

NEW TOWN DEVELOPMENTS AS A DECENTRALIZATION STRATEGY: THEIR
IMPACT
ON HONG KONG

by

Kwok-tim Ng

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Master of City Planning
in
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A thesis submitted to the Faculty of Graduate Studies of
the University of Manitoba in partial fulfillment of the requirements
of the degree of

MASTER OF CITY PLANNING

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ABSTRACT

New town developments as a decentralization strategy is practised by the Government of Hong Kong for releasing the pressures exerted by the urbanization and industrialization of the urban areas of Hong Kong. The new town policy cannot be said to have been successful without the impetus of the vigorous 'Ten-Year Housing Target Programme' started in 1972. However, the over-emphasis on public housing in the three major new towns; namely, Tsuen Wan, Sha Tin and Tuen Mun, created some problems such as the imbalance of classes, the worsening of the image of new towns and the lack of private investment. These problems together with the two inappropriate development concepts of self-containment and balance, the inadequate support of industrial policy, and the incoordination of the administrative structure, leads to the weaknesses of the new town policy in Hong Kong. Only by an integrated approach can the effectiveness of new town policy be maximized while considering the problems. This requires the redefinition of development concepts, the recommendations of housing, industrial and transport instruments, and the restructuring of administrative departments. Since China will regain the sovereignty of Hong Kong in the year 1997, its political influence on Hong Kong increases gradually even before 1997, urban planning in Hong Kong will be no exception to this change in direction.

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Chapter I
INTRODUCTION

1.1 STATEMENT OF PROBLEM

New town developments came in prominence after the Second World War in both developed and developing countries primarily due to the pressures of urbanization and industrialization. New towns were developed as a means of decentralization to release some of the growing pressures exerted on the larger metropolitan centres. The city of Hong Kong (see Figure 1), like many other major metropolises faced similar problems; but in this instance the pressures stemmed both from the periodic influxes of migrants from China for various political and economic reasons[1], and the rapid industrial and economic growth which characterized the past three decades. The increase in population imposed tremendous pressures on Hong Kong because of its limited natural resources and, above all, because of the tiny land area restricting further developments especially in the case of housing. Very often rapid urban growth led to acute problems such as congested living environment in the tenements, inadequate physical and social facilities and utilities, and poor transportation facilities. Such problems were manifested in the demand for housing, and

other facilities and services. The public sectors, in trying to meet these demands, were faced with great difficulties. To accommodate the massive number of people in a better and more spacious living environment is a problem of momentous proportions in the congested urban areas of Hong Kong.

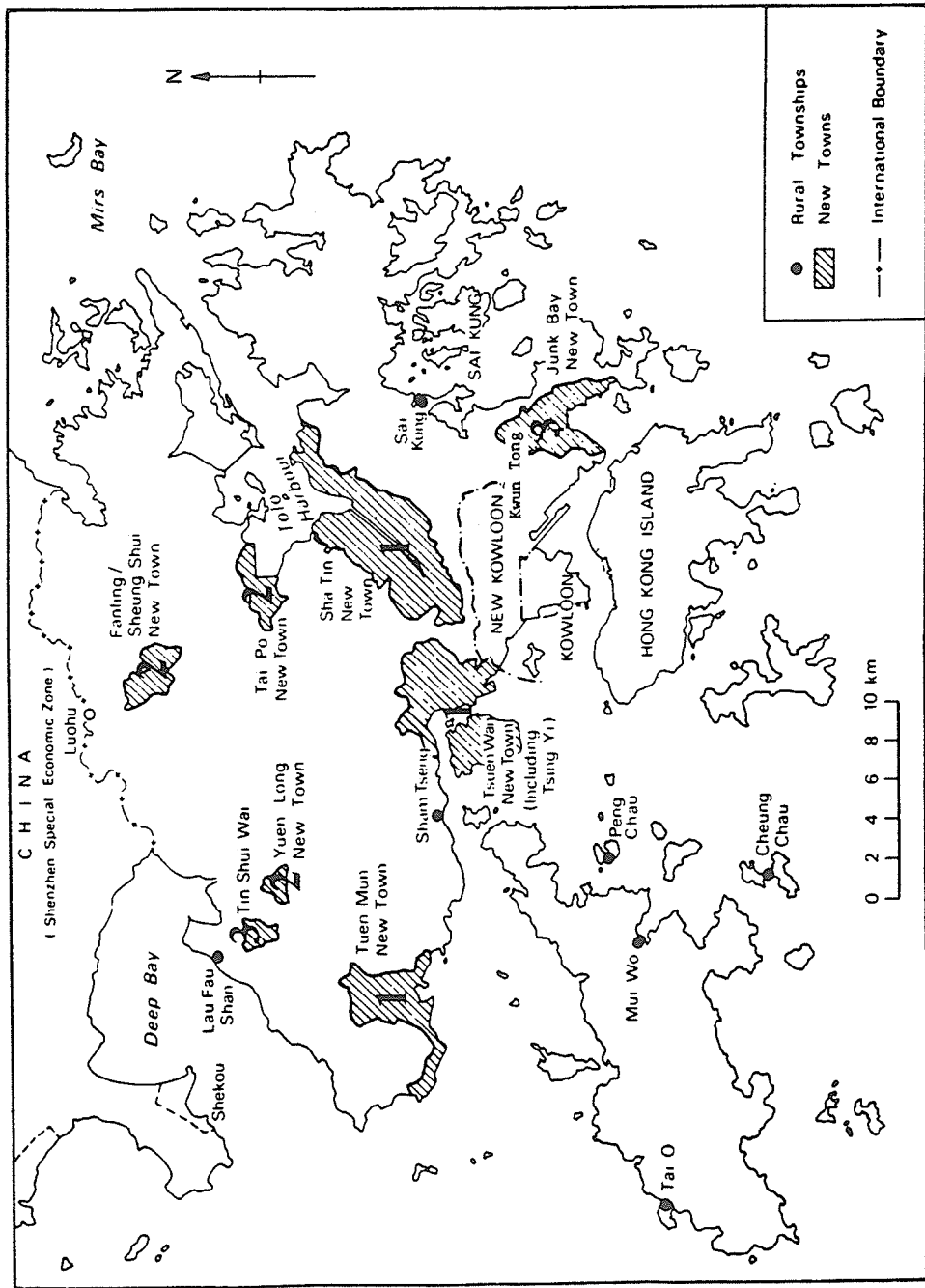


Figure 1: Hong Kong's New Towns

- Notes: '1' -- the first generation new towns
 '2' -- the second generation new towns
 '3' -- the third generation new towns

As a result of these urbanization and industrialization pressures and limited land in these urban areas[2], the government of Hong Kong adopted a policy of new town developments. This policy was favoured over the more traditional policy of urban renewal because of the less tedious administrative procedures required, the less costly expropriation and the elimination of any need to demolish communities through the destruction of buildings. Conspicuously, the cost of urban renewal was even greater than the building of new towns. Hence, new towns, which played an important role in the decentralization policy, were developed to alleviate the pressure of urban areas, dispersing the people into several new towns through a systematic and comprehensive rational approach. In the case of Hong Kong, as the root problem lay in the overconcentration of population, new town developments were emphasized over the urban renewal project. Nevertheless, both new town developments and urban renewal aimed at improving the living environment for the residents. More recently, however, the Government of Hong Kong is determined to focus more on a strategy of urban renewal in 1990s after the new town developments have been practised. (Planning For Growth, 1985, p.4). Hence, both policies have been practised and most probably will be practised in the future. This suggests that the two policies could coexist without any inherent conflicts with each other.

Hong Kong first endeavoured to relieve the pressure from the congested urban areas of the city in the 1950s through the establishment of a new industrial satellite town, Kwun Tong, which was located on the outskirts of the city's main urban areas (see Figure 1). However, Kwun Tong has never been recognized as one of the 'official' new towns because it was not developed according to the basic development concepts in new town planning such as self-containment and social balance, and was built too close to the existing urban areas and as such could not be considered independent. It was not until the 1960s that the three new towns; namely, Sha Tin, Tsuen Wan and Tuen Mun, were designated and were known as the 'major new towns' or the 'first generation new towns'. These new towns aimed not only at a grand decentralization process accounting for 1.5 million people moving from the main urban areas, but also were intended to provide better housing and living environments for the relocated people. It is expected that the new towns will absorb about 2.5 million people by the 1990s; that is, close to one-half of the total population of Hong Kong. The significant, large size of the population and the rapid pace of development had already led to a pattern of 'high-rise' and 'high-density residential housing' in new towns. Most of the type and style of housing were greatly affected by the city's limited developable land and compactness and hence, the compact type and style of housing probably is the most efficient way for accommodating the massive numbers of

people in a brief period. The three 'major new towns' each has a target population of more than 500,000. In view of the substantial number of the target population and the high rate of decentralization, the new towns in Hong Kong are an impressive programme, one of the most ambitious and successful policies of the Hong Kong Government.

Hong Kong, a British colony for about 150 years, has been greatly influenced by the British town planning ideas and practices. Many of the planners in Hong Kong during early 1960s were from the United Kingdom or other Commonwealth countries. The influx of this group of planners brought and applied the principles of self-containment and social balance in new town developments of Hong Kong, from which these two principles were widely used in British new towns during the 1950s and 1960s. However, it appears that these two guiding principles were not fully realized in Hong Kong's new towns even though the number of in-migrants and the pace of development are impressive (Leung, 1980; Sit, 1980; Chan, 1981; Wong, 1983; Hills & Yeh, 1983; Yeh & Fong, 1984). Rather, the concept of new town development in Hong Kong is followed on the concept of 'megalopolis', by which the new towns are generally regarded as planned extensions of the urban core (Prescott, 1971; Wigglesworth, 1971; Sit, 1980). Firstly, the pressure caused or affected by massive public housing development which, in turn, brought about the aggregation of people with similar economic characteristics

in the major new towns, led to social imbalance. Economically, these group of people referred were those who could not afford private housing in the urban areas. The massive public housing development in the new towns was the most appropriate measure for meeting the demand of the applicants of public housing in such a short period of time. The applicants, to a certain extent, reluctantly moved into the new towns because of shorter waiting times for public housing in these towns than those in urban areas. As a result, the 'quasi-voluntary migration' into the new towns through public housing, was one of the outstanding characteristics of new towns in Hong Kong. Secondly, the 'compact' characteristics of Hong Kong denoted the closeness of one community to another, and, thus, augmented the interdependence of economic and non-economic activities throughout the colony's urban environment. These characteristics are further reinforced by an easy means of transportation, from which the linkage between one community and another was further shortened in terms of space and time. Undoubtedly, these enhanced linkages promoted commutation which caused heavy burden on the transportation system. Hence, the compactness and the quasi-voluntary migration characteristics of Hong Kong led to a new type of model, substantially different from the British model.

1.2 STATEMENT OF PURPOSE

The thesis will attempt to examine the planning of new towns as a decentralization strategy by the Government of Hong Kong for releasing the pressures exerted by the urbanization and industrialization of the urban areas of Hong Kong. It will assess whether the new towns have provided a better living environment for the immigrants and will evaluate the impact of new towns on Hong Kong. The lessons learned from the new town developments will also be discussed. Finally, some recommendations will be suggested in an attempt to solve the prevailing problems of new towns in Hong Kong.

1.3 METHODOLOGY

The methodology of the research starts with an intensive literature review of the concepts of new towns including both philosophy and planning principles, and then explores the town planning policy in Hong Kong with reference to the established new towns in order to gain an understanding and to reveal the current thinking in the field. For the purpose of this study, the case studies will focus only on the three major new towns designated in the 1960s, Tsuen Wan, Sha Tin and Tuen Mun, since they have a longer history of developments for evaluation purpose than the more recently-designated new towns. More documentation, data and related information are available for these communities.

The evaluation will be divided into two scales: micro-scale and macro-scale. On the micro-scale, certain criteria will be applied to examine the new towns in terms of living environment; namely, the housing provision, employment condition, community facilities, and internal transport. On the macro-scale, the author will examine whether the new towns have really alleviated or solved the urbanization pressure in urban areas. After the problems have been detected, new directions of new town policy are suggested with respect to the redefinition of development concepts, housing policy, industrial policy, transport policy, and administration (see Figure 2).

