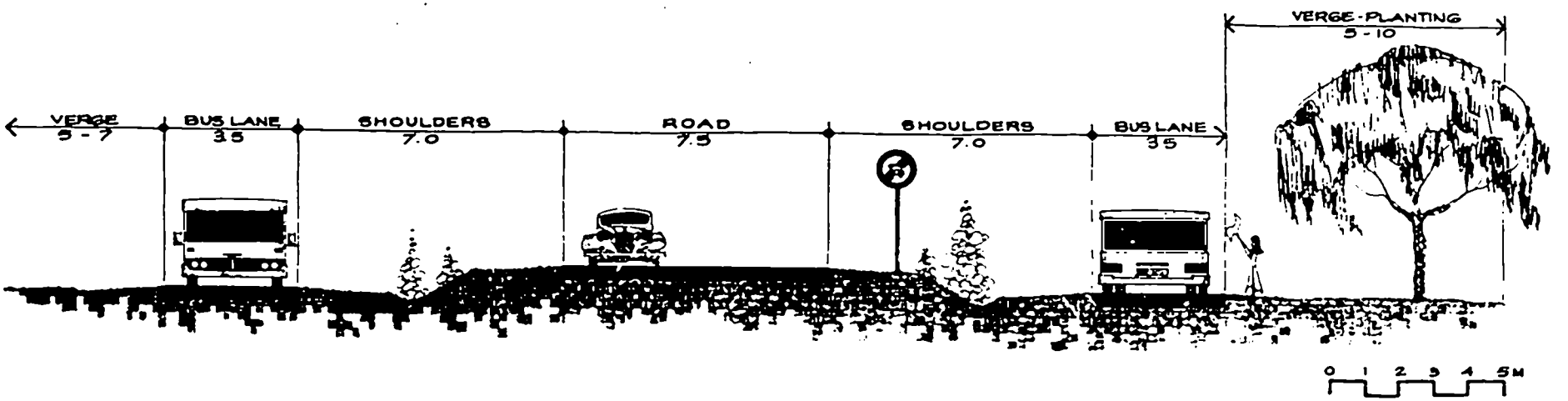


Figure 29. INITIAL ARRANGEMENT – INTRAMETROPOLITAN CORRIDOR

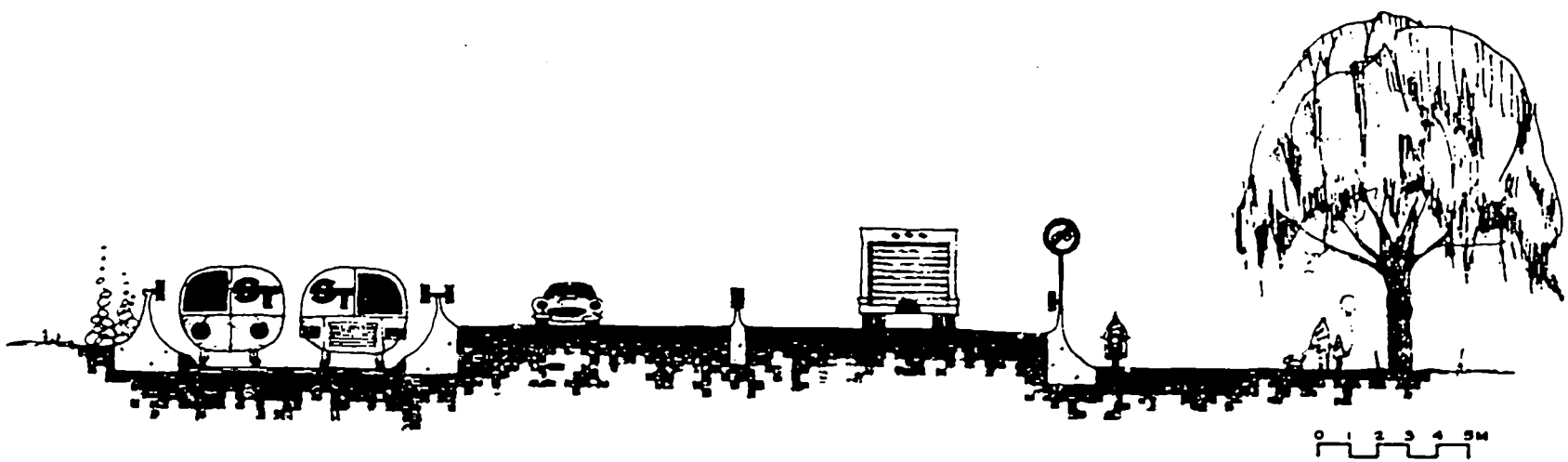


Figure 30. FINAL REARRANGEMENT – INTRAMETROPOLITAN CORRIDOR

Figures 31 and 32 show 12 units placed within the SMA. Figure 31 shows the units laced onto the new Saigon circumferential highway. This new highway, if additional right-of-way is acquired now, could serve as an intrametropolitan corridor. Also shown are provisions for continuation of the orchard lands along the banks of the river to serve as a flood plain and a suggestion for a low-density agricultural belt on the inner side of the circumferential highway. Figure 32 shows growth to the north. The units in this figure have been placed around two new intrametropolitan corridors. The new north-south road, from Di An northward through Phu Lo, intersects a proposed lateral running eastward from Ap Cho to the Bien Hoa Airfield. At their intersection, an industrial employment area could be developed. It is also suggested that the orchard lands next to the river be kept. These sketches indicate only two rudimentary possibilities for metropolitan form. No attempt has been made to locate new ports, airfields, commercial areas, transportation, etc. These will have to wait for individually focused studies, the Government's policy on urbanization and, eventually, effective metropolitan planning.

Costs and Return

Assumed Site. The first unit, for cost purposes,only, would be placed in or near Binh Hung Hoa Village in Tan Binh District, approximately 1 kilometer from a highway (see Appendix B). [1]

Land Acquisition Costs. Inquiries indicate that land in this area would cost approximately 100 Vietnamese piasters per square meter (see Appendix B). At the current rate of 410 piasters per U.S. dollar, the cost per square meter would be US$ 0.244. Land required for a settlement unit, including a protective belt, is 408.6 hectares. The cost for land would be US$ 966,984 or, say US$ 1 million.

Infrastructure Costs. Infrastructure costs vary with density from VECCO's Planning Report cost per capita of US$ 550 (Reference 18)[2]. Costs for the settlement are given in Table 29.

Land Fill. An average requirement of 0.5 meters depth of fill was assumed. Therefore, total land fill for 400 hectares will be 2 million cubic meters at an average cost of $1.50 per cubic meter. Cost of fill for a settlement unit would then be $3 million.

[1] This land allows for a margin of error, since it would be more expensive than sites indicated for the settlement units in Figures 31 and 32.

[2] Adjusted for a lesser amount of roads than proposed by VECCO for the same density of the settlement unit.