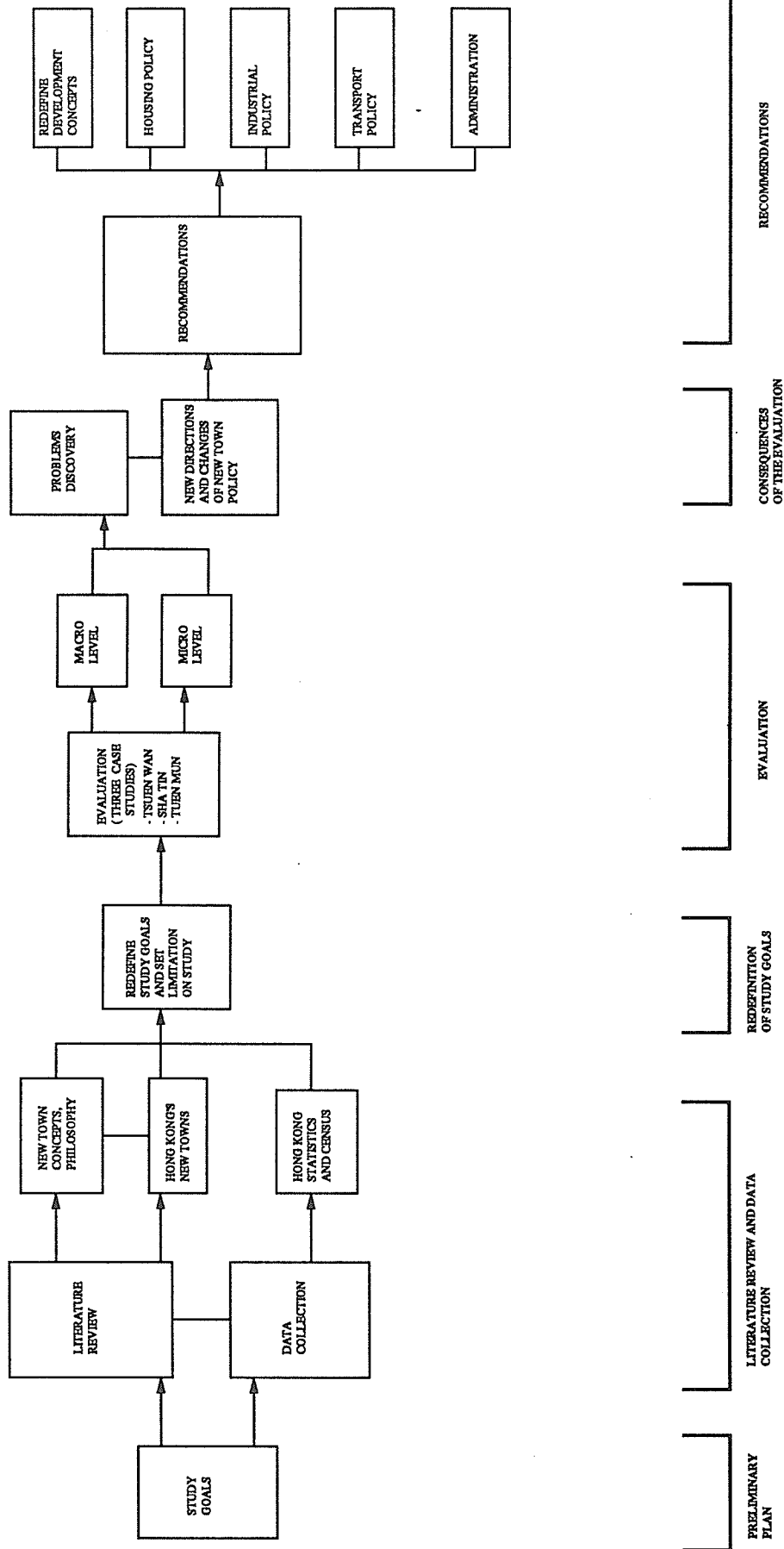


Figure 2: Methodology Chart

Chapter II

NEW TOWN CONCEPT

"Town and country must be married, and out of this joyous union will spring a new hope, a new life, a new civilization." (Howard, 1946, p.48)

2.1 INTRODUCTION

The idea of new towns as utopias is not 'new'. Rather, it has a long history, and was applied by many people in the past to solve the problems of deterioration of cities, the poor living conditions and other related social problems. 'New towns' were associated with the idea of creating a new society and providing alternatives to congested urban living. New towns were also perceived as ideal communities; that is, as an experiment in new living forms, bringing the best of the city and the country together. The new-town concept was both an urban planning tool as well as a social movement aimed at reconstructing society and the urban form. But its more recent history has wavered between two aspects: (1) a means to control urbanization and industrial decentralization, and (2) an instrument for achieving a more balanced self-sufficient development. The genesis of the new town idea goes back to the late-nineteenth century to Ebenezer Howard's 'Garden City idea'.

2.2 GARDEN CITY IDEA

Ebenezer Howard (1850 - 1928) of Britain, author of Tomorrow: A Peaceful Path to Real Reform in 1898 (later revised as Garden Cities Of Tomorrow in 1902), was the originator of the Garden City idea and put forward the garden cities movement. He also helped to form the Garden City Association in 1899 (which later became the Town and Country Planning Association) to promote and monitor the development of new towns. The Garden City idea was designed to alleviate the congestion and deterioration of cities by providing a new combination of town and country patterns.

Howard was a court reporter but his educational background did not limit his vision of a better living environment for the people, particularly the poverty-stricken classes in England. The development of Howard's views was greatly influenced by three sets of ideas that had emerged earlier (Thomas & Cresswell, 1973, p.11); namely,

1. the proposals for the migration of population advocated by Edwin Gibbon Wakefield (1796 - 1862) and the economist Alfred Marshall (1842 - 1924);
2. the proposals for a system of land tenure advocated by Thomas Spence (1832 - 1900) and the principle of equality advocated by social philosopher Herbert Spencer (1820 - 1903);

3. the model industrial city, of Victoria in U.K., of James Silk Buckingham (1786 - 1855) in 1849.

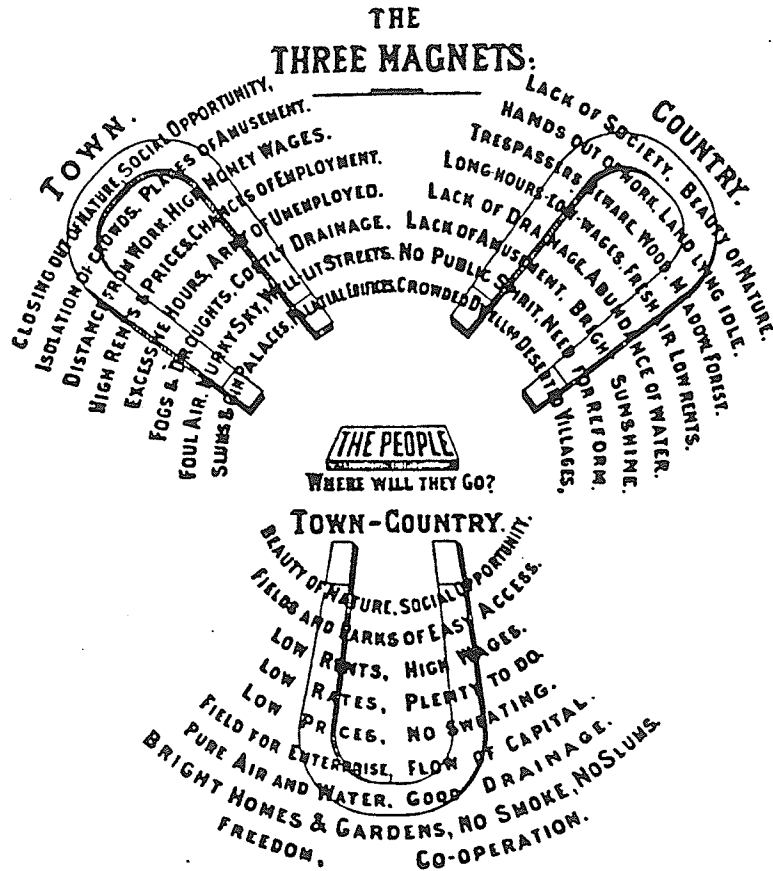
Howard gained insight from Edwin Gibbon Wakefield's population migration proposal for settling Australia in 1829. Population migration had a tremendous effect on the development of Australia because the new settlers would soon become the economic manpower or labour force for that place. He was inspired by Alfred Marshall's 1884 idea of establishing more new industries in a colony outside the London area, thus, providing employment opportunities which would further lead to the economic growth of that colony. He was also influenced by Thomas Spence's municipalization of land proposed in 1775; as a result of which all the land of a parish was owned by a corporation formed by the inhabitants living in that parish. Herbert Spencer's equality between men acted as a powerful influence on Howard as well. He adhered to the view that the equality of land ownership by all men had to be strengthened, stating that every man had the freedom to do what he wanted provided that he did not infringe on freedoms of others (Thomas & Cresswell, 1973, p.13). Moreover, Howard was attracted to the underlying principle of 'social cooperation' in the model industrial city, of Victoria in U.K., by James Silk Buckingham. He realized the advantages, the diverse employment opportunities offered, by both the agricultural and industrial sectors. This meant more physical facilities

would be developed according to the diversity of employment and more employment opportunities would be provided to solve the unemployment problem. The considerable importance of hygiene such as fresh air, water, light, etc. in the model also influenced Howard.

Most importantly, Howard was influenced by Edward Bellamy's novel of 1888, Looking Backward 2000-1887, during his visit to the United States. The book portrayed Boston as a socialist city in the year 2000 where the city was well-ordered and efficient, and had well-ordered landscape. It forecasted the next stage of the industrial and social development of humanity in the year 2000, by which the idea of 'welfare state', 'socialized', 'nationalization of industries', and 'completion of planned towns' would be realized.

Howard's garden city was not only used to release the pressures of urbanization and industrialization but also denoted a 'counter-culture'. He indicated that the industrial cities were the core of the problems, and that the deterioration of cities, as well as the despair and frustration of people should be dealt with explicitly. He criticized the urban sprawl, poor living conditions in slums, high property rents in urban areas and other social problems that the in-migrants faced. Instead, he proposed a new community where all these problems were eliminated, and, in addition, offered a new culture or life style. (see Figure 3, 4, and 5).

Figure 3: The Three Magnets

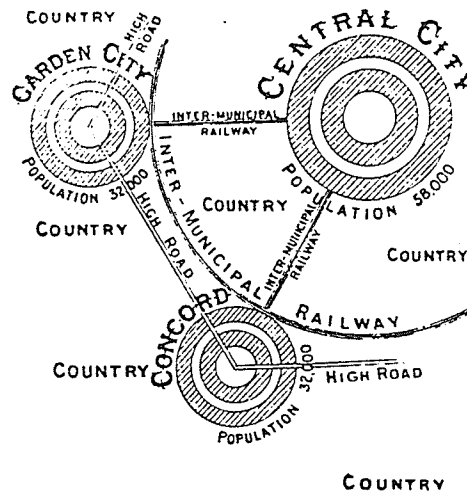


Source: Howard, 1946.

Figure 4: City Growth

DIAGRAM

ILLUSTRATING CORRECT PRINCIPLE
OF A CITY'S GROWTH - OPEN COUNTRY
EVER NEAR AT HAND, AND RAPID
COMMUNICATION BETWEEN OFF-SHOOTS.

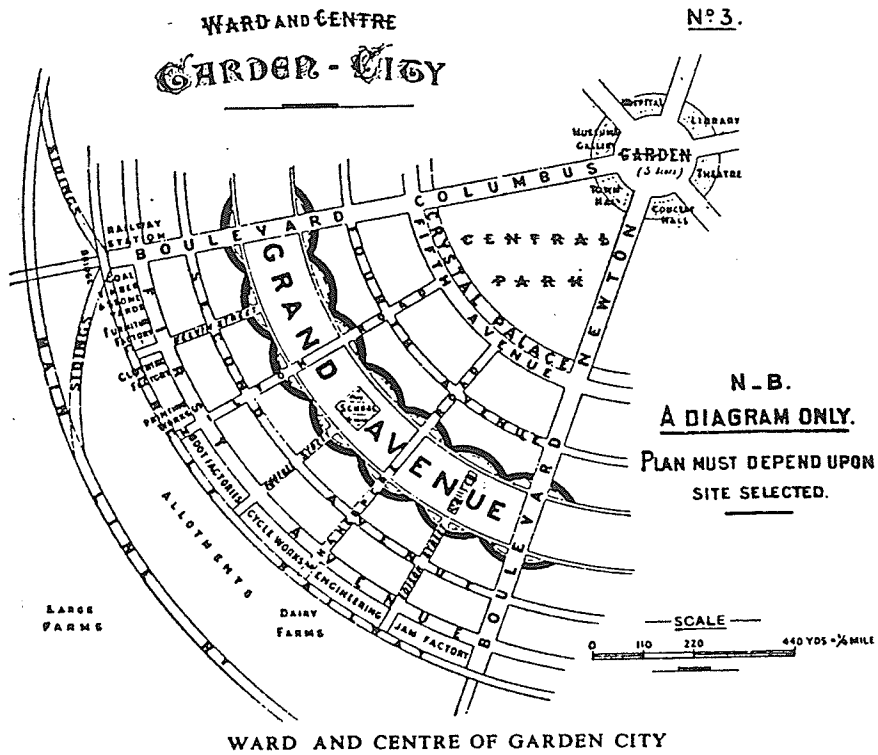


Source: Howard, 1946.

The garden city idea was characterized as the union between man and nature, and the restoration of 'brotherhood' between man and man. It had a strong philosophy of 'balance[3]' - balance between town and country; balance between capitalism and communism; balance between individualism and collectivism; balance between public and private control. Howard always advocated a balance of position; that is, he never fully subscribed to the extremes of any theories. He always collected the good points of each theory and combined them together for developing new ideas.

Howard was open-minded enough to accept some of the good ideas of communism in developing the garden city. He

Figure 5: The Concentric Zones



Source: Howard, 1946.

believed that capitalism was cause of some of the problems in Britain especially after the Industrial Revolution. Regarding harmony between man and nature, he realized the importance of the union of town and country in affecting the life pattern of the people. Only through such union could a full measure of social life be achieved. He argued that the lives of the people in the towns were 'boxed-in', without much variety and away from the country. He had a strong feeling for nature as a gift from God to men. The expansion of town at the expense of country must be condemned and restricted. Hence, conservation of the country was necessary. Even though Howard had tried to tackle some of the problems brought about by capitalism, he did not totally deny the benefits occasioned by capitalism - industrialization, increasing productivity, economic growth and wealth to the country. As a result, in his design for Garden Cities he integrated ideas from both capitalism and socialism. For example, the privately-owned residences and the community-owned public facilities. Under these two ideologies, he endeavoured to keep individualism and collectivism in equilibrium, and to balance the public and private control in the community. It could be said that the garden city was a 'product' of both capitalistic and communistic ideas. In fact, the garden city could not be said to be feasible without the dynamic force of 'brotherhood love' of the people in the community. This kind of 'brotherhood love' could be traced back to Howard's

Christian belief. Thus, the garden city was mixed with the accent of the two ideologies and the 'brotherhood love'.

Regarding restoration of man and man relationship, he designed a community with strong collective and cooperative structure, in which people could cooperate with each other and share their lives with others. For example, some houses are served by communal gardens and kitchens. Brotherhood and fellowship amongst people were the central theme of personal relationships. Cooperative institutions were also established to develop the communal spirit in the garden city. Nevertheless, the cooperative spirit was not that easy to develop since man was self-centered. Only through education or self-awareness could the spirit of mutual love between man be developed.

In addition, Howard also tried to balance the power control between the public and private sectors. Since the land was publicly owned and developed, the rent for the tenure would be kept at a steady rate, without any influence from the private market. Equality in housing amongst people also was to be enforced. Many of the social infrastructures such as town hall, libraries, museums, theatres, hospitals, etc. were to be publicly owned. However, some of the economic activities, such as industrial and commercial enterprises, were to be privately owned.

Howard not only developed the Garden City idea but also concentrated on the processes through which the idea of the garden cities would be made possible. He realized the importance of effective planning. As a result, he formed the Garden City Association in 1899. The first new town, Letchworth, was built in 1903 and the second one was built later in Welwyn (in 1920) by the Association, both in England outside the city of London.

During the period of 1914-1918, Howard, F.J. Osborne and others reasserted the garden city principle and recognized that new towns could act as an integral part of the expected national housing effort (low-rent housing policy) at that time. This recognition later led to a combination of both public and private housing in the new towns. To maintain the public health and certain living standards, the government intervened more in the development of these new towns. Government subsidies were used to aid infrastructure and housing in the new towns as some of these towns grew.

In 1946, prompted by the Garden Cities Movement, the New Towns Act was passed following the recommendations of the New Towns (Reith) Committee. Henceforth, the development of all new towns was under the terms of that legislation. The public development corporations under the New Towns Act were responsible for the planning, land acquisition, land servicing and future functional development of the new towns. Industrial firms were also encouraged to establish

themselves in these new towns. From 1946 onwards, thirty-four new towns were built or started in Great Britain (Spates & Macionis, 1987, p.407).

In general, most new towns in the world following the Second World War were the consequence of Ebenezer Howard's Garden City idea. New towns were not only found in the United Kingdom but also in a wide variety of other countries such as U.S.A., Europe and many in developing countries of the world. Thus, the new town developments could well be considered as one of the major post-war planning activities.

2.3 DEFINITIONS OF NEW TOWNS

New towns have no single, universally applicable definition. It is especially true that new towns in different countries are built in response to various needs and purposes at various periods of time. Literally, new towns must be a 'town' and must be 'new'. However, new towns will one day become old and deteriorated, and may not qualify as 'new' again. Clapp (1971) notes that some definitions of new towns are more philosophical than descriptive, whilst other definitions are related to the designating authority, to the site, the master plan, to the strategic plan strategy, the size, the population, and speed of development.

Nevertheless, new towns can be defined by their common characteristics. One of the common features is the extent of planning and programming carried out before construction begins; such activities aim at providing an orderly development in contrast to the organic growth of cities. The development of new towns signifies a better living environment than before a combination of country and city living environment. Other characteristics include a mix of housing, various employment opportunities, efficient services, recreation facilities, and a good transportation system for the residents. To a great extent they are supposedly self-contained, more balanced and community oriented. However different new towns emphasize different

aspects: recreation (e.g. Yanchep Sun City, Australia), natural resources (e.g. Grande Cache, Alberta, Canada) and education (e.g. Tsukuka, Academic City, Japan).

Generally speaking, new towns can be defined as any new settlement formed intentionally to achieve an orderly development of towns and to provide adequate economic, social, and cultural opportunities or activities for the residents within the town so as to minimize their commuting and dependence on the metropolitan city.

2.4 CLASSIFICATIONS OF NEW TOWNS

New towns can be classified according to their siting of physical settlements (Merlin, 1971, p.242; Phillips & Yeh, 1987, p.5). The siting of new towns can be divided into three types; namely, independent, freestanding, and those which are contiguous of the built-up areas. The former two types constitute discrete and separable physical developments while the third one is usually an extension of built-up areas such as suburban expansion. 'Independent' new towns are new settlements established outside urban areas in the region to maintain a balanced development of all regions of the country, especially for economic reasons such as the availability of raw materials. For example, new towns in Siberia, U.S.S.R; Stalowa Wola in Poland; Newton Aycliff, Peterlee, and Telford in U.K.; Brasilia in Brazil; Chandigarh in India. 'Freestanding' new towns are those

that are built near, but separate from, a large city to provide against the concentration of men and jobs in a single built-up area, creating a complete albeit different urban life styles. For example, new towns connected with the built-up areas of London and Paris and the conurbation of western Holland. Finally, the third type of new town emphasizes the functional unity in an urban area and the minimization of commuting time as jobs are already available in these new towns. For example, Stockholm, Sweden; Helsinki, Finland; Sennestadt, West Germany, etc. Inter-urban flows can also be eased as the people are able to find employment in these suburban new towns. As a result, the traffic flows in the major urban areas will not be too heavy. In fact, 'satellite town' seems to be a more suitable term than 'new town' in describing this type of new town.

New towns can also be classified according to the degree of self-containment, as indicated by Golany (1976, p.22-23). His basic assumption is that the economic base and self-containment of a community are relatively important to the land-use pattern, the provision of services, and the commuting behaviour in it. These factors influence the character of the community. A diversified economic base offering a wide variety of employment opportunities indicates a wide range of socio-economic groups. Hence, all new urban settlements fall into two main groups, A and B. Group A settlements, having physical self-identity, are

relatively independent in economic activities. They are not based primarily on the commuting pattern and are comparatively self-contained and self-sustaining in every dimension. Very often, these settlements have specific goals, such as comprehensive plans and the functions of development, in addition to the mere provision of housing. Typical examples of this type go under a variety of names, including: new town, new community, new city, company town, development town, regional growth centre, horizontal city (Ecumenopolis)[4], vertical city(e.g. Arconsanti from Phoenix, Arizona[5]) and new town in-city. On the other hand, Group B settlements are not economically independent; instead, they are economically related to an established urban centre; that is, dependent on a major urban centre. Since major job opportunities are provided in the urban centre, the residents have to travel daily to their working place and regard their original dwellings as 'bedroom' communities. Day-time density of population in the new town is undoubtedly lower than that of the night time. The spirit in the community, hence, is low because the residents are more involved in outside activities. The examples of this type of settlement enjoy such titles as: satellite town, metro town, land subdivision, planned unit development (PUD) and new town in-town. Even though the two groups have similar objectives, they are different in terms of their function, dependency and scale. Common objectives include meeting urban housing needs, reducing urban traffic congestion, and creating a new innovative community.

In general, the classification of new towns can be made according to the physical siting or the degree of economic self-containment. Physical siting is a much more straightforward way to distinguish these new urban settlements. In contrast, the use of economic self-containment as a criterion is sometimes problematic because total self-containment is difficult to achieve in reality. Thus, the methods for measuring the degree of economic self-containment becomes an important consideration. Only by using some of the more accurate indices of self-containment can the difficulties associated with the notion be avoided (see Appendix A for the details of the indices applied for measuring self-containment).

2.5 OBJECTIVES OF NEW TOWNS

Despite the fact that the classification of new towns provides a rough set of categories, new towns in different countries have their own specific objectives, which are as enumerated below.

1. Political Objectives.

- a) To serve as capital cities i.e. administrative cities (e.g. Brasilia, Brazil; Canberra, Australia).

b) To fulfil strategic or military needs (e.g. many Israeli towns).

2. Economic Objectives.

a) To exploit natural resources or to develop the potentialities of land (e.g. Fort McMurray, Alberta and many Canadian towns; Los Alamos, New Mexico).

3. Physical Objectives.

a) To alleviate the congestion in the existing large urban centres and/or to rationally organize the current and future metropolitan growth (e.g. eight London new towns; recently developed British new towns (Northampton, Milton Keynes, etc.)).

b) To deal with the growth and movement of population (e.g. some British new towns such as Newton Aycliffe, Washington, Peterlee, Corby, Telford, etc.; some Israeli and Australian new towns).

c) To open up new regions as a development instrument under regional and national planning (e.g. Israeli, Soviet new towns and those in many developing countries).

In fact, quite a number of the new towns are developed to serve dual or multiple purposes. Many developing countries often regard new towns as a comprehensive development

instrument compatible with both regional and national planning.

2.6 SELF-CONTAINMENT AND SOCIAL BALANCE

Two important and indeed central considerations in the development of new towns are the objectives of self-containment and social balance. These ideas became popular and central in the planning discourse following World War II. The planning objectives, of self-containment and social balance, were first devised by Howard when he designed the Garden City. Osborn and Whittick mentioned that Howard's conception of the planned and organized new town was fully adapted to the modern industrial system and the way of life the system required and made possible (1977, p.4). The new town was unlike the earlier utopian schemes. Howard was aware that society was changing from an agricultural one into an industrial one and required a new life style for the people who faced the direct impact of industrial growth. He endeavoured to design a self-contained and self-sufficient community, in which the living conditions were relatively better. The idea of self-containment was obvious, although it was not mentioned, in designing the first new town, Letchworth, in 1903 (Ogilvy, 1968, p.39). It was built according to the idea of Howard's Garden City, in which agricultural, industrial, commercial and residential activities were all present. The

self-containment idea was stressed more in developing the second new town, Welwyn, in 1920. As stated by Purdom (1949, p.186-7):

"The new town company's scheme, therefore, will pay equal attention to housing and to the provision of manufacturing facilities. Healthy and well-equipped factories and workshops will be grouped in scientific relation to transport facilities, and will be easily accessible from the new houses of the workers.... A population of 40,000 to 50,000 will be provided for, efforts being made to anticipate all its social, recreative, and civic needs. The aim is to create a self-contained town, with a vigorous life of its own independent of London."