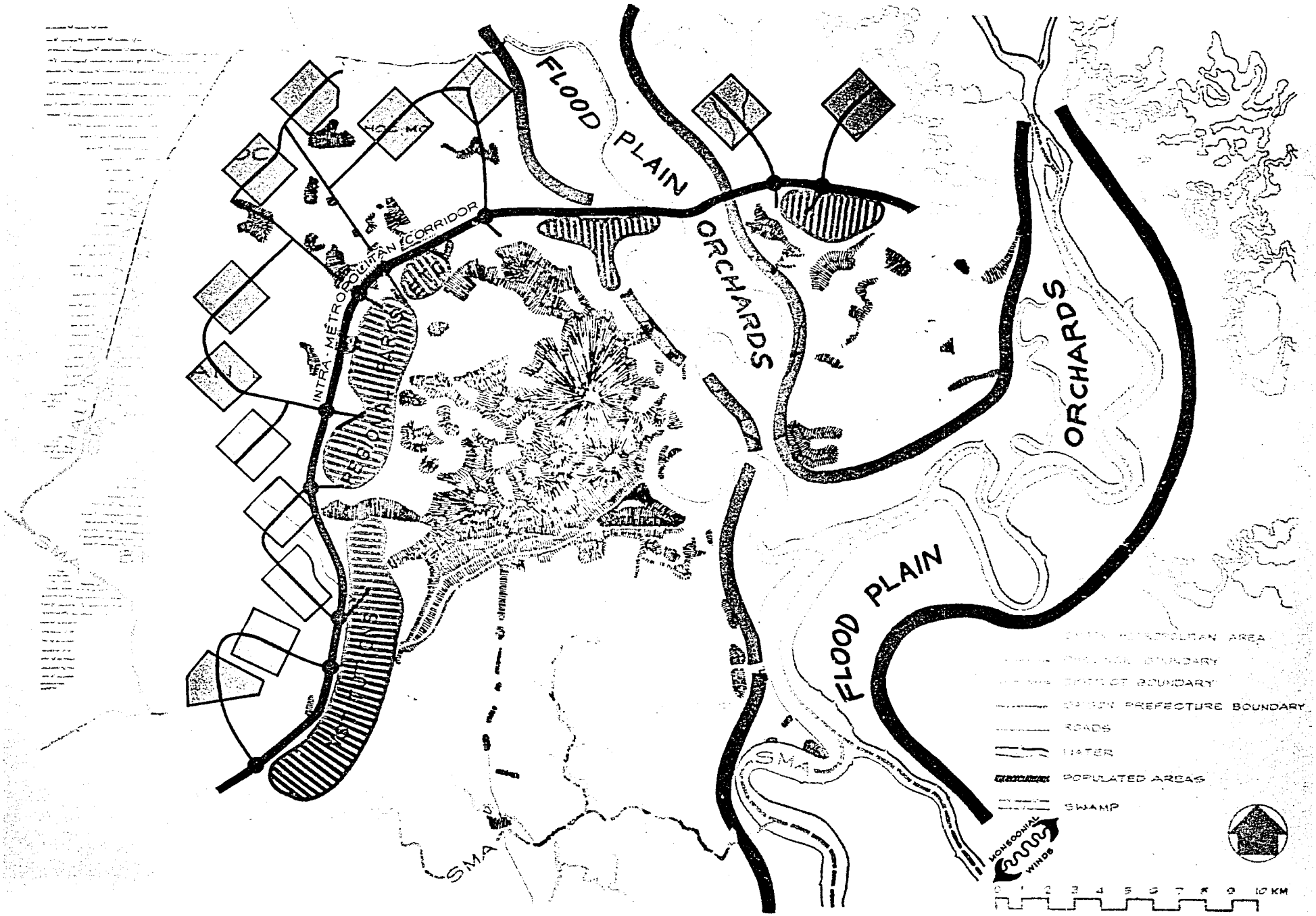


FIGURE 31 SETTLEMENT UNITS AND A POSSIBLE METROPOLITAN FORM

The implementation process may be defined as a bridge between the planning and development processes (Reference 19). In developing countries this bridge should be kept as simple and as easy to construct as possible.

The following outline of suggestions does not indicate the need for new laws or organizations—only the new use, or amplification, of existing ones. As is the case with the planning concept in the Saigon Metropolitan Area, implementation should be flexible and simple.

Development Corporation

To make the scheme work, a semiautonomous government body would seem the best vehicle. In India, a number of government corporations have been formed to carry out the successful implementation of urban planning projects. There are a number of reasons why public corporation agencies, administratively and financially autonomous, have better success than government ministries or departments. The primary reasons are its ability to focus on a singular problem, its flexibility and its freedom from much red tape.

The primary purpose of the development corporation would be to:

1. Acquire land—either by purchase or from the central land acquisition agency (as discussed later).

2. To plan for the use of the land—in cooperation with appropriate government agencies.

3. To design and engineer the approved plans.

4. To construct and execute the plans.

5. To sell and/or lease the finished product.

The Directorate of Housing, an autonomous body, is in the process of being changed to the Agency for Housing and Land Development. This agency probably should be the vehicle sought for the development of the settlement unit. The legal aims of this new agency may have to be modified to include this proposed activity.

Acquire First Plan Later

The Indians who learned from their Calcutta master plan experience that if land acquisition follows planning, planning fails. Too much time elapses between land use inventory and approval of final plans. In a growing

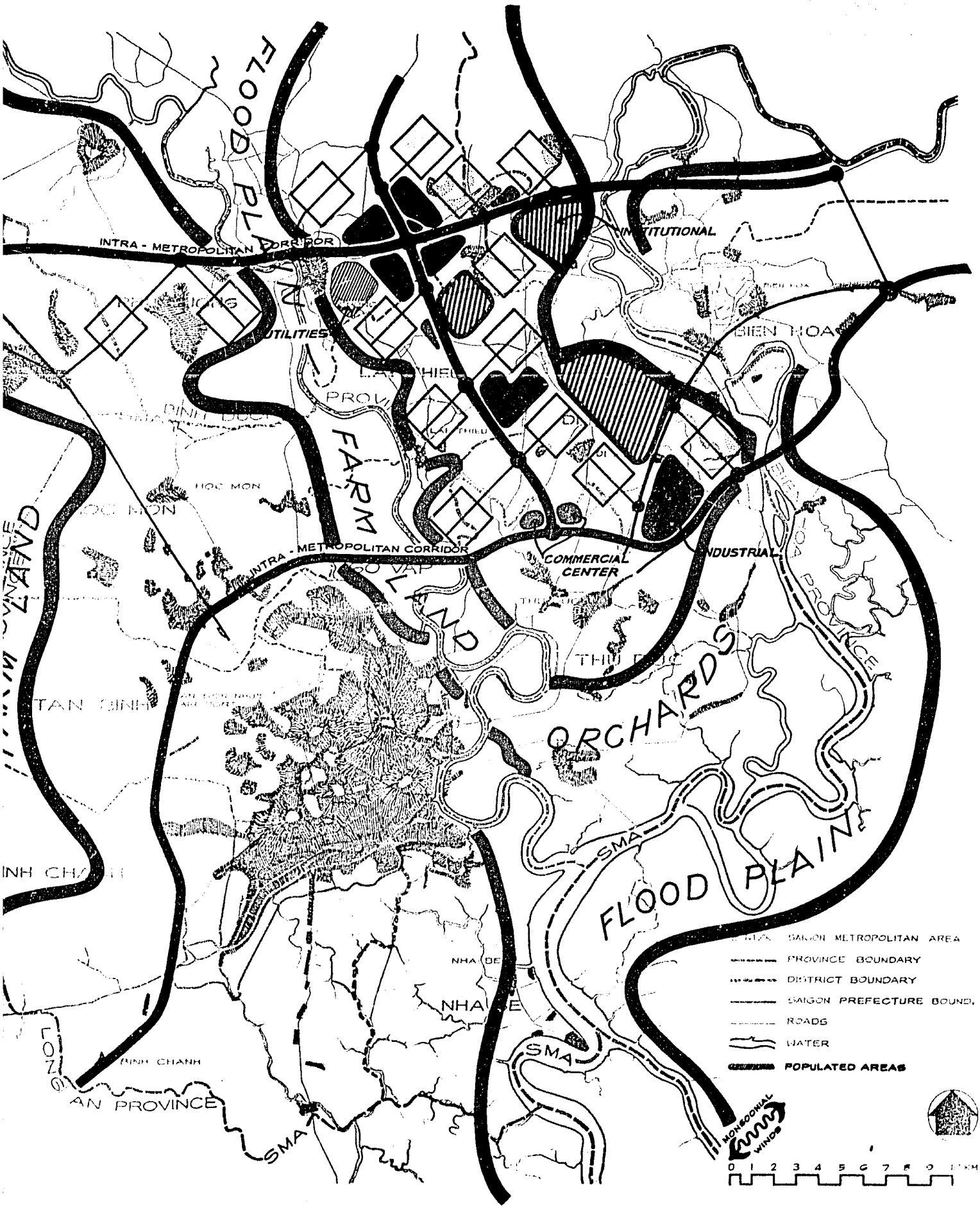


FIGURE 32 SETTLEMENT UNITS AND A POSSIBLE METROPOLITAN FORM - ALTERNATE

Table 29. INFRASTRUCTURE COSTS FOR A SETTLEMENT UNIT OF 100,000 PERSONS

Item	Cost Per Capita	Cost Per 100,000 Persons
Utilities	$235	$23,500,000
Transportation	180	18,000,000
Social	140	14,000,000
Total	$550	$55,500,000

Summary of Development Cost. Development costs, with a 10 percent allowance for contingency and administration and 15 percent profit, are summarized in Table 30.

Table 30. DEVELOPMENT COSTS FOR A SETTLEMENT UNIT

Item	Amount
Land Acquisition	$ 1,000,000
Infrastructure	55,500,000
Land Fill	3,000,000
Contingency (10%) — Subtotal	59,500,000
Administration	5,950,000
Subtotal	65,450,000
Profit (15%)	9,817,500
Total	$74,267,500
Use	$74,300,000

Sales (or Long-Term Lease) Price

Upon elimination of the areas for roads, parks and other public uses, it is found that the cost must be met by the sale of the remaining 320 hectares.