It was not until 1945 that the Reith Committee[6] took some action to publicize the concept of new towns as self-contained and well balanced communities for work and living. Since then, the phrase, 'self-contained', was always used in conjunction with the words, 'new towns' (Ogilvy, 1968, p.38). Despite the fact that self-containment and social balance are not easy to achieve due to the constant changes in society and technology, the ideas are still widely recognized in many countries. In short, the self-containment and social balance concept are intrinsic to the idea of new towns. The guiding principles advocated by the Reith Committee hinge on the working and living of the residents as vital planning consideration. Thus, self-containment and social balance concepts are often related to the employment and balanced housing conditions of a particular community.

2.6.1 Self-Containment

Self-containment of new towns is often regarded as one of the micro-goals which must be achieved at the community level. By definition, 'self-containment' has three meanings. The first two meanings are solely related to the physical characteristics, that is, the new towns should be compact in form and should be developed in an orderly fashion instead of the scattered form of the organic natural urban development. Therefore, the new towns use less land per head of population compared with other towns of similar size (Thomas & Cresswell, 1973, p.26). In fact, many designated new towns' areas are sited in poor quality agricultural land. Secondly, it refers to the provision of facilities in the new towns, in which a complete range of urban facilities such as employment opportunities, shops, health centres and schools are adequately provided to serve the needs of the residents. Thirdly, the meaning of 'self-containment' has an extended social and behavioural connotation. The meaning is not only limited to the provision of facilities but is also related to the satisfaction expressed by the residents of such facilities. In addition to the abstracted definition of satisfaction, it also has a regional implication. In other words, the residents should be satisfied by the facilities within the towns so that they enjoy full lives if the town is a complete community. Otherwise, the residents have to travel

to other areas for work and services, and this has a bearing on regional development.

Generally speaking, the last two meanings of 'self-containment' are closely related to each other and it is important to distinguish between them in any new town analysis or policy making. The third meaning provides a good indicator for analyzing the needs of the residents. It is based on their daily behavioural pattern. Hence, the provision of facilities is adjusted after the analysis, especially in view of the frequent changes thrown up by today's rapid economic and technological developments.

Based on the above three meanings, Robinson (1973, p.12) derived some interrelated aims stemming from self-containment:

1. a minimum level of in-and-out commuting,
2. certain level of employment matching the job demands from the economically-active residents, and
3. a cross-section of economic activities so that the new town is not dominated by a single industry or a dominant type of occupation which would undermine economic stability.

It is not to deny that Robinson stressed the importance of reducing the amount of travel to work, the provision of sufficient job opportunities, and the allocation of diverse economic activities.

The major consideration of self-containment is living and working. In other words, housing and employment are emphasized and kept in balance. Thus, self-containment means that the number of workers in the town matches the number of jobs provided in that town so that there would be no need for commuting. The mixing of occupations among residents would also match the mixing of occupational demands of the town's industry (Robinson, 1975, p.13). In fact, the daily commuting is predominated by work rather than by other activities. Consequently, the parameters used in measuring the self-sufficiency in a community are to be found in terms of employment, such as the job index, independency index, and self-sufficiency index or interaction index (see Appendix A for more details).

2.6.1.1 Advantages of Self-Containment

Despite the fact that the 'self-contained' towns have three meanings, all share the common ideal of developing a self-sufficient town. The advantages of self-containment are divided into two aspects: an economic aspect and a social aspect. Self-sufficiency always goes in conjunction with economic terms; therefore, many economic activities and transactions exist in the new town. The independent economic power is important to the life of the town. The importation of consumer goods and production inputs is limited because both are manufactured locally. By so doing, the flow of

money is restricted within the town and more wealth will be created. The increase of consumption and production will lead to further economic activities, and the establishment of more firms. Multiplier effects are commonly associated with this process. Agglomeration economies are another consideration. The upshot is that transport linkages have to be built as a result of the economic growth. Socially, the self-sufficient economy also helps to develop a 'balanced' community because it will facilitate occupational and social variety. The communal spirit or identification can be developed as the residents consume more local goods and services. Social alienation can also be avoided under the gradual development of communal spirit. Nevertheless, the concept of self-containment has the shortcoming of inadequately indicating the welfare situation of the town (Robinson, 1975, p.14). As a result, the income level is still a reasonable indicator of that phenomenon.

2.6.2 Social Balance

The terms, 'balance' and 'social mixing at neighbourhood level', were mentioned widely in new town planning literature in the early twentieth century. Balance has four meanings, as denoted by Thomas and Cresswell (1973, p.59):

1. a balance between the levels of employment and population;

2. a balance in the structure of employment (to give adequate choice of jobs);
3. a balance between the level of facilities provided and the size of population, and
4. social balance.

The first three are more related to self-containment while the last is more related to social mixing. Socially-balanced communities are those which provide a mix of working and living places, and a population that is heterogeneous with respect to age, occupation, income, ethnicity, and class (Heraud, 1968, p.37; Susskind, 1972, p.293).

James S. Buckingham's plan for New Victoria (1849) was

"an entirely new town.... peopled by an adequate number of inhabitants with such due proportions between the agricultural and manufacturing classes and between possessors of capital, skill, and labour as to produce the highest degree of health, contentment morality and enjoyment yet seen in any existing community" (Heraud, 1968, p.34).

Howard had once suggested that "all true workers of whatever grade" should be in his garden city (Howard, 1965, p.57). This statement was further reinforced by the Reith Committee in 1945 which opposed the segregation of classes in the British new towns. In fact, the Committee advocated that each social classes had to be truly represented; that is, social balance had to be enforced in the new towns.

Social balance could be divided into two types in terms of macro and micro scales. The former would relate to the

population mix in the town as a whole while the latter would focus on the mix of social groups within residential or neighbourhood units (Heraud, 1968, p.37; Susskind, 1972, p.294). The former is called macro-integration and the latter is called micro-integration (Gans, 1973, p.137). Macro-integration is the integration of community but not of its blocks or neighbourhoods. It "puts less pressure on people to engage in actual integration, without, however, precluding it. Instead, they have the opportunity to engage in social relations with heterogeneous community members on a voluntary basis". Micro-integration is the integration of the blocks or neighbourhoods; that is, actual integration. It "means that people of different classes and races will be sharing those physical spaces in which potential integration could become actual integration". In general, the macro-integration is more feasible than micro-integration because the actual integration is far too difficult to achieve.

The use of social mix[7] as a means of achieving a wide variety of goals in new towns is generally accepted (Sarkissian, 1976, p.231). Huttman and Huttman (1973, p.30) regarded the use of social mix as appropriate means in new town planning as a result of several advantages. They are listed as follows:

1. to 'raise the standards of the lower classes' by nurturing a 'spirit of emulation';

2. to encourage aesthetic diversity and raise aesthetic standards;
3. to encourage cultural cross-fertilization;
4. to increase equality of opportunity;
5. to promote social harmony by reducing social and racial tensions;
6. to promote social conflict in order to foster individual and social maturity;
7. to improve the physical functioning of the city and its inhabitants - leadership, employment and economic stability, and essential services at minimum expense through mix in housing;
8. to help maintain stable residential areas, and
9. to reflect the diversity of the urbanized modern world.

Social mix can be used as a means of achieving a wide variety of goals. However, its application is very much dependent on the prevailing situations in a particular country at a particular time.

In general, self-containment and social balance are two important planning concepts in new-town developments. Self-containment is only a necessary condition for social balance but not a sufficient condition. Employment and housing are emphasized under self-containment so that the people are encouraged to live and work in the new town. In accordance with such conditions, prior planning in

employment provision determines the types of occupations, income and social status in the new towns. The type of housing can also pre-determine the class of people living in the new towns. As a result, self-containment has a certain influence on social balance; The practice of self-containment can change the social composition of the residents in the town especially when employment opportunities are filled by an influx of people belonging to one homogeneous group. Accordingly, the base of occupation cannot be so diversified in this instance and is usually restricted to certain types of jobs. Hence, the two concepts should be considered and further practised simultaneously. Self-containment continuously focuses on employment and housing, while the social-balance goal directly puts stress on the social planning in the town. Social balance in terms of micro-integration is also used by Clarence Perry in designing the neighbourhood unit (1951, p.786). In fact, the lack of any one aspect of the condition comprising self-containment will create inconveniences and frustration in the local residents, and will mean that the town cannot be called a self-contained and balanced community.

2.7 CHANGING CONCEPTS OF NEW TOWNS

New town concepts have changed in random with the changing circumstances imposed on the towns by governments after the Second World War. It is inevitable that ideas will change or will be modified over time in different countries even though an equal balance of jobs and homes is still maintained as the critical consideration. The changes can be examined in terms of micro and macro scales. Regarding the scales, the changing concepts of new towns are moved from a rather utopian and visionary ideal to a concentrated idea of physical designs and later to the regional planning consideration (Perloff & Sandberg, 1973). The scales are broadened from a micro level to a macro level. In this vein, the development of new towns is not only focused on a local level but also on a regional level. The use of new towns as a means of regional development planning is nowadays much more popular. New towns are also suggested by Bor (1971, p.72) as an essential element of urban growth policy in dealing with decongestion of urban centres and the redirection of unlimited urban growth to the periphery. In general, planning throughout this period of time has shown much concern for the physical side regardless of the social and economic needs. The emphasis on social planning of new towns was previously advocated by British politician Richard Crossman in 1965 (Booth, 1975, p.540). It was not until the early 1970s, however, that the new towns

had become a much broader, integrated social and economic phenomenon in many countries (Phillips & Yeh, 1987, p.9).

Social objectives are now more focused in new-town developments than before. A more comprehensive approach to social planning is emphasized, hoping to overcome the past deficiencies in dealing with social balance and its measurement. However, planning for the welfare of residents is not easy because it includes subjective aspirations, goals and measurement. Only a compromised view can be taken to solve this kind of problem. The work of planners, especially the social planners, should consider the social welfare services, community balance such as employment structure, commuting, provision of services, not to overlook social interaction and integration. The linkages with other planning aspects are also vital for improving the new towns. As a result, planners should pay attention to the needs, demands, views, and aspirations of potential residents; and be fully cognizant of age and sex structure and of how demographic profiles will change and influence requirements for services (Phillips & Yeh, 1987, p.11). Only then can the new towns justly claim to be called 'livable new settlements'.

2.8 ADMINISTRATION AND FINANCE

Many countries in the world have specific administrative frameworks for guiding the development and management of new towns. Despite the fact that the administrative bodies delegate certain autonomous power to new town development, an adequate administrative framework is still essential to guide and control the development. Administration is one of the common activities of an organization. There is usually a body for plan implementation. Administrative headquarters is chiefly interested in the coordination and cooperation of the sub-departments in achieving certain goals. Failure in communication and coordination will directly influence the efficient implementation of plans. Since implementation involves massive numbers of people, effective coordination amongst those people is strategically crucial.

Two kinds of development corporations; namely, the public development corporations and the private development corporations have been established to plan and monitor the administration and finance of the new towns. The former one has the advantages of public land management and control in terms of the provision of housing or industries so that certain goals can be achieved easily. The finance of the new towns can also be made efficiently through the channels of various sources from the government. The examples of this type include Sweden, the Netherlands and Denmark. The British even adopted special legislative structures for the

development of their new towns; which is to say, they set up separate public corporations in each new town (e.g. Crawley, Hemel Hempstead). On the other hand, the private development corporations have less incentives in providing a wide range of housing or industries. Very often the amount of community services that are provided is based on the value of the land they have. In other words, the development plans of the new towns by the private developers are much relied on the profitability in the housing market. They regard the new towns as a market for private housing. It is commonly found that the new towns developed by the private developers attract more well-to-do people comparatively because they are the only group who can afford this kind of housing. Typical example of this kind is found in the United States.

The issue of the viability of the construction of new towns arises as it is important to consider whether the new towns can be self-supporting or must be subsidized by other sources. The public development corporations are ascertained that the towns do not need subsidies or any other sources of outside aid after a certain period of time. The cost for developing the new towns must be covered in the future time, and hence, become self-sustainable. On the other hand, the private development corporations consider viability of the new towns based on the ability of the towns bringing profits to the developers.

In short, special administrative and financial frameworks must be considered in order to make the new town plans more effective in different countries. Every department should consider the whole process instead of its individual plans particularly the trend of more cooperation and coordination between the public and private sectors in new town development. Cautious planning between both sectors is greatly needed in each stage of development. Besides, an effective financial framework enables the company to earn enough profit to cover the cost of development and management. Otherwise, the new town serves no useful purpose but only as a burden to the authorities or departments.

2.9 SUMMARY

The idea of new towns has had a long history, originating in antiquity. However, it was not until the late nineteenth century that the idea of the Garden City, formally introduced by Ebenezer Howard, enabled the new town movement to take root. Owing to the limited financial resources and manpower, the Garden City idea was later promoted and planned by a professional association, launching a new era of utopian dream. The 'new town industry' was widespread and was adopted for different planning purposes in many countries after the Second World War. Different types of new towns were built according to the situations and needs of

individual countries. Planning concepts were modified so as to adapt to the prevailing conditions in different countries. The new town planning principles of today have a wider scope than before they expressly include the physical, economic and social aspects of development. Nevertheless, the traditional concepts of self-containment and social balance still remain essential in planning. The role of new towns today are broader than before in order to accommodate and coordinate other measures or incentives. Effective administration and questions of profitability are also important aspects in making the new towns successful.

Chapter III

HONG KONG'S NEW TOWNS

"Hong Kong's new towns programme is one of the most ambitious in the world and, in some respects, one of the most successful.....While the resulting towns have not achieved the self-containment and social balance of new towns idealists, they offer a better future for an increasing proportion of the population" (Hills & Yeh, 1983, p.266).

3.1 INTRODUCTION

'New Towns' in Hong Kong refer to "any major planned urban development area designed for about 200,000 persons or more which is implemented by multi-disciplinary teams under the co-ordination of development programmes supported by financial resources which have been set aside specially for the purpose" (Pun, 1987, p.45). Two development concepts are applied in developing the new towns of Hong Kong; namely, self-containment and balanced development. 'Self-contained development' refers to the attainment of daily needs of the residents within the new towns (Town Planning in Hong Kong, 1984). 'Balanced development' refers to the supply of all necessary employment opportunities and to the provision of an optimal housing mix between public/private housing, ownership/rental units and

high/low-density housing through which a healthy social mix within a community may be achieved (Town Planning in Hong Kong, 1984).

Today, Hong Kong has eight new towns (see Figure 1). Despite the fact that each new town was developed under the same concept, the new towns are categorized into three types; namely, the 'major' or the 'larger' new towns, the 'minor' or the 'smaller' new towns, and lastly, the 'recent' new towns. The 'major' new towns are Tsuen Wan, Sha Tin and Tuen Mun, which were designated in the 1960s. They were so called because they had a larger target population and a longer planning history than the others. They were planned to take in a large public-housing sector during that time. Some people regarded them as the first-generation new towns. The 'minor' new towns, formerly known as market towns, are Tai Po, Fanling and Yuen Long which were designated in 1979. They had a smaller target population and a shorter history of development than the 'majors'. They were planned under the objective of maintaining a balance between public and private housing. Some people saw them as the second-generation new towns. Finally, the recently constructed new towns are Junk Bay and Tin Shui Wai which were designated in 1982. They are characterized by a moderate target population between major and minor new towns.

3.2 HONG KONG: AN OVERVIEW

The economic buoyancy of Hong Kong in the past three decades is a wonder to behold. Albeit with limited natural resources and raw materials, Hong Kong, a city-state, is now one of the leading banking centres, an international centre for world trade and a major manufacturer in the world. However, its future economic growth was recently shadowed by the political problem concerning the expiration of the lease for Hong Kong in the year 1997. After that, Hong Kong will return to China as a Special Administrative Zone as stated in the Joint Sino-British Declaration (1984). Although the Chinese Government assured that Hong Kong could maintain its own capitalist economic status for fifty years after 1997, that guarantee failed to gain the confidence of people on the long-term basis. Foreign investment in the city began to flow to other countries (admittedly only a small portion), reflecting the investors' uncertainty towards the future of Hong Kong. It is not surprising that investment from mainland China has increased in the past few years, offsetting the loss and maintaining some 'faith' in Hong Kong. Another consequence is the increasing foreign migration of the elite groups and professionals, which has led to the loss of much manpower. As a result, Sir David Wilson, the Hong Kong Governor, declared that the only remedy for the 'lack of faith' problem is to make Hong Kong a better place to live in by focusing on the maintenance of

a stable economy, the improvement of the education system, better housing and environment. This undoubtedly accounts for the Government's initiation of large projects so as to strengthen the faith of the residents (Sunday Morning Post, Nov. 13, 1988, p.10). Hence, the political and economic situation for the remaining years before 1997 will greatly be affected by the policies and financing of urban development projects and urban planning in Hong Kong. As the influence of China begins to increase in Hong Kong, urban development will be practised or handled in a different way from the past. For example, the recent tedious planning proposal of a new airport in Hong Kong is already showing signs of things to come with the influence of the Chinese Government.

Hong Kong, symbolizing rapid modernization, is a compact urban environment representing the regime of free-enterprise and non-intervention. The rapid modernization relying on economic development, changed Hong Kong from a fishing village to an entrepot trade centre, and then to an export-based centre, and ultimately, to a world financial centre. All these change-overs were accomplished within three decades. Although lack of natural resources requiring their import from other countries has greatly restricted the development of Hong Kong's industry, the success of Hong Kong is obvious. The decisive factors are as follows: the economic policies of free-enterprise and free trade, low

salaries and low tax rates on profits, an industrious workforce, a sophisticated commercial and industrial infrastructure, a modern and efficient seaport (container port), a centrally-located airport with a computerized cargo terminal, excellent world-wide communications, a convertible currency and the free movement of money, long accumulation of commercial and financial experience, the favourable location of Hong Kong, the hard work and entrepreneurial instincts of the population and, last but not least, the flexibility of the labour market (Turner, 1982, p.21; Ting, 1985, p.158, 178; Hong Kong 1986, p.51; Hong Kong 1987, p.8). The 'positive non-intervention' policy of the Government signifies the ideology of laissez-faire, which assists the development in its own context. Sir Jack Cater, the former Chief Secretary of Hong Kong, even claims that the success of Hong Kong relies on the laissez-faire policy as a kind of local cornerstone of success (Sunday Morning Post, Oct 9, 1988, p. 14). Capital accumulation in terms of international or local investment is essential to the development. In addition, population movement further shapes the urbanization in this city-state.

3.3 URBANIZATION

Urbanization does not have a universal definition. Some put more emphasize on the demographic side, others stress the spatial side, and yet others put more weight on the economic side. Urbanization can simply be defined as a process through which more people are moving to the urban areas or it can be defined as a state of affairs where more people are involved in the industrial occupations rather than the previous agricultural-based society.

The urbanization process of Hong Kong has its own uniqueness, which is quite different from that applying in other countries. Such process is chiefly caused by the geographical, political, and economic factors. Since the topographical feature of Hong Kong is hilly and rugged, the urbanization pattern concentrated on the narrow coastal lowland on both sides of the Victoria Harbour; thus, leading to a dense and crowded urban areas. In contrast, the relatively undeveloped area in the New Territories occupies the largest percentage of land area. Pun (1987, p.44) even maintained that the urbanization in Hong Kong started from the Victoria Harbour as a consequence of the city's dependence on external trade. Had the periodic political and economic disturbances not occurred in China in the early days of this century, the number of migrants, either legal or illegal, would not be so vast. Hong Kong would still be sparsely populated. Following the large influx of migrants,

the high rate of natural increase of population due to the 'baby boom' in the 1950s and the 1960s also greatly increased the population (see Table 1). And this trend of periodic migrants, though of smaller volumes, still continued because more Chinese and Vietnamese refugees escaped from their home countries in the 1960s and 1970s. Owing to the embargo imposed on China by the United States and the United Nations during the Korean War, Hong Kong was forced to abandon its status as an entrepot trade centre. It was re-established as an export-led industrial city, which further enhanced the development of the financial sector in Hong Kong. Since the capital accumulation reinforced the industrialization and urbanization, the urbanization process of Hong Kong has been transformed into an 'accumulation-urbanization-industrialization' one (Armstrong & McGee, 1985, p.89). The Hong Kong Government as a response to this large influx of migrants and high rate of natural increase of population, rapid industrialization, and other urbanization problems introduced the policy of new towns to decentralize and provide in the new towns of housing, employment and other facilities or infrastructures urgently needed. Hence, the new towns as a means of decentralization strategy came forward under the boost of the Ten-Year Housing Programme in 1972.

TABLE 1
Population Growth in Hong Kong

Year	Persons
1898	341,000
1901	386,300
1911 c	456,739
1921 c	625,166
1931 c	840,473
1941	1,639,357 a
1945	500,000 - 600,000 a
1946	1,168,000 a
1951	2,015,300
1956	2,614,600
1961 b	3,129,600
1966	3,732,400
1971 b	3,936,600
1976 b	4,403,000
1981 b	4,986,600
1986 b	5,396,000

Notes: 'a' - From table 6 & 7, P.152-3 Szczepanik (1958).
'b' - Enumerated resident population from Hong Kong Census 1986.
'c' - Census figure.

Source: From Table 6.1, p.128, Sit (1981).
Hong Kong 1986 By-Census.
From Table 1,2, p.4,6, Lee & Yu (1986).

3.4 HISTORY OF THE NEW-TOWNS PROGRAMME

New towns in Hong Kong are only an event of the post-Second World War due to the urbanization and population pressure in the major urban areas. Their planning and implementation has only been carried out for three decades. Leung (1980; 1983) regarded the new-towns policy of Hong Kong as the "outcome of cumulative reactions to events". The problem-solving attitude of the Government might not be the right approach but it was psychologically consoling to the Hong Kong people. The idea of building new towns in the New Territories can be traced back to the visit of Sir Patrick Abercrombie some forty years ago, during which he was appointed to advise the Governor of Hong Kong on the issue of drafting guidelines and directions for urban development[8]. In 1948, the Abercrombie Report[9] was published, stating that the new towns would be developed in the peripheral areas and in the New Territories of Hong Kong. As stated in the Hong Kong Annual Report of 1953 (cited by Wong, 1982, p.18), the new-town developments became the main focus of long-term development. For simplicity, the history of new towns can be divided into four stages (see Appendix B for the important events of new town developments):

- (1) 1953-59: The Origins of the New-Towns Programme;
- (2) 1960-72: The Initial Stage;
- (3) 1973-78: The Major Boost Stage;
- (4) 1979-onwards: The Programme Expansion.

3.4.1 1953-59: Origins of New-Towns Programme

This period was characterized by the initiation of Government decentralization strategy and the study of the feasibility of new centres for dealing with the rapid urban growth after the Second World War. The year 1953 was special to Hong Kong because it started the milestone of establishing a new industrial satellite, Kwun Tong, in New Kowloon. Targeted for 120,000 people and industries in the hope that it would solve the problem of limited industrial land in the urban areas, this new satellite town was originally a dump site but later about 35 ha. was reclaimed for industrial purposes (Wigglesworth, 1971; 1986). Although Kwun Tong was never designated as a self-contained 'new town', it was the first large-scale, urban development project in Hong Kong. And later, the satellite town was even absorbed into the metropolitan Kowloon and became part of the urban centre. Several features of Kwun Tong can be detected. First, Kwun Tong was not designed as a self-contained community because it was located within 3 to 4 km. of Kowloon, so it had numerous linkages and connection with Kowloon. The problem of congestion in the urban areas could not be alleviated much by the establishment of Kwun Tong because of its closeness to Kowloon. The planning concepts, self-containment and balance were not applied at all. Second, although Kwun Tong was the first attempt of the Hong Kong Government in establishing townships, Leung

(1980, p.376) considered that the establishment "proceeded in more or less a policy vacuum, when there did not exist a clearly defined set of planning goals for the overall land-use distribution in Hong Kong". Actually, the Town Planning Branch was established in 1953, the same year as the building of Kwun Tong. The lack of long-term development plans of Kwun Tong was visibly understood. Besides, proposals for developing Tsuen Wan as an industrial satellite for accommodating 150,000 people was recommended in 1953. However, the outline of the development plan in its original form was never put into practice, since it failed to gain interdepartmental agreement or the stamp of the Town Planning Board (Dwyer and Lai, 1967).

The development of Kwun Tong would have been impossible without the efforts of both the public and private sectors. Had the Hong Kong Government not started to play an important role in squatter resettlement housing schemes after a sudden, disastrous fire in the Shek Kip Mei squatter area[10] that led to about 53,000 homeless people (Pryor, 1983, p.24), the development of Kwun Tong would not have been so rapid. The commitment of government housing schemes provided an impetus to the private sectors, especially the commercial and industrial activities. Chan (1981, p.38) stated that the private investment was one of the major sources that led to the flourishing and thriving of the manufacturing industries, providing more job opportunities,

and made Kwun Tong become one of the most important industrial areas of Hong Kong. Besides, some voluntary organizations, religious and secular, were involved in the development of Kwun Tong. Although much of these services were not on a large scale, their efforts should not be overlooked in creating attractive forces to the potential migrants from urban areas.