The 20 hectares of the commercial core area, with a captured population, are valuable. Assuming that the price discounted from the sales prices of similar-type ground in Saigon is VN$ 50,000 per square meter (US$ 121.50/m^2), then the total return from sale of the core would be

$24,300,000. The remaining $50 million must come from the sale of 300 hectares of mixed and miscellaneous use land. The average price (sales or long-term lease) for this land would have to be VN$ 6,833 per square meter (US$ 16.67/m^2). Serviced lands in the SMA now sell (if available) for VN$ 5,000 to VN$ 7,000 or more per square meter.

Implications and Remarks

Questions may well be raised about both the development costs and sales or lease prices. However, as an order of magnitude approximation, these costs are within reason. Efficiency of construction, with the tuning of techniques and possible grants for some infrastructural components, may reduce sales costs. Since only serviced land is being sold (or leased), the implications of a boost to private construction and building materials industries is clear.

Standards for the first few settlement units should be based primarily on rational investment criteria rather than on predetermined physical planning standards. What these standards are will be difficult to determine. Normally, financial and physical planning are integral parts of the development process. Lack of coordination between these two elements may preclude reasonable planning standards. Standards determined by economic considerations alone may be mean, while standards derived from physical planners may be expansive. Either standard may not be in keeping with life styles, aspirations or economic means. The former may eventually bring about slums, while the latter may be excessive when annual costs are related to the incomes of the inhabitants. However, in a capital-poor country, a financial failure cannot be tolerated, and it is important that the units first be a financial success. Attention will have to be paid to revenue programming as well as design.

IMPLEMENTATION/CONTROLS

Planning is relatively easy compared to implementation. Plans must be placed in an institutional framework in order to be effectuated. The institutional framework must then be realistic and capable of working. Many developing countries give lip service to the desires of those countries that are providing concessionary aid; they place laws on the national legal books that are based idealistically on Western models, and later prove to be almost totally useless. The idea that current problems will be resolved merely by passing new laws has much currency throughout the world but, of course, does not work. Problems become larger and new laws grow geometrically, both in number and complexity.

metropolis, with problems of squatters and population growth, new priorities often develop which preclude realization of original plans. In attacking Bombay's problems, the Indians first established a development corporation, then acquired the land; now they are in the planning process for the optimum use of land under control. This pragmatic approach has much merit.

Land Use Controls for the Settlement Units

As has been suggested previously, it is doubtful that plan implementation by use of zoning, subdivision regulations, building codes and other controls is very effective. The controls for the use of land which will probably work with minimum effort are those built into sales agreements or leases for land and buildings. Setbacks, use, new building construction, degree of maintenance, number of occupants, etc., can all be explicitly contained in legal agreements with appropriate penalties for violation. There is no need for new or complicated laws; existing laws governing contracts should suffice. For example, if a plot of ground is to be for one-story residential use, with a maximum density of say 10 persons, the sales and/or lease agreement should so clearly state that fact along with the penalties for violation. The agreements bound by the owner's or lessee's signature, coupled with simple, well-known effective legal procedures, could do much to achieve the government's plan for the use of the land.

Land Bank (Reference 19)

There are many laws already on the books for the public acquisition of private lands. A number of government agencies are empowered to condemn land for the special needs of roads, power, public housing, etc. However, this is not enough to accommodate and control the development of the SMA, and to meet the requirements for the proposed settlements. In all probability, future free market supply will not meet those demands placed on it by a semiautonomous government corporation striving to develop new communities. A land bank should be considered, and existing legal, financial, and administrative mechanisms reoriented to accomplish this objective.

Public land reserves, especially in the context of the proposed development scheme for the SMA, would seem to have the following advantages, benefits and uses:

1. Land reserves could be for public and semipublic use; thus, institutions and small government agencies would acquire the advantage of not engaging in lengthy legal acquisition processes for land. To the controlling or planning agency, there would be the opportunity of locating within a metropolitan framework, rather than having the institutions locate themselves haphazardly.

2. With adequate land reserves scattered throughout the area, growth could be orderly and controlled. Urban growth can be directed by emphasizing and providing infrastructure for one area while purposely neglecting others.

3. Land reserves would tend to dampen land speculation.

4. Land banks would stop public agencies from competing with each other for land and would improve coordination between government agencies.

Difficulties of compensation and parochial opposition from other agencies with existing condemnation powers and vested interests can be foreseen. However, a central land bank is important for implementation. There are precedents for land banks elsewhere in the world that could also be investigated—familiar to most is the one created by Puerto Rico in 1961.

To form a land bank, existing condemnation laws might have to be expanded, broadening the purpose for public acquisition of private land. In addition, all public land acquisition should be done by a single agency. This designated government agency would become an important development tool.

OTHER MISCELLANEOUS URBAN ASPECTS

There are a number of other urban considerations. Time does not allow a complete exploration of these items—only brief statements.

Requirements of a Capital City

Saigon is now the capital city of the Republic[1] and, as such, requires the same special consideration given to Washington, London or Paris. In these capital cities reside the heads of state, and here is where important national ceremonial and administrative functions take place. Saigon, in certain areas, needs urban formality. Again, the autonomous past may indicate design ways compatible with present and future Vietnam life styles. The fortified form of Hue sprang from a period of unrest and social instability; yet, it is monumental. In the case of Hue, monumentality was achieved on a simple, symmetrical basis. Forts, gates and similar features were placed at regular intervals around the wall, and did not conform to military needs. The palace area, a city within a city, was placed in the center of the citadel near the river wall and, as demonstrated by maps, other parts of the interior of the old city possessed great symmetry. It would seem that the

[1] Until a new capital replaces it as has been proposed.

formality necessary for the capital city of the Republic should spring from the simple symmetry of the past.

Ecological Preservation. Although outside the SMA, a large block of mangroves southeast of Saigon affects the climate, character and wildlife of the area. The mangrove swamp has been severely damaged by defoliation activities. This mangrove tideland is important to the area. Here, the age-old process of land building is taking place. The mangroves, the forerunners of tomorrow's dried land, are the retainers of today's tidelands. Polly Redford, in arguing for the preservation of American tidelands, has made a point that is equally valid for Vietnam and the mangrove swamp (Reference 20). She states:

> "In the swamps and marshes, along the shallow bays and creeks, biologists have discovered an annual growth of living matter equal to that of the most fertile farmland. For tidelands trap the silt and organic matter washed down by rivers, holding them to be fertilized again and again by minerals and salts carried in from the sea. As the flowing tide spreads all these ingredients out in the sun, an extraordinary bloom of life takes place. It occurs in the surface water, where microscopic vegetables called photo plankton grow in fantastic numbers; and on the flats and bottom, where algae and grasses draw substance from the water and energy from the sun; and in the marshes, where thick mats of decaying grasses make a compost of proteins, vitamins and carbohydrates."

Later, she further states, "No nation, even the richest, is rich enough to throw so much away." For many reasons, some unknown today, Vietnam will need its mangroves tomorrow, and studies should be made today to point out the real potentials and values of the preservation of this area of the Delta.

REFERENCES

1. Mumford, Lewis, The City in History, Penguin, Middlesex, England (1966), p. 650.
2. Mumford, op. cit., p. 134.
3. Breese, Gerald, Urbanization in Newly Developed Countries, Prentice Hall, Inc., Englewood Cliffs, N.J. (1966), p. 142.
4. Bogle, James E., Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, Metcalf & Eddy, Inc., Engineers (March 1971), p. 68.

5. Hoyt, Homer, World Urbanization: Expanding Population in a Shrinking World, Urban Land Institute, Technical Bulletin No. 43, Washington, D. C., Table 17 (1962), p. 50.

6. Parkinson, C. Northcote, "Grandiose Plans Doomed to Failure," The San Antonio Light (newspaper article) (September 12, 1971), p. 11-B.

7. Bacon, Edmund N., Design of Cities, The Viking Press, New York (1967), p. 13.

8. Time (magazine) (November 1, 1968), p. 23.

9. For a discussion of this issue see: Mandelker, Daniel R., The Zoning Dilemma, Bobbs-Merrill Co., Indianapolis, Indiana (1971).

10. Turner, John C., Barriers and Channels for Housing Development in Modernizing Countries, Journal of the American Institute of Planners (May 1967).