The institutionalization of town planning in Hong Kong came to the front stage after the Shek Kip Mei fire in 1954. An ad hoc committee was established to resettle the homeless victims and squatter residents into high-rise, high-density housing. Such housing could accommodate large numbers of people. Public-housing schemes began at this time, too. In April 1954, a Resettlement Department was formed officially to deal with the whole squatter population and squatter industries. Town Planning Regulations were introduced to allow implementation of the 1939 Ordinance[11]. Plans were also made to open up new areas for development in the New Territories as a tool of decentralization policy. As a result, in 1957, Some engineering feasibility studies for developing the new towns, including the sites in Tsuen Wan, Kwai Chung, Tai Po, Sha Tin, Tuen Mun and Junk Bay were considered. Later in 1960, Tsuen Wan was officially developed as a new town.

In short, the development of Kwun Tong and Tsuen Wan as industrial satellites was on an ad hoc basis. The overall

planning for Hong Kong's new towns was not formally implemented before the establishment of the New Territories Development Department. Public-housing schemes became the major characteristics of planning, though most of the housing at this time was built to poor quality standards. In recent years, much of that housing has been renovated or demolished.

3.4.2 1960-72: The Initial Stage

This period was characterized by the designation of Tsuen Wan new town in 1960, Sha Tin and Tuen Mun in 1967, and the preparation of the 'Colony Outline Plan' as a long-term development strategy for Hong Kong. The industrial satellite town, Tsuen Wan, was expanded and developed into a self-contained and balanced community for an estimated population of 1.2 million people in 1978. Mixed land-use patterns were planned, to which corresponding activities could be found. Public services and community facilities were also carefully planned to meet on-the-spot needs (Leung, 1983, p.214; Wigglesworth, 1986, p.98). In fact, the development of Tsuen Wan deviated from the British prototype because of a high-rise, high-density, large-scale and closely-packed form of development and because it had to be completed in a short span of time. Nevertheless, the development was not taken any reference to the long-term land-use framework in Hong Kong since such framework, the

'Colony Outline Plan', was enacted in 1972. Owing to the late outcome of the 'Colony Outline Plan', the long-term goals for Tsuen Wan were obviously neglected. In fact, the development of Tsuen Wan was more on a short-term consideration. The Government was determined to prepare an overall long-term plan for Hong Kong in 1965 called the Colony Outline Plan[12] (renamed the Hong Kong Outline Plan in 1979). This was based on the structural plan model of the 1968 Town and Country Planning Act in Britain (Leung, 1983, p.214; Pun, 1984, p.62). The Colony Outline Plan was therefore the first effort to update and substantiate what Sir Patrick Abercrombie had done in 1948 and to provide a centralized comprehensive coordination over planning and development in Hong Kong. Future long-term land-uses and population distribution patterns throughout the Territory were emphasized.

In 1967, Sha Tin and Tuen Mun were designated as two new towns. They were planned to be self-contained and balanced communities in the same vein as Tsuen Wan (Hills & Yeh, 1983). In fact, the development concepts of these two new towns were different from Tsuen Wan because they were designed to be built in 'stages of development', to enable flexibility and adjustments to the changing conditions. Amendment could always be made to accommodate the needs of the residents. The development of these new towns was not without difficulties or fluctuations, which directly or

indirectly influenced the pace of the development. Some of the examples of such impediments include the slump in the land market, the riot in 1967, the low population growth, and oversupply of industrial and residential buildings. Hence, the development plans of Sha Tin and Tuen Mun were interrupted due to the impact brought about by these fluctuations. Similarly, these two new towns were not directly considered in the Colony Outline Plan, because, they were incompatible with the long-term development strategy. Consequently, the first three new towns were built more to meet the needs of the local area rather than as part of the overall national needs. Later in 1972, following from the changing economic and social conditions coupled with the revision of government priorities and policies, the outline zoning plans for Sha Tin and Tuen Mun were amended under the Land Development Planning Committee.

3.4.3 1973-78: The Major Boost Stage

The new-town developments in the New Territories, a huge rural hinterland, commenced in October 1972 when the Governor-in-Council announced the vigorous 'Ten-Year Housing Target Programme'. This brought Hong Kong into a new era. The target was to provide adequate permanent and self-contained housing for 1.8 million people at a minimum of 35 sq. feet per person, through public housing development in new towns and market towns in rural New

Territories, the continuous conversion programmes in old estates and the introduction of a home ownership scheme by the mid-1980s. Undoubtedly, the new towns in Hong Kong had a strong linkage with the public housing. Had the 'Housing Programme' not acted as the catalyst for new town development, the new towns in Hong Kong would still be in a slow pace of growth. Provision of public housing in a new town became an effective means of decentralization strategy policy in such a context. As a result, the proportion of public housing exceeded the private housing in the major new towns.

The planning concepts of self-containment and social balance were stressed:

"..... the new towns will provide more than just housing. They will be places where people can work and play, grow and learn. And with them will come new industries to provide new and better jobs. Planners are providing for a full range of community facilities..... The new towns will be fully self-contained, simultaneously providing their residents with employment and meeting their basic needs" (New Territories Development Department, 1976, p.4).

"The Government's large-scale housing plan..... aims at providing by the mid-1980s enough permanent self-contained homes, with good amenities and in a reasonable environment, for every eligible family at present unsatisfactorily housed in Hong Kong" (Hong Kong 1979, p.2).

Hence, the new towns were planned and developed to include the two planning concepts. Various kinds of physical and social facilities, services, and employment

opportunities were planned. The residents would be attracted to the new towns unless there was a convenient transportation linkage between the new towns and the urban areas. Nevertheless, once the linkage had been improved, the commuting of the residents between the two areas would be boosted. This directly challenged the self-sufficiency of the town especially in a small, compact city-state like Hong Kong, by which the commuting was much more easier and often. In addition, the regional goals became more important in solving the housing problems, attracting industry to new areas and alleviating the congestion problem. Thus, the objectives of the programmes were broadened.

The Hong Kong Government set up the New Territories Development Department (NTDD[13]) in 1973, (renamed the Territory Development Department (TDD) in 1986) within the Public Works Department in order to plan, coordinate and implement the development programme of new towns. Project managers for each new town were also appointed in each development office of the towns.

3.4.4 1979-onwards: The Programme Expansion

In 1979, three more former market towns, Tai Po, Yuen Long and Fanling, were designated as new towns and were known as the second-generation new towns. In fact, the target population of the three new towns was relatively small, roughly around the range of 140,000 to 300,000 for

each of them. Their planning concepts were almost the same as the first-generation new towns. By the end of 1979, the extension of Ma On Shan to Sha Tin new town was proposed to absorb an additional 133,660 people (Sha Tin New Town Development Programme 1980). In 1982, two more new towns; namely, Junk Bay and Tin Shui Wai, were designated as the third-generation new towns with a target population between 135,000 and 225,000 (First Phase only).

In reviewing the history of the evolution of new-town developments in Hong Kong, there is no strong ideology discernible. Rather, it emerges as a kind of problem-solving approach, dealing with the urbanization and population problems. Ad hoc or piecemeal plans were very common in coping with the problems throughout the years. Both the 'Colony Outline Plan' and the 'Ten-Year Housing Target Programme' acted as the impetus to the new-town developments in the 1970s, by which, the new towns belonging to the different generations were made compatible with the 'Outline Plan' and the vast 'Housing Programme'. The short-sighted development strategy of each new town was broadened into a long-term land-use development strategy under the 'Outline Plan'. Besides, the institutionalization of new-town developments denoted a significant role for the government departments in planning and implementing the new town programmes in an effective and organized way. In addition, the cooperation between the public and the private

sectors provided a wide variety of services in developing a self-supporting community. Private investment, especially in the generation of employment, was important for the local residents.

3.5 LINKAGE BETWEEN THE BRITISH PROTOTYPE AND THE HONG KONG MODEL

Many countries in the world established new towns, modelled on the British new towns, for the British had been in the forefront in the theory and practice of new-town concepts in this century. Hong Kong, as a British colony, had not only interpreted but also practised the British new-town planning approach of the 1950s and 1960s (Hills & Yeh, 1983, p.269). The British new-town concept acted as a tremendous influence, shaping the planning concepts of the Hong Kong's new towns. The design of the new town in Hong Kong reflected the solutions to the urban problems of Hong Kong. The rapid population growth in the limited-land urban areas required more housing for settling the massive numbers of people. Since the availability of land in built-up urban areas was limited, vacant or under-utilized land was sought for development in rural New Territories. The Ten-Year Housing Target Programme was aimed at satisfying the increasing demand for housing by the residents. It was commonly found that some of the new land acquired by reclamation or from the conversion of rugged terrain was cheaper than land expropriation. In fact, urban growth was

limited only to the designated areas in which government housing estates and private residential projects were built. Hence, some of the new urban centres in the New Territories became the focal points, whilst some of the unspoilt areas would continue to be used for primary production or reserved as country parks, so that a rural balance was maintained. Although the new towns in Hong Kong had some similarities with the British ones, they had deviated from the British prototype. The following figure (Figure 6) illustrates some of the similarities and dissimilarities between the British prototype and Hong Kong's new towns.

Figure 6: Comparison between the British Prototype and the Hong Kong model

Similarities

1. both experienced similar population pressure on its urban areas;
2. both had similar planning objectives towards the development of new towns by the principles of self-containment and social balance;
3. both approached the new towns by a comprehensive planning e.g. land-use pattern, green space, etc;
4. both kinds of new town were spatially separated from the old urban areas;
5. both were public sector endeavour.

Dissimilarities

1. The Hong Kong 'major new towns' emphasized public housing; the British new towns had a balanced share of public/private housing mix;
2. The Hong Kong 'major new towns' were comparatively planned for a larger target population in a rapid pace of development;
3. The Hong Kong 'major new towns' were high-rise, high-density residential areas;
4. The Hong Kong 'major new towns' were working class dominated new towns.

3.5.1 Similarities

3.5.1.1 Population pressure and decentralization strategy

Both the British and the Hong Kong new towns were aimed at solving the problem of population concentration and growth in the old urban areas by means of the decentralization of population in these new towns. Sit (1980, p.408) perceived that the origin of Hong Kong's new towns was a consequence of over-concentration of population rather than the result of a conscientious decentralization policy. In other words, he considered that the outcome of new towns in Britain was the result of the decentralization policy. He overlooked the root of urban problems, that is, overconcentration of population, both in Hong Kong and Britain. Had the overconcentration not occurred, there would not be any decentralization strategy in the face of such a problem. Hence, both areas encountered a similar type of problem as a result of the population pressure in the old urban areas even though the cultures and situation are different. Decentralization strategy, hence, was a measure in solving such a problem. However, the implementation of the British decentralization policy by different departments was more coordinated than that in Hong Kong.

3.5.1.2 Self-containment and social balance

Self-containment and social balance are the two planning concepts used in tackling the issue of housing and

industries in the new towns. These two aspects are important to the daily living of the residents. The colonial tie with the British permitted Hong Kong to borrow these two planning concepts in the new town developments in the 1960s. Despite the fact that the two planning concepts were applied only for two decades, they were increasingly emphasized to provide a reasonable living environment for the residents. In the early 1960s, Tsuen Wan was to be developed into

"a self-contained community with a balanced land-use pattern designed to allow people to live within a reasonable distance of their places of work, with adequate public services, communications and community facilities for the well-being of a population" (Leung, 1983, p.214).

Here the land-use pattern was in a 'balance' with the emphasis on the diverse uses of land. However, the kinds of facilities or services required were not mentioned clearly. It was not until in the 1970s that a more detailed description of the two planning concepts was further expanded. The new towns were defined as

"co-ordinated units, not only providing housing but other necessary amenities as well. Integrated communities were formed so that a combination of public and private housing was built to attract a spread of skilled, unskilled and professional income groups" (Hong Kong 1979, p.3).

In the 1980s, the two concepts were expanded to include the creation of a satisfactory living environment and the minimization of commuting. As a result, each new town aims at providing adequate working opportunities, shopping, recreation and other facilities for its local residents. The concept of the 'balanced development' in Hong Kong's

new towns has a strong orientation towards public housing rather than social incentives that focus on social mix. In fact, there are other supportive developments to the new towns, such as the provision of high-speed transport links with the old urban centres in terms of underground railways, highways, and tunnels[14].