11. Brookings Institute, Annual Report, 1970, Washington, D.C., pp. 3 and 4.

12. Bogle, James E., The Five Northern Provinces of the Republic of Vietnam: Urban Development, Development and Resources Corporation, New York (October 1969).

13. Sen-Dou-Chang, Some Observation on the Morphology of Chinese Walled Cities, Existic, Vol. 31, No. 182 (January 1971), p. 92.

14. Hall, D. G. E., A History of South-East Asia, McMillan & Co., New York (1958), p. 356.

15. For further amplification see: Lynch, Kevin, The City as an Environment; Cities—A Scientific American Book, Knoff, New York (1967).

16. For additional general information on mass transportation, see: Ekistics, Volume 27, No. 159 (February 1969).

17. Official sources, Ministry of Public Works, GVN.

18. Vietnam Engineering and Construction Company (VECCO), Four Year (1972-1975) Plan of Infrastructures Development, Part 1: Planning Report, Ministry of Public Works (August 1971), p. 4.3-27.

19. Solow, Anatole A., Tools and Techniques for Implementation of Urban Planning, (a paper prepared for the symposium on urbanization in developing countries) (October 1967).

20. Redford, Polly, Our Vanishing Tidelands, The Atlantic Monthly (June 1967).

RECOMMENDATIONS FOR A NATIONAL URBAN POLICY AND SOME GUIDES FOR THE ACCEPTANCE OF CONCESSIONARY AID

VII. RECOMMENDATIONS FOR A NATIONAL URBAN POLICY AND SOME GUIDES FOR THE ACCEPTANCE OF CONCESSIONARY AID[1]

PRELUDE

Benefits of Urbanization

The hazards of the anticipated accelerated urbanization and growth for Vietnam have been previously explored. As a prelude to the later recommendations and guides, there is also a need to mention some benefits derived from the urbanization processes (Reference 1)[2]:

1. It is difficult to extract the urbanization and development processes from each other. Normally, the more developed the country, the more urbanized it is. There are reasons for this. The cities contain the necessities of commerce — credit; capital; technical, mangerial, and labor skills necessary to self-generate economic growth and external economies. Then, growth through the internal economies is developed by the massing of resources.

2. Cities provide both a concentrated market and service center without which rural development cannot take place. If agricultural development is to make headway, a domestic demand for its products must be established.

3. Cities are prime agents for social and cultural reforms. Cross fertilization of traditional values with new thoughts, modern behavioral patterns, work standards and techniques takes place in the cities. Attitudes and administrative capacity essential to national development are incubated there.

However, a pattern of extreme urban primacy bodes nothing but trouble. If South Vietnam had one or two cities other than Saigon, the urban problem would be smaller and the solutions to that problem, somewhat different.

Statement of Intent

It must be recognized that the urban problems facing Vietnam today and tomorrow are not the easy ones of physical planning or the more difficult ones of providing new urban infrastructure, but the very difficult ones of developing adequate national policies to remove, divert, slow down, or

[1] The recommendations which have appeared in one form or another in previous reports bear repeating (Reference 2). Here, they have been modified and amplified with introductory and explanatory material.

[2] See references at the end of this chapter.

transfer the anticipated urban growth from Saigon and to experiment with other alternatives. It would seem most prudent for Vietnam to concentrate its efforts on policies and programs that will disperse the coming urbanization throughout the Republic, rather than permit the projected urban polarization to become fact. The predicted patterns for tomorrow should not be allowed to occur. No modern country can bear the expense, danger or vulnerability of being a nation dependent on a single city; and, conversely, no region within a country can afford to be without developed, self-determining forms of urbanization. If regional and subregional areas are to achieve an ecnomic vitality of their own, they must develop mature forms of dispersed urban services based on a hierarchy of communities from villages to metropolises. There is a need today, and there will be a greater need tomorrow, to provide all regions and intracountry areas in Vietnam with necessary urban services in the form of industry, international ports, marketing and service centers, technical schools, etc. These urban areas will provide the flexibility of urban opportunity that is needed to serve and contain the population, and allow the region to mature. By serving regions and other areas with mature cities and stopping the present trend of imposing all the nation's major urban services upon Saigon, the Republic will serve itself.

Therefore, the task of national planners should be to look not at Saigon alone, but at its relationship to the nation. It should be recognized that Saigon and its Metropolitan Area are national problems, not local ones. Vietnam's future lies with programs, yet to be instituted, to guide the coming urbanization. At present, there are no known and proven techniques to cope with growth on the scale that is occurring here, but a beginning must be made to deemphasize the desirability and attraction of the primate city and to decentralize some of its present functions. There are a number of techniques that might be investigated and possibly institutionalized. Some possibilities are suggested later in this chapter; more, given experimentation and imagination, could be developed.

SOME POSSIBLE PROGRAMS, SOLUTIONS AND THOUGHTS – A DISCUSSION

Birth Control

The real villain is population increase: The mass rural to urban migrations of the late 1950s and the 1960s are behind; ahead lies only rapid population growth, with the urban rate of increase far exceeding the national one (Reference 3). Immigration, through restraint and rural development, may be reduced from a flood to a trickle. However, unless programs for family planning and reduction of fertility are instituted, all development goals or plans will be of little avail. National resources will not be able

to keep up with needs for infrastructure. Population pressures will reduce land/labor ratios, thereby depressing income. The Republic needs time to let national development catch up with present population and the war-created inadequacies in the present infrastructure. Birth control programs offer the only real hope of dampening population growth. These are long-range solutions — population control programs instituted today will not ameliorate the employment problems in the near future, since the children who will be competing for scarce jobs in 10 years or so have already been born.

Rural Development

Much attention is already being given to the rural sector of national development. However, in the context of this chapter rural-urban relationships bear mentioning. Improvement in rural areas has a direct effect on the urban situation; conversely, urban centers in rural areas assist with rural development.

Basically, increases in agricultural output, coupled with cash crops, lessens the gaps in urban-rural incomes. This improvement helps not only to contain population in rural areas, but also meets the need for additional employment brought about by population growth. Improvements in rural areas stimulate the market for urban goods and services. Intermediate urban centers assist rural development with marketing, transport, repair, education and other services. Food processing and other agro-industries may form in the intermediate centers, aiding both urban-rural sectors. One writer made the following statement (Reference 4):

> "On balance, rural development in its broadest definition is fundamental to any long-term urban solution."

Programs for the strengthening and amplification of service centers in rural areas should be designed with the rural needs firmly in mind.

Growth Poles

Definition. "Growth poles" is a relatively new term that is appearing more and more in academia. Following is its definition, a description of its function and currency of use.

> A "growth pole," in urban terms, means a city. It can be a large city, a primary city or just a secondary city. The use of the term "growth pole" has the advantage of not being tied down to a place, thereby preventing an overly relativistic focus.

Growth poles are thought to be useful as a means of diffusing development throughout a nation. Growth poles, to be effective, have to grow not only in size and population, but also more importantly—economically. A city that does not generate growth from its own economy is not a growth pole (and in reality is not a city).

Relativity. In the Republic of Vietnam, according to the foregoing definition, there is only one growth pole: Saigon, the primate city. Da Nang is not a growth pole because its growth is demographic, and not economic. Hence, despite its population, economically, Da Nang cannot be considered a city. The other major urban areas within Vietnam are neither growth poles nor cities.

Application. The calculated development of growth poles would seem important to Vietnam to ameliorate the urban centrality of Saigon. The urban areas selected for the necessary attention and inputs to make them growth poles should have the following main considerations.

1. Spatial location: While important, location is not primarily a geographical function, but one more of regional centrality. The pole selected should already have embryonic economic channels established, a strong justification for existing, and not be stagnate.

2. Economic: With proper cultivation, these channels, coupled with the inherent natural strengths in the pole should be capable of maintaining economic growth—eventually becoming economically self-generating and a city in the true sense.

Hierarchical Urban Considerations

Apart from growth poles, a hierarchical arrangement of different sized urban centers within a region or a country has been the subject of many papers. On the surface, the advantages for a country or regional system of small-, medium- and large-sized towns and cities are almost apparent; some of the more important are:

1. Urban population distribution throughout a region and the country.

2. Provision of services and markets for contiguous rural areas.

3. Important social and educational requirements that can only be met by rural towns. One writer makes the following comment (Reference 5).

"The accelerated development of small towns is important. It extends the distribution of urban places throughout the entire country and therefore increases the opportunities of contact between the rural population and modern civilization that penetrates into Malaya by the way of towns."

Although Sendut was speaking of Malaya, the principle is also applicable to Vietnam.

4. Retention of some of the more dynamic members of the local population who may be lost to the major centers.

5. Infrastructure costs to the nation are lower; provision of health care, transportation, police and fire protection, water, sewage and electricity are vital to the vulnerable, larger city and not as necessary for the small town.[1] The per capita costs for urban infrastructure are higher in cities than small towns.

In theory, the development of a hierarchy depends on connections between centers of differing sizes and the major center, the conscious distribution of infrastructure and services by size-rank.

The theory of hierarchical distribution is fine, but does it work? In Vietnam, the urban pattern once approximated a lower scale hierarchical distribution. Pre-partition Vietnam, as has been described, was once a nation of villages, small towns and a few medium-sized cities. The successful reestablishment of a range and distribution of urban centers to help in the abatement of Vietnam's urban problem and to assist with rural development is questionable.

India, for example, has been trying for years to promote schemes for rural, small town development. India's goals to help stabilize and improve rural conditions, and to fill the gaps in a hierarchical system, have not met with much success. By 1981, the number of towns in the range of 20,000 to 50,000 persons is expected to decline from 485 to 316—in spite of growing urbanization and population (Reference 6). In addition, Malaysia, which once had a reasonable hierarchical distribution of towns, is tending towards a primacy pattern based on Kuala Lumpur (Reference 7).

---

[1] Following is an example that the provision of a vital urban service—water—in a secondary town is more flexible than in a larger city: Chiengmai, Thailand's second city, with a population of approximately 100,000 persons at a density of 50 persons per hectare, has a public water system that services about 31 percent of the population. The rest of the people in Cheigmmai get along well with a number of shallow wells and small independent water systems (i.e., for a hospital and university), although such systems are not desirable. The point is that the smaller the city, the more flexible the accommodation of even a vital service like water. In capital-poor societies, without money for urban infrastructure, this would seem important.

Should the government in the Republic institute a program to develop a scale in urban sizes? The answer can only be a qualified yes! The government would do well to research the needs of the rural areas for urban services, and experiment in meeting those needs on, say, a regional basis before instituting the scheme nationally. In connection with this pattern, it has to be tailored to Vietnam, and much research is needed in determining the reasons for the existence and the life styles of the small Vietnamese towns.

Terms of Acceptance of Concessionary Aid with Reference to Urban Development

This is a broad field with many unknown political ramifications. However, there are some common-sense issues involved in concessionary aid.

First, it should be realized that concessionary aid, as it is known today, cannot begin to resolve Vietnam's urban problems. The greatest part of this burden will have to be borne by the Vietnamese themselves. There are no easy urban projects that will meet the real objectives of both donor and recipient countries. It is important to know what projects will maximize results. One writer, in viewing the role of United States' aid in Africa, made a valuable point when he said (Reference 8):

> "In view of the enormity of competing urban demands, knowing what not to do is as important as knowing what ought to be done."

He continues by saying that the U.S. ought to be less than enthusiastic about providing technical assistance and local currencies for traffic studies and capital intensive municipal improvement, since they are not critical needs.

Second, the wrong type of assistance can even exacerbate urban problems. As an example: crash programs and loans to build middle- and low-income housing in Saigon, Da Nang and other urban areas would seem counter-productive. To begin with, the climate tends to obviate the physical need for shelter; then a crash housing program creates a heavy short-term labor demands and later unemployment. The first wave of employment brings with it rural to urban migration; the later period—unemployment, frustration and political unrest.

Third, the wrong project in the wrong place can cast long shadows into the future; for example, if a friendly nation wants to donate a hospital building, for public and prestige reasons, and insists that it be in Saigon—when the Government would like to place this facility in a small, remote town with pressing needs. Perhaps the Government should not accept this particular type of assistance. Such a sophisticated facility is much more than a building; it consists of a staff who have undergone years of scarce technical

training. The institution also requires heavy financial support which, over a period of time, will far outweigh the cost of the original gift. The loss to the provinces of the services of doctors and nurses, combined with annual outlays to support such an institution where it is not needed, would seem to make acceptance of this gift questionable.

Fourth, more than a few concessionary aid projects, though altruistically conceived, were poorly executed. In Vietnam's case, pressure of the war and lack of security were partly responsible. Part of the fault also belongs to the use of submarginal contractors and professionals. It would seem only right that assistance should be up to the professional standards found in the donor's own society (Reference 9).

RECOMMENDATIONS – AND GUIDES

Specific National Recommendations

The Formation of a National Urban Planning Group. This group would seek to control placement of urban infrastructure and would be the recommending agency for all urban proposals throughout the Republic. The group would also pass on the desirability, appropriateness, and location of loan and concessionary aid applicable to urban use or, in the case of military, urban reuse. One approach to formation would be a high level group of citizens, possibly one composed of responsible citizens, government officials from pertinent ministries, interested persons from agencies of other governments, world organizations and lending bodies. This group may be ad hoc or may take the form of a body with semigovernmental status. It should strive to create an awareness of the national urban problems.

Birth Control. There is little question that natural increase is by far the greatest cause of urban population growth. A national birth control program, especially intensive in the SMA, should be instituted without delay.

The Development of a National Urban Policy. Such a policy, minimally, might limit the amount of money available for urban infrastructure for Saigon while, at the same time, concentrate on the development of selected, regional cities. An urban policy to help with the institution of programs to dampen the growth of Saigon and encourage growth in other selected areas may have the following components:

Amplification and provision of urban infrastructure, at levels comparable to those found in Saigon today, in secondary urban areas: Here may lie a building tool of national importance. Efforts to develop outlying urban centers may bear real fruit not only in stopping rural-urban migration into Saigon but also in aiding regional development. Future regional urban

centers could provide the people within the areas they serve with the same flexibility of urban opportunities and services offered by the primate city today. From past trends, and to capitalize on inherent strengths, urban areas selected for aid should include as a minimum (Figure 33):

Da Nang
Qui Nhon
Nha Trang–Cam Ranh
Ca Mau.

Use of existing budgetary tools: This may be a most promising area for investigation. Without recourse to legal means, the budgetary deferral of capital infrastructure would do much to lessen the concentration in the primary city. It might be programmed, for example, that Saigon for the next 10 years or so should not necessarily have priority of funds available for sewerage, or capital for the infrastructure items of electrification, drainage, new roads or paving of existing dirt lanes, and similar items. It might be more desirable to provide a water system and to assist with industrial and tourist development in Da Nang, the nation's second city, than, perhaps, a housing scheme for Saigon. It may be well to keep Saigon on just a maintenance basis on a short-term (5 to 10-year) basis.

Legal methods: These may vary widely–from the unlikely extremes denying new arrivals of residence and building permits, business licenses, and access to schools, hospitals, etc., within the SMA to annoyances like increased taxation, strictly enforced health controls, building codes, etc. Not to be overlooked would be proper municipal codes for the outlying urban centers that may do much for local development and self-determination.

Government decentralization: A striving to be at the primary urban center, or seat of national power, has caused many functions of government to locate illogically: for example, the Navy maintains a large establishment in Saigon which would be better suited to a coastal location; the Fisheries Department maintains its headquarters and laboratories in Saigon which may also be better suited to a coastal location. The Government should look to itself first in decongesting the city. Vietnam may have reached a point where parts of the functions of the Central Government should be removed from Saigon.

Industrial location and relocation: The Government should encourage new (and possibly old) industry to locate away from Saigon into the secondary cities by means of (1) extended tax holidays; (2) provision of industrial utilities, sites and buildings in secondary urban areas; (3) executive and worker amenities; and (4) favorable adjustment and balancing of rail (when restored), shipping, and utility rates.