Self-containment and social balance were often criticized by the academics claiming that they were not feasible in the case of Hong Kong, which is a compact city-state characterized by a high level of interdependency of different components in society (Leung, 1980; Sit, 1980; Chan, 1981; Wong, 1983; Hills & Yeh, 1983; Yeh & Fong, 1984). Not surprisingly, the new towns (restricted to the three major ones) in Hong Kong were condemned for putting too much emphasis on public housing, and thereby became working-class communities. The Government's 'positive non-intervention policy' towards industries was detrimental to the attraction of private sector; thus, limiting the job opportunities for the local residents in the new towns. As a result, the residents had to commute daily to and from work and created a heavy burden on the public transport. Besides, the lack of coordination between government departments in the provision of social facilities had a negative effect on the living environment of new towns. All these pitfalls combined to oppose the attainment of self-containment and balance. Actually, the government planners realized that

these two concepts seemed to be too idealistic and might not be achieved fully in reality due to the unforeseeable social and psychological problems. They had attempted to seek some appropriate measures for solving these problems such as a better coordination of engineering works, a massive transportation network, a revised standard made on the provision of education as well as an improvement in the community facilities. They hoped to achieve a 'balance' in the long-run since each town was still planned under these somewhat unrealistic concepts (Town Planning in Hong Kong, 1984).

3.5.1.3 Other Similarities

The new town models in Hong Kong and Britain were comprehensively planned with a 'balance' in the land-use pattern in mind; that is, they deliberately promoted various activities. Land was zoned for different purposes in order to meet the needs of the residents. The green belts commonly found in the outermost areas in the British new towns were similarly found in the new towns in Hong Kong even though it was manifested in the green space which acts as the outskirts of the town. Also, this green space is on a smaller scale.

Both models were spatially separated from the old urban areas. It was well understood that the distances between the new towns and the old urban areas were shorter in such a

compact city-state like Hong Kong. In fact, transportation played an important role in linking up these towns with the urban areas and, thus, increased the daily commuting between the two areas.

Both models were developed publicly by different government departments or corporations. These public development departments or agencies took a vital role in planning, cooperation and coordination of the new town developments. Massive housing projects could only be adopted effectively by public corporations since a huge fund was required for different stages of development. Once the public sectors undertook the initiative, the private sectors would join in such investment.

3.5.2 Dissimilarities

3.5.2.1 Public housing-led

'Public housing-led' is not only one of the major characteristics of Hong Kong's major new towns but also a major impetus to new town developments there. The population pressure generated by the periodic waves of refugees or the natural growth in population in such a tiny colony manifests itself in the huge demand for housing. Had the Ten-Year Housing Programme not been furthered by the active intervention of the government, committing itself to provide some decent housing for 1.8 million people, these special types of housing would not have been built on such a large

scale in the different new towns. Public housing is used to absorb the vast number of people decentralizing from the urban areas to the new towns. The distance between the new towns and the urban areas lies within the range of 5 to 44 km. Since many of the major economic activities are still in the built-up areas, many residents are reluctant to migrate to the new towns. However, the excess applications for leases for the public housing has pressurized some people into accepting the vacancies in the new towns owing to the limited supply of public housing in the main urban areas. The waiting time for resettlement in the urban areas could be from eight to nine years (Wang & Yeh, 1987, p.44). This 'quasi-voluntary migration' seems to represent the success of new towns in meeting the large demand but the underlying cause of new-town developments derives from the fact that people do not want to wait any longer for the public housing. They desire an immediate residence. According to Leung (1980, p.382), about 80 per cent of the public-housing residents moved to Tuen Mun (that is 32 km. from the main urban areas) because of shorter waiting time for their resettlement. Hence, this kind of 'quasi-voluntary migration' was effective in terms of decentralization.

The housing categories either in terms of public or private investment; that is, the housing mix, have an important role to play in differentiating the new towns of Hong Kong. Conspicuously, the target population in the

larger new towns is greater than the smaller ones. The larger new towns naturally absorb more migrants from the urban areas. In the major new towns of Tsuen Wan, Sha Tin and Tuen Mun, almost 70 per cent of the total housing is public housing; while in the smaller new towns of Tai Po, Fanling and Yuen Long only about 35 per cent is public housing (Wang & Yeh, 1987, p.44). It may be supposed that the major new towns are predominately affected by public investment while the smaller new towns are affected by private investment.

The public housing-led major new towns have some direct and indirect effects on urban development of Hong Kong. First of all, this type of public housing-led new town has created a new model of the family structure, affecting the relationship between relatives enormously. Lee (1981, p.229) regarded this type of family structure as 'special expanded family'. It is a kind of model somewhere between the traditional expanded family and the nuclear family. Each family has its own physical entity and is economically independent. However, its independence does not alienate intra-family relationships because of the compact situation in Hong Kong.

Secondly, the public housing policy provides a means of income re-distribution so that those who cannot afford to live in the private housing can choose the public housing instead. The gap between the high-income and the low-income group is narrowed.

Since the public housing is mainly built in the new towns, it is not surprising that many of the tenants are from the low-income group. The high cost of rent for private housing in the urban areas persuade these people to move into the public housing in the new towns due to the lower rent. Hence, the new towns always contain a group of people with the same socio-economic status; that is, a group who cannot afford private housing in the urban areas. Accordingly, a majority of the residents are low-income people especially in the first-generation new towns.

Fourthly, the low-income people are factory workers and are eager to find jobs suitable to their fields after their migration. This creates a negative image of the new towns especially to those who can afford to live in private housing in the new towns, for they realize that the new towns are low-income earning and manufacturing-oriented communities. Because of the limited establishment of services, most of the white-collar and professional jobs are found in the major urban areas. These professionals, enjoying a higher status, are not willing to move into the new towns because of the inconvenience and remoteness. As a result, the number of low-income people in the major new towns is greater than the targets for middle-income people which are pre-determined during the planning stage; that is, the stage determining the amount and type of housing.

Fifthly, the very real accomplishments of public housing in decentralization cannot be denied, and it is through these that the problem of inadequate housing and crowded living environment are dealt with. Yet, a few problems remain. The new-town developments in the New Territories not only alter the rural landscape and environment but also increase the pace of their development. Inevitably, some historic sites or scenes had to be destroyed for development.

Finally, as a response to the situation in the major new towns, the private developers are affected by market demand, which undermines the profitability of the firms. They do not wish to initiate any kind of investment because those who are 'able to afford' the private housing are not willing to live in the new towns when the majority of people living in them belong to the low-income group. The lack of attraction of private housing to residents is reflected in the small proportion of private housing population in the new towns.

3.5.2.2 Scale and Speed

The scale and speed of new-town developments in Hong Kong are one of the outstanding features, which differ from many other countries. 'Scale' refers to the target population that a new town plans to hold. In Hong Kong, the new towns are categorized into three generations according to the time

of designation and the scale of target population. In general, the older the new towns, the larger the target populations. 'Speed' refers to the pace of development of a new town in achieving a certain target population. Owing to the ambitious commitment of the 'Ten-Year Housing Target Programme' originated in 1972, the scale and speed of the new-town developments are both larger and quicker respectively. In most countries, it will take thirty years or more to accommodate 50,000 to 100,000 people in a new town. In contrast, the figures in Hong Kong are so incredible in that the new towns accommodated about 2 million people within 10 years (Hong Kong 1979, p.2). The development pattern is characterized by high-rise buildings in dense residential areas. It is the result of large-scale resettlement taking place in a short period of time.

High rise and high-density development may not be the best form but it is one of the most appropriate, efficient and cost-effective methods in view of the circumstances in Hong Kong. It has been practised over a long time due to the fast growing population and topographic limitations (Sit, 1980, p.398-9). The population for the past three decades to 1986 increased from 550,000 to 5,396,000, signifying a rapid population growth of almost 10 times. The overall population density was 5,192 persons per sq. km. (1987). The hilly, rugged and scarce land of Hong Kong has greatly limited the developable urban land. Undoubtedly, only a

high-rise and a high-density development pattern is appropriate for satisfying the need for housing and maximizing the utility of land.

High-rise, high-density development is a controversial issue, for it is often related to problems such as poor living environment and quality, and improper management of high-rise buildings. However, this argument still needs more research to be affirmed. On the other hand, Prescott (1971, p.11-19) and Dwyer (1975, p.152-186) suggest that the large concentration of human activities in cities like Hong Kong can function more efficiently and cost-effectively from the maximized utilization of valuable urban land; the reduction in internal travel demand; the generation of sufficient external demand in supporting public transport; and the provision of relatively large areas of open space for residents compared to low-rise developments with the same density. Thus, high-rise, high-density residential development can produce both positive and negative effects on the quality of life in society. Fong (1985, p.244), in response suggested that proper planning and effective management in this kind of development is crucial to the alleviation of the negative effects of the high-rise, high-density housing.

3.6 PLANNING AND ADMINISTRATION

3.6.1 Organization

The New Territories Development Department (NTDD[15]) was primarily responsible for the planning, coordinating, designing, accretion of land and the establishment of infrastructure in the new towns and other development areas in the New Territories. Comparatively speaking, the TDD would concentrate more on activities concerning the new towns rather than those in other development areas.

The planning staff under the NTDD are divided into two major areas: district planning and development control in the new towns and in some designated rural areas. The works of district planning include the revision of the outline and the layout of the development plans. It operates according to the guidelines of the statutory outline zoning plans prepared by the Town Planning Division and the standards listed in the Hong Kong Planning Standards and Guidelines (HKPSG)[16]. Similarly, the development control functions are practised under the outline zoning plans and the HKPSG. Other works include the provision of planning advice to government departments, consultation with the public, and preparation of development programmes for the implementation of planning proposals.

The organizational structure of the NTDD (see Appendix B) consists of a headquarters, five new-town development

offices and a New Territories Development Branch (which caters for the areas in the New Territories outside the new towns). The head of the department is the director of the New Territories Development. The headquarters provide three major services; namely, technical support, administration and accounting. There is a project manager who is the head of the new-town development offices, and he is supported by a multi-disciplinary professional team of town planners, architects, engineers, and other related professionals (see Appendix B). A corporate planning approach is adopted to ensure a diversification of viewpoints without any one side dominating. Finally, the Branch is headed by a Government Engineer.

It was not until 1986 that the New Territories Development Department (NTDD) amalgamated with the Urban Area Development Organization (UADO[17]) to establish a new department known as the Territory Development Department (TDD). The amalgamation of these two organizations not only expanded the horizon of target areas, including both the New Territories and the main urban areas, but also improved the coordination and cooperation of the two previously, independent organizations.

3.6.2 Evaluation of the Organizational Structure

Decentralized organizational structures like the NTDD have both pros and cons for new-town developments. This is not to say that decentralization by nature is unsuitable and centralization by nature is suitable. But, it rather depends on the scales and levels of decentralization within the whole structure. In fact, some works are better conducted in a decentralized way by some organizations while others are not. As a result, the nature of work is vital for consideration. The NTDD has only a limited role in planning, designing, forming of land and the establishment of infrastructure in new towns. The NTDD is not responsible for any kind of construction and day-to-day management of all new towns. After the land is formed, the NTDD will leave the scene, assigning the development to other departments, or put up an auction in the private market. Thus, the NTDD plays an inactive role after the formation of land; very often the developments depend on other departments or on the private sector. Hence, the adverse effects brought by these other departments and the private sector cannot be remedied. One typical problem is the incoordination between the Housing Department and the other government departments in the provision of community facilities with reference to the number of incoming residents. So the NTDD is unable to deal with the problems created by them in the new towns. The Housing Department is mainly responsible for the building of

public housing according to a target demand while the provision of community facilities is accomplished by other government departments. Very often the provision of facilities lag behind the construction of the public housing in the new-town developments. Hence, the gap becomes a problem in meeting the needs of the residents. Better coordination between the Housing Department and other related government departments is an immediate palliative to reducing the gap. A more centralized model of the NTDD would be an alternative for consideration even though re-organization is difficult.