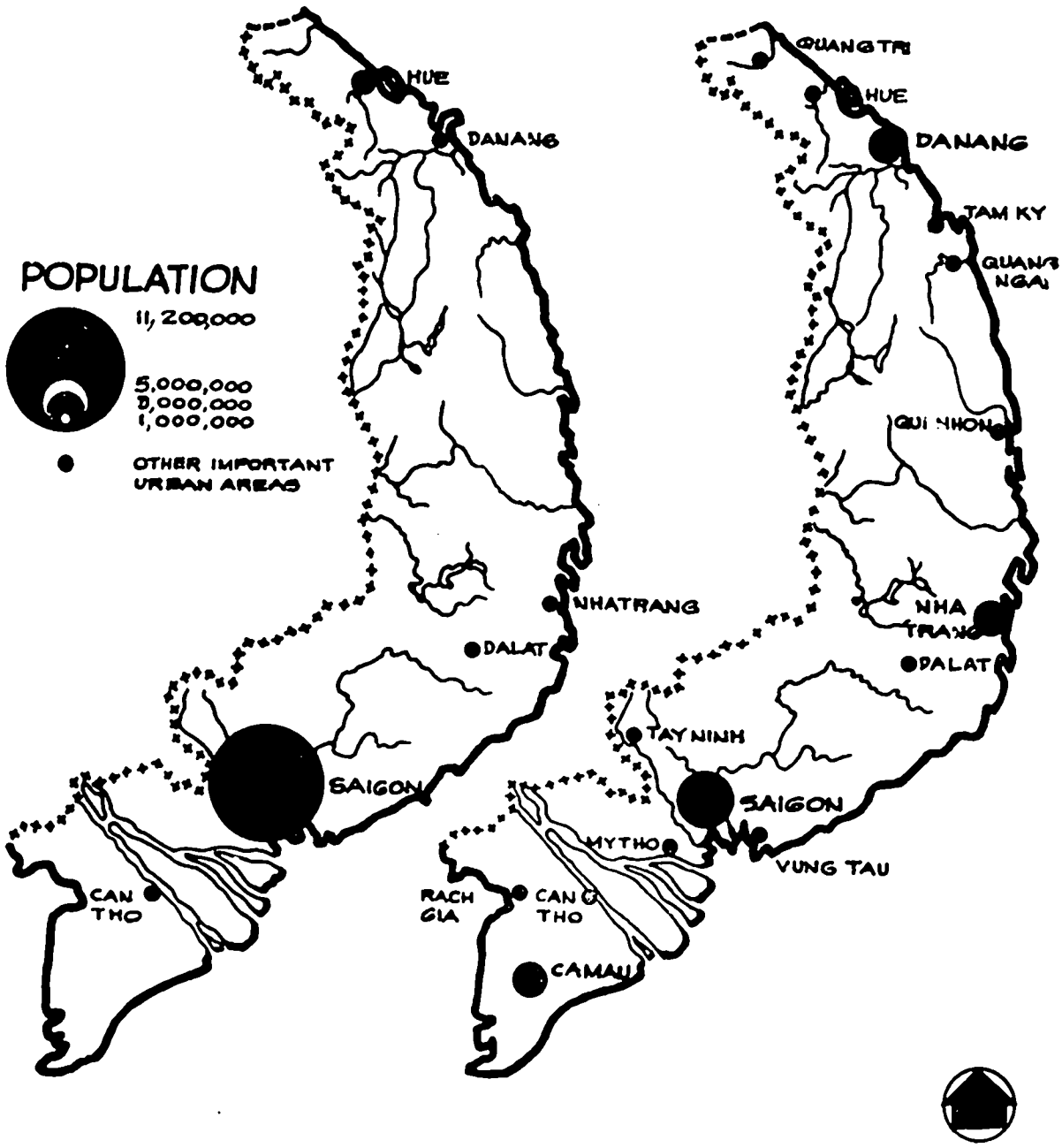


Figure 33. POSSIBLE YEAR 2000 URBAN PATTERNS – REPUBLIC OF VIETNAM

Other Considerations

Metropolitan Areas. There should be a definition of the limits of metropolitan areas within the country in order to develop consistent statistical bases for urban action programs. Metropolitan areas should be officially defined for the following cities as a first step:

Saigon
Da Nang
Qui Nhon
Nha Trang—Cam Ranh
Ca Mau
Rach Gia.

Urban Classification. Areas in the Republic that are urban should be so classified. They should not be called villages or hamlets but should be officially designated as urban places. This is necessary to bring the Republic in accordance with most of the civilized world and to develop a statistical understanding of urban trends. Demographic, social and economic changes should be reported for the urban places thus designated in the annual statistical yearbook. What is an urban area can either follow the guidelines established by the Vietnamese or, as suggested elsewhere, could begin with a classification composed of provincial seats and autonomous cities.

Guides for Concessionary Urban Aid

Coordination. Aid should be coordinated not only within the Government of the Republic and the national urban planning group (if formed), but also within agencies or a single donor country.

Personnel Quality. Expatriate technical expertise should be first-class. Second-rate professionals should not be inflicted on the Vietnamese recipient.

Relevance. The projects should be relevant to Vietnamese national goals. If they do not fit in with Vietnamese objectives, projects should not be accepted simply because some country wants to donate them.

REFERENCES

1. For more detailed information see: Thomas, Frederic C., Framework for Urban Programing in Africa (mimeo.), Office of Technical Assistance, USAID (December 1970).

2. The Postwar Development of the Republic of Vietnam: Policies and Programs, Joint Development Group (March 1969), pp. 504-506.

   Bogle, James E., The Five Northern Provinces of the Republic of Vietnam—Urban Development, Development and Resources Corporation (October 1969), pp. 122-125.

   Bogle, James E., The Coming Urban Crisis in Asia, Metcalf and Eddy, Inc., Engineers, Boston (March 1971), pp. 45-59.

3. Bogle, James E., Year 2000 Population Projections for Republic of Vietnam and Saigon Metropolitan Area, Metcalf and Eddy, Inc., Engineers, Boston (1971).

4. Thomas, op. cit., p. 4.

5. Sendut, Hamzh, Some Aspects of Urban Change in Malaya, 1931-1957, Kajian Economic Malaysia, Vol. II, No. 7 (June 1965), p. 100.

6. Fourth Five Year Plan, 1969-1974, Government of India Planning Commission, p. 398.

7. Haynes, Kingsley E., Growth Poles and the Hierarchy of Cities: Some References to Malaysia, paper for the Urban Development Panel, Southeast Asia Development Advisory Group of the Asia Society (1970).

8. Thomas, op. cit., p. 18.

9. See: The Coming Urban Crisis, pp. 36-43 for additional discussion.

A passageway to a better urban future? Or, is the experienced urban past a prologue? People, and how they live, is what urban planning is all about. (Photograph by Michael Kyne.)

VIII

APPENDICES

APPENDIX A

LAND USE/STREET PLAN MAP PROCESS

As distinguished from other types of projects undertaken by the Directorate General of Reconstruction and Urban Planning DGRUP), the planning process described here is for the preparation of land use/street plans and programs of easement and construction. The program of easement and construction is a document that accompanies the land use/street plan map and outlines the rules and regulations for land use, building height, size, setback and land subdivision.

1. The planning process starts with a formal request for assistance from the Province Chief, or Mayor, to the DGRUP.

2. Following the formal request for assistance, a document containing a list of necessary information for preparation of the land use/street plan and program of easement and construction is sent from the DGRUP to the province or autonomous city. This information is to be assembled for study and returned to the central office.

3. When all available information from the local authority is received by the DGRUP, Directorate of Projects, and City Planning Service, work begins on the plan. Time required for the land use/street plan and the accompanying program of easement and construction depends on the amount of information received from the province or autonomous city, the complexity of the situation, and the number of visits the city planning service personnel must make to the field for information.

4. When the land use/street plan and the program of easement and construction are completed, they are sent to the local authority for review.

5. At the local level, the proposed plan is studied by a review committee whose members represent the following technical services: reconstruction, land, public works, economics, agriculture and forestry. When this Committee has finished its study, the plan is passed on, with committee recommendation, to the province (city) council for concurrence or nonconcurrence. The proposed plan must be held in the province or city for a period of time (40 days) to allow the public to be informed of the plan and submit protest if desired.

6. When the local deliberation time on the proposed plan has elapsed and the province (city) council has voiced concurrence to the plan, the plan and the accompanying program of easement and construction are signed

by the Province Chief, or Mayor, and sent on to the DGRUP for necessary action.

If there is nonconcurrence, then the land use/street plan and program of easement and construction are sent back to the DGRUP for modification. In this case, the process of deliberation and modification between the local authority and the DGRUP goes on until agreement is reached.

7. When agreement is reached and the local authority has signed and returned the land use/street plan and program of easement and construction, the DGRUP puts these documents into a file along with a report on the local proceedings and the drafts of a decree making the plan official and forwards this file to the Ministry of Public Works.

8. The file is reviewed by the Minister of Public Works and circulated to the Ministries of Interior, Agriculture, and Finance for review and concurrence.

9. Once these ministries make their concurrence, the file is forwarded by the Minister of Public Works to the Prime Minister for approval.

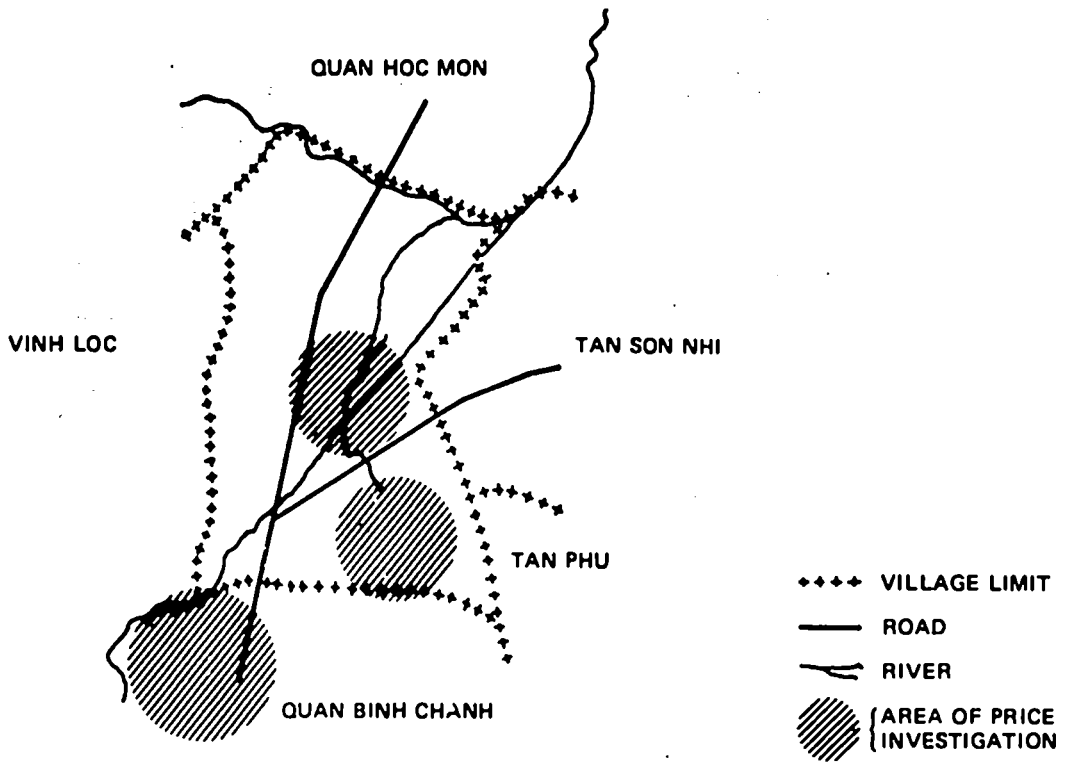
10. After approval by the Prime Minister by signing the decree, the land use/street plan and program of easement and construction are sent to the province, or autonomous city, for reinforcement.

APPENDIX B

LAND PRICES

BINH-HUNG-HOA VILLAGE, TAN BINH DISTRICT

Location



Price

1. Official Price: This price varies from year to year, and area to area, within the district. The price is set by a Government Tax Committee.

   - Unimproved land adjacent to the highway—VN$ 300-400/m^2.
   - 100 meters off the highway—value decreases by 30%.
   - 1,000 meters off the highway—VN$ 20-60/m^2.
   - Source: Mr. Tran Van Dung Internal Revenue Office.

2. Market Price:

   - One kilometer east of the highway—VN$ 100/m^2.
   - One kilometer west of the highway—VN$ 80/m^2.
   - Source: Mr. La-Ngoc-Thanh, Village Chief, Binh Hung Hoa Village.

MISSING PAGE
NO. 150

APPENDIX C-1

TOTAL POPULATION SOUTH VIETNAM BY REGION, 1960 AND 1970

Region	Population	
	1960	1970
Central Lowlands	4,357,000	5,215,000
Chaine Annamitique	604,000	907,000
Mekong Delta	9,111,000	12,648,000
Total	14,072,000	18,770,000

APPENDIX C-2

URBAN POPULATION BY REGION, 1960 AND 1970

Region	Population	
	1960	1970
Central Lowlands		
Da Nang[a]	104,800	427,834
Hue[a]	103,870	209,217
Phan Thiet	55,180	82,205
Nha Trang[a]	49,150	194,146
Qui Nhon[a]	30,900	179,676
Phan Rang	21,940	34,245
Tuy Hoa	17,210	62,212
Hoi An	16,590	46,231
Quang Tri	10,740	16,287
Quang Ngai	8,640	14,486
Di Linh	4,500	16,696
Tung Nghia	4,000	14,723
Tam Ky	3,712	39,534
Cam Ranh[a]	3,000	102,174
Total Central Lowlands	434,232	1,439,666
Chaine Annamitique		
Da Lat[a]	48,840	89,656
Ban Me Thuot	29,610	64,877
Kontum	8,760	34,426
Pleiku	7,240	67,893
Bao Loc	4,500	17,774
Hau Bon	2,800	6,356
Gia Nghia	1,280	4,644
Total Chaine Annamitique	103,030	285,626
Mekong Delta		
Saigon Metropolitan Area[a,b]	2,054,200	3,300,000
Bien Hoa	37,810	89,401
Phu Cuong	22,840	34,438
Tay Ninh	14,670	26,081

* See footnotes at end of this Appendix.

APPENDIX C-2 (Continued)

URBAN POPULATION BY REGION, 1960 AND 1970

Region	Population	
	1960	1970
Mekong Delta (Continued)		
Tan An	12,840	44,383
Vung Tau[a]	12,483	86,988
Ham Tan	9,810	19,825
An Loc	5,600	15,673
Xuan Loc	5,270	25,071
Phuoc Tuy	4,770	16,846
Khiem Cuong	3,000	6,839
Phuoc Vinh	3,000	1,648
Phuoc Binh	1,750	21,077
Can Tho[a]	49,310	135,422
My Tho[a]	40,070	115,847
Bac Lieu	39,737	55,210
Khanh Hung	39,690	60,549
Rach Gia[a]	36,960	98,792
Vinh Long	26,920	31,464
Long Xuyen	23,000	74,547
Quang Long	17,980	60,873
Go Cong	16,807	36,248
Truc Giang	15,610	70,413
Phu Vinh	12,520	49,746
Sa Dec	10,977	53,215
Chau Doc	9,089	38,142
Vi Thanh	8,895	21,232
Moc Hoa	5,000	3,274
Cao Lanh	2,560	16,911
Con Son	1,200	3,225
Total Mekong Delta	2,544,368	4,613,380
National Total	3,081,630	6,338,672

[a] Autonomous city.

[b] Prefecture of Saigon is autonomous and not the urbanized part of Gia Dinh Province.

APPENDIX C-3

RANK OF URBAN AREAS – SOUTH VIETNAM, 1960

Rank	Place	Population	Distribution (percent)
1	Saigon Metropolitan Area	2,054,200	66.7 or total urban population
2	Da Nang	104,800	100,000 persons
3	Hue	103,8[illegible]	Population—263,850 Percent of urban population—8.6 Number of areas—3 Percent of urban areas—5.9
4	Phan Thiet	55,180	50,000 persons
5	Can Tho	49,310	
6	Nha Trang	49,150	
7	Da Lat	48,840	
8	My Tho	40,070	
9	Bac Lieu	39,737	
10	Khanh Hung	39,690	
11	Bien Hoa	37,810	
12	Rach Gia	36,960	
13	Qui Nhon	30,900	
14	Ban Me Thuot	29,610	
15	Vinh Long	26,920	
16	Long Xuyen	23,000	
17	Phu Cuong	22,840	
18	Phan Ranh	21,940	20,000 persons

Population—496,777
Percent of urban population—16.1
Number of areas—14
Percent of urban areas—27.4

APPENDIX C-3 (Continued)

RANK OF URBAN AREAS – SOUTH VIETNAM, 1960

Rank	Place	Population	Distribution (percent)
19	Quan Long	17,980	
20	Tuy Hoa	17,210	
21	Go Cong	16,807	
22	Hoi An	16,590	
23	Truc Giang	15,610	
24	Tay Ninh	14,670	
25	Tan An	12,840	
26	Phu Vinh	12,520	
27	Vung Tau	12,483	
28	Sa Dec	10,977	
29	Quang Tri	10,740	Population—158,427 Percent of urban population—5.1 Number of areas—11 Percent of urban areas—21.6 10,000 persons
30	Ham Tan	9,810	
31	Chau Doc	9,089	
32	Vi Thanh	8,895	
33	Kontum	8,760	
34	Quang Ngai	8,640	
35	Pleiku	7,240	
36	An Loc	5,600	
37	Xuan Loc	5,270	
38	Moc Hoa	5,000	
39	Phuoc Tuy	4,770	
40	Di Linn	4,500	
41	Bao Loc	4,500	
42	Tung Nghia	4,000	
43	Tam Ky	3,712	
44	Khiem Cuong	3,000	
45	Cam Ranh	3,000	
46	Phuoc Vinh	3,000	
47	Hau Bon	2,800	
48	Cao Lanh	2,560	
49	Phuoc Binh	1,750	
50	Gia Nghia	1,280	
51	Con Son	1,200	Population—108,376 Percent of urban population—3.5 Number of areas—22 Percent of urban areas—43.1
National Urban Total		3,081,630	

APPENDIX C-4

RANK OF URBAN AREAS – SOUTH VIETNAM, 1970

Rank	Place	Population	Distribution (percent)
1	Saigon Metropolitan Area	3,300,000	52.1% of total urban population
2	Da Nang[a]	427,834	500,000 persons
3	Hue[a]	209,217	Population—1,364,316 Percent of urban population—21.5 Number of areas—7 Percent of urban areas—13.7
4	Nha Trang[a]	194,146	
5	Qui Nhon[a]	179,676	
6	Can Tho[a]	135,422	
7	My Tho[a]	115,847	
8	Cam Ranh[a]	102,174	100,000 persons
9	Rach Gia[a]	98,792	
10	Da Lat[a]	89,656	
11	Bien Hoa	89,401	
12	Vung Tau[a]	86,988	
13	Phan Thiet	82,205	
14	Long Xuyen	74,547	
15	Truc Giang	70,413	
16	Pleiku	67,893	
17	Ban Me Thuot	64,877	
18	Tuy Hoa	62,212	
19	Quan Long	60,873	
20	Khanh Hung	60,549	
21	Bac Lieu	55,210	
22	Sa Dec	53,215	50,000 persons

* See footnote at the end of this Appendix.

APPENDIX C-4 (Continued)

RANK OF URBAN AREAS – SOUTH VIETNAM, 1970

Rank	Place	Population	Distribution (percent)
23	Phu Vinh	49,746	
24	Hoi An	46,231	
25	Tan An	44,383	
26	Tam Ky	39,534	
27	Chau Doc	38,142	
28	Go Cong	36,248	
29	Phu Cuong	34,438	
30	Kontum	34,426	
31	Phan Rang	34,245	
32	Vinh Long	31,464	
33	Tay Ninh	26,081	
34	Xuan Loc	25,071	
35	Vi Thanh	21,232	
36	Phuoc Binh	21,077	
37	Ham Tan	19,825	
38	Bao Loc	17,774	
39	Cao Lanh	16,911	
40	Phuoc Tuy	16,846	
41	Di Linh	16,696	
42	Quang Tri	16,287	
43	An Loc	15,673	
44	Tung Nghia	14,723	
45	Quang Nghia	14,486	
46	Khiem Cuong	6,839	
47	Hau Bon	6,356	
48	Gia Nghia	4,644	
49	Moc Hoa	3,274	
50	Con Son	3,225	
51	Phuoc Vinh	1,648	
			Population—482,318 Percent of urban population—7.6 Number of areas—14 Percent of urban areas—27.4
			20,000 persons
			Population—149,221 Percent of urban population—2.4 Number of areas—9 Percent of urban areas—17.7
			10,000 persons
			Population—25,986 Percent of urban population—0.4 Number of areas—6 Percent of urban areas—11.8
National Urban Total		6,338,672	

[a] Autonomous city.

MISSING PAGE
NO. 158

Future Travel-Floating Carpets And Fast Trains

By JOE ALEX MORRIS JR.

MUNICH—Fantastic dreams are taking shape here:

—Of trains without wheels, hurtling silently over the landscape at 300 m.p.h.

—Of urban transportation systems where a computer guides you automatically to your destination in a small car.

—Of floating carpets which take you silently through airconditioned tunnels from your foyer to the department store.

It all sounds very Buck Rogers. But in fact, these are the dreams of very practical young scientists and engineers working in think tanks and factories around Munich.

They have crossed the threshold into a world of tomorrow. And they've done it by applying modern management and systems to old, established principles.

The super train is the furthest along. But there are other projects on the board here which would stretch even Buck Rogers' imagination.

They will all be needed to face up to the transportation crisis of the future. Statistics give the grim picture: between 1960 and 1975, the number of vehicles on German roads will increase 285 per cent.

The space on which to run these vehicles is scheduled to increase only 30 per cent. Engineers here say the German situation is typical of all industrialized nations.

The super train is a part of the answer to this crisis. It will travel at 300 m.p.h.

It runs virtually without noise, and with no pollution whatsoever. And it has no wheels.

One firm, Boelknow, already has built a five-ton pilot model, the first vehicle of its kind in the world. "A completely new feeling of travel," said astonished Minister of Transport Georg Leber when he tried it out.

A second firm, Krauss-Maffei, has brought out a 10-ton model of its own.

Both are based upon old, established principles:

—The "magnetic cushion" which lifts the train 10-15 millimeters off the track.

—The linear induction motor, an electric motor without conventional moving parts and which is capable of producing speeds up to 650 m.p.h.

Neither is new: the principles of the motor were known in the 19th Century, and in 1937 a German engineer named Herman Kemper took out a patent on the magentic cushion.

What is new is the techniques of melding the two principles into a transportation system. These are truly of the space age, and Boelknow for one gives full credit to its experience in designing controws for earth satellites.

Both Boelknow and Krauss-Maffei claim they have solved the key problem of control and guidance. They are now waiting for the West German government to put up about $100 million for a 40 mile test track so they can prove it in practice.

If all goes well—and the engineers here can see no earthly reason why it should not—Europeans could be traveling by super train in the next decade. The gap between today's slow trains and the airplane will have been filled.

Other people are working on super trains too. Both the British and the French are developing vehicles based on the air-cushion, or hovercraft principle.

Krauss-Maffei hasn't ruled this out, but the engineers there lean toward the magnetic cushion already adopted by Boelknow. The hovercraft is noisy, a pollutant, and requires considerably more energy for lift — at least three times as much, according to Boelknow — than does the magnetic cushion system.

The United States is becoming increasingly more active in this field too, and has set up experimental facilities at Pueblo, Colo. But the Germans say the Americans, too, are behind the times by working with the hovercraft principle they consider out of date.

The Japanese are also interested in filling the transportation gap, and in fact it is the proven success of the high-speed Tokyo-Hokkaido train to which engineers here point as the sign of the future.

The magnetic cushion principle is extremely simple. The vehicle (Krauss-Maffei is thinking in terms of 70-ton trains) literally hangs on a magnetic field set up by powerful built-in magnets and the track.

There is no friction whatsoever. "You can push our 5-ton test vehicle with your finger," boasts Boelknow's project engineer Goetz Heidelberg.

The linear induction motor sets up a rapidly alternating magnetic field by switching the flow of electric current. This shoves the vehicle forward or backward by its effect on an aluminum rail.

The two principles involved in the super train have been applied by Krauss-Maffei to solving the problem of transport in crowded urban centers. The company, which also builds conventional locomotives and the German Leopard tank, has designed a floating carpet supported by a magnetic cushion.

This carpet, equipped with the seats, would "float" through air-conditioned tubes over the streets and through buildings at 10 m.p.h., also powered by linear induction motors.

Engineers say the system will be perfected by 1974. Its cost is estimated at $3 million per kilometer, or a fraction of the cost of building a modern subway system, and Krauss-Maffei says 42 cities, from Tokyo to Tehran, are interested.

Down the road at Boelknow, another urban transport system is designed to cover greater distances than Krauss-Maffei's floating carpet, but will take less of a load.

The computer-run system could eliminate the private automobile from downtown traffic by offering cheap, individual and nonstop transportation above the streets. It works this way:

The customer puts his money in a computer and punches a button. This prints his route on a plastic card which he inserts in the vehicle, a three-man wheeled device which travels at some 20 m.p.h., guided by computers, to its destination.

Other computers route vehicles to points of demand and reroute loaded cars away from traffic jams. Electric sensors keep a safe distance between cars, and there is no steering or braking by the passengers.

Pacific Stars & Stripes 11
Sunday, Nov. 21, 1971