3.6.3 Land Development and Implementation Process

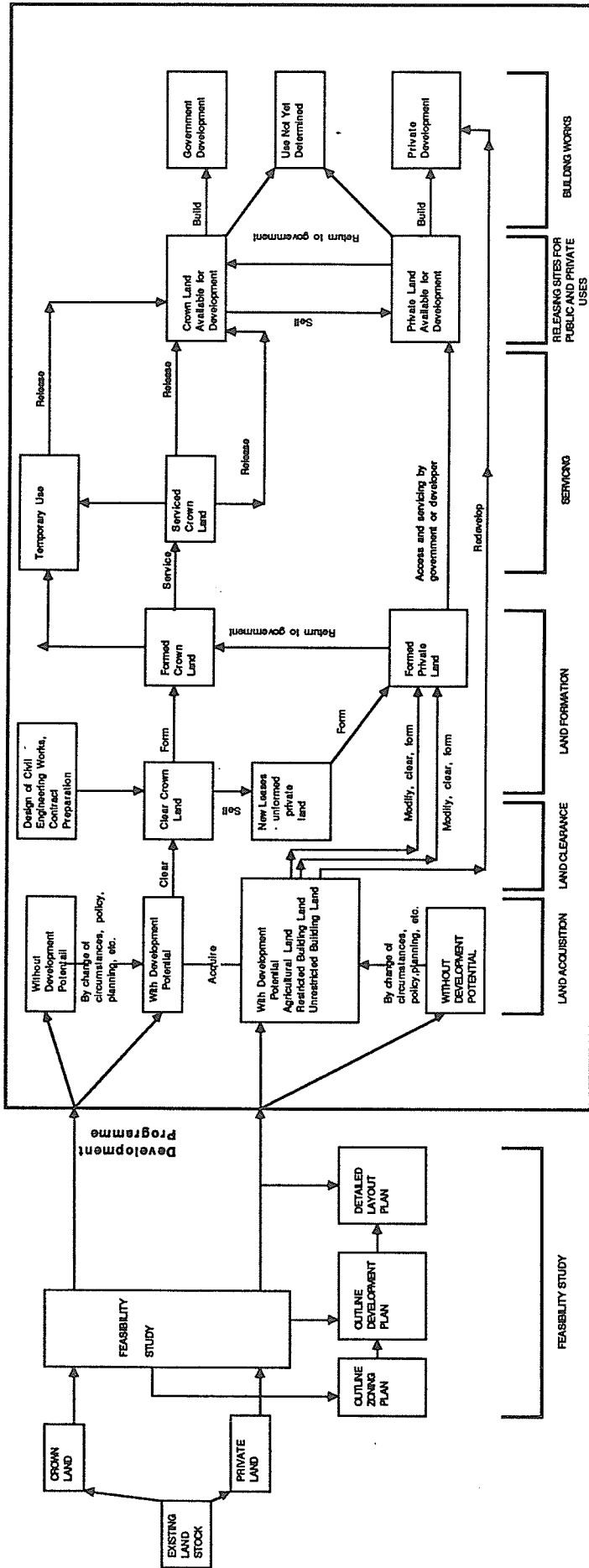
The land development process for new-town projects in Hong Kong is divided into three blocks, as shown in Figure 7. They are the a) availability of land stock, b) the feasibility studies, and c) the development programmes (the land acquisition, the land clearance, the land formation, the provision of services, the release of sites for public and private uses and, finally, the completion of building works).

Firstly, the land development process starts with the availability of land stock. In turn, the land stock is divided into two kinds, viz. the crown land and the private land. The crown land and the private land are handled differently throughout the land development process.

Subsequently, the feasibility studies of sites will be carried out. These studies form the basis of the district/local plans - the statutory outline zoning plans and the development plans. The studies will examine the potential and constraints associated with each new town and provide a guideline for the preparation of the district/local plans. In addition to the feasibility studies, the district/local plans are also affected mainly by plans on the higher level[18] namely, the territorial plans and the sub-regional plans. As a result, the land development programmes are chiefly dependent on the uniqueness of the sites which are examined in the feasibility studies and the underlying framework of plans at various level as a whole.

Thirdly, the land development programmes will be started after the feasibility studies. After both public and private lands have been divided into categories either with or without development potential, the land acquisition begins. Both crown and private land with development potential will be made ready for land clearance and further land formation. For the land without development potential, it will be considered whether the land has development potential or not by the change of the circumstances, policy or planning. During the stage of land clearance and formation, vast amounts of civil engineering works are undertaken. Then, after the crown land has been formed, basic infrastructure

will be prepared before releasing it for development. Similarly, private land in the stage of land formation will be accessed and serviced either by government or developers and prepared for the private land market. Finally, crown and private land together are available for various functional development such as the construction of public and private housing, industrial, commercial and community facilities. In order to achieve a balanced development, the NTDD has even prepared a rolling 'ten-year development programme' for the next ten years, in which the development works are divided into packages. Each package consists of certain aspects which are to be achieved in a balanced way, thus ensuring that other aspects related to the development will not be ignored; for example, the change in environment.



NOTES: CONSOLIDATED BY THE AUTHOR

SOURCES: PRYOR, 1983, 1985.

Figure 7: Land Development Process

3.7 SUMMARY

Hong Kong's new towns, though conceived in the 1950s, were built on an ad hoc basis in the 1950s and the 1960s, without any long-term planning. Bristow suggested that such planning in Hong Kong was rather demand-oriented (cited by Yeh, 1985, p.253). It was not until the 1970s that both the Hong Kong Outline Plan and the Ten-Year Target Housing Programme came into prominence as an impetus to the new town developments on a long-term basis. Once the government had adopted a much more serious approach, the new towns in Hong Kong were planned systematically and comprehensively to solve the problems of congestion and insufficient housing in the urban areas. The New Territories Development Department (NTDD) (renamed Territory Development Department (TDD) in 1986) which was established in 1973 played an important role in planning, designing and monitoring the developments of the new towns. Significantly, the new towns in Hong Kong have their own characteristics, which deviate much from the British prototype (the British new towns built in the 1950s and the 1960s). These special characteristics; namely, the public housing-oriented pattern, the high-rise, high-density residential areas, and the large scale and rapid construction, all reflect the differences in culture and in social conditions between Hong Kong and Britain. Owing to the topographical limitation, the periodic influxes of refugees, and the industrialization which brought

urbanization pressures and inadequate housing in Hong Kong, the new towns were developed as a means of decentralization policy and connected with public housing in coping the eminent housing problem. In general, the new-town developments became the major planning activity in Hong Kong; and there is much to show for this effort. It has effectively dealt with the population problem by fostering a decentralization process, in which at least 1.5 million people have been dispersed from the urban areas to these new towns. Recently, the Hong Kong Government decided to put the emphasis back on the urban areas in the 1990s. It is not surprising that the new-town developments paved the way for the future decentralization of the urban areas.

Chapter IV

CASE STUDIES

4.1 INTRODUCTION

The discussion of the three major new towns in the previous chapters is only a prologue for further examination of the stated objectives in building new towns. The stated objectives include the alleviation of urbanization pressure, the provision of housing for the needy people and the attraction of industries to the new areas. Each major new town will be scrutinized and compared to the trend of Hong Kong. The evaluation is divided into two different levels: the macro-level and the micro-level. On the macro-level, the examination of the trend and the rate of population migration to the three major new towns in the past two decades will show the extent to which the urbanization pressure is ameliorated through the practice of the decentralization strategy. On the micro-level, the evaluation will examine the living environment in the new towns. The discussion will focus on the interaction index, population and domestic households distribution by housing type (public and private), industrial and occupational population distribution, and community facilities.

4.2 EVALUATION OF THE DECENTRALIZATION STRATEGY

The trend of decentralization from the urban areas to the three major new towns provides a good indication of whether the problem of congestion in urban areas is alleviating or not. The migration rate is one of the most common indicators, showing the movement of people (1) between census districts of the same census area and (2) between census areas. Assuming constant population growth rate, the trend in migration pattern indicates a well illustration of the people moving from the urban areas to the new towns.

For the past several years, the trend in movement of people to the new towns has increased sharply. This spatial redistribution significantly led to a huge number of people moving out of the urban areas. According to Table 2, the rate of population concentration in the major urban areas, especially Hong Kong Island and Kowloon, was decreased within the period of 1961-1981, chiefly due to the increasing migration in New Kowloon and the New Territories.

TABLE 2
Distribution of Population by Broad Census Area (1961-86)

Broad Census Area	1961 ('000)	1971 ('000)	1976 ('000)	1981 ('000)	1986 ('000)
Hong Kong Island	1,005(32%)	996(25%)	1,027(23%)	1,184(24%)	1,176(22%)
Kowloon	725(23%)	716(18%)	2,367(54%)	799(16%)	2,302(43%)
New Kowloon	853(27%)	1,469(37%)		1,651(33%)	
New Territories	410(13%)	676(17%)	950(22%)	1,303(26%)	1,881(35%)
New Towns	N.A.	395(10%)		939(19%)	
Other Areas	N.A.	280(7%)		364(7%)	
Marine	137(4%)	80(2%)	59(1%)	50(1%)	37(1%)
TOTAL	3,130	3,937	4,403	4,987	5,396

Notes: Figures may not add up to total because of rounding.

Sources: Hong Kong 1981 Census;
Hong Kong 1986 By-Census Summary Results.

The population distribution in new towns was remarkable, rising from 395,000 to 939,000; that is, almost two and a half times the original population within the ten-year period 1971 to 1981. Evidently, the major population redistribution occurred during this period (1971-1981) owing greatly to the adoption of the Ten-Year Target Housing Programme, which attracted a vast number of people to public-housing in the new towns.

A more detailed enquiry indicated that 24% of the population who recognized new towns as their area of destination originally came from the old urban areas during the period of 1976-81. A net gain[19] of 169,000 persons from internal movement was recorded by the new towns -- 70,000 people in Tsuen Wan new town, 30,000 in Tuen Mun new town, 52,000 in Sha Tin new town and the remainder in other new towns. The rate even increased from 24% to 35% during the following period of 1981-86, indicating that about 401,600 persons moved from the major urban areas to the new towns (see Table 3).

In general, the new-town developments are effective in terms of decentralizing of the population from the major urban areas as indicated in the above figures. Its success leads one to pose the question as to what factors were responsible in affecting population distribution on such a large scale.

TABLE 3

Internal Movement by Areas of Origin and Destination (1976-86)

1981-1986

1976-1981

Area of Origin	1976-1981			1981-1986			Total	Rural New Territories	Rural New Territories	Total
	Area of Destination			Area of Destination						
	Hong Kong Island, Kowloon and New Kowloon	New Towns	Rural New Territories	Hong Kong Island, Kowloon and New Kowloon	New Towns	Rural New Territories				

Hong Kong Island, Kowloon and New Kowloon	474,756 (58.9%)	192,408 (23.9%)	19,115 (2.4%)	444,731 (38.5%)	401,597 (34.7%)	30,639 (2.6%)	686,279 (85.2%)	19,115 (2.4%)	30,639 (2.6%)	876,967 (75.8%)
New Towns	36,025 (4.5%)	21,221 (2.6%)	9,373 (1.2%)	62,489 (5.4%)	118,706 (10.3%)	15,603 (1.3%)	66,619 (8.3%)	9,373 (1.2%)	15,603 (1.3%)	196,798 (17.0%)
Rural New Territories	15,821 (2.0%)	18,597 (2.3%)	2,748 (0.3%)	18,830 (1.6%)	44,030 (3.8%)	4,102 (0.4%)	37,166 (4.6%)	2,748 (0.3%)	4,102 (0.4%)	66,962 (5.8%)
Marine	9,955 (1.2%)	3,363 (0.4%)	2,748 (0.3%)	5,768 (0.5%)	8,078 (0.7%)	2,527 (0.2%)	16,066 (1.9%)	2,748 (0.3%)	2,527 (0.2%)	16,373 (1.4%)
Total	536,557 (66.6%)	235,589 (29.2%)	33,984 (4.2%)	531,818 (46.0%)	572,411 (49.5%)	52,871 (4.5%)	806,130 (100.0%)	33,984 (4.2%)	52,871 (4.5%)	1,157,100 (100.0%)

Notes: 'a' -- Rural New Territories used in 1986 By-Census is the same as 'other areas' used in 1981 Census.

Sources: Hong Kong 1981 Census.
Hong Kong 1986 By-Census Summary Results.

4.3 FACTORS AFFECTING MIGRATION

It is commonly found that many migration studies in the past were based on disciplinary approaches by people from different disciplines (Oberai & Bilsborrow, 1984). Sociologists will generally consider the demographic factors such as age, sex, education level, etc. to analyze the migration process. Economists will specifically examine economic factors such as wage rates, income levels and unemployment levels in their analysis. Geographers will examine the distance, and movement of people in space for their analysis. However, these methods of scrutinizing the migration process has been changing to incorporate a broader perspective. Sociologists or economists now begun to include more of the socio-economic characteristics of the migrants, while the geographers consider not only geographic factors but also economic factors. Hence, migration studies have become more multi-disciplinary and process have lost specific focus.

On reviewing some of the theories of the determinants of migration, it is found that many of these theories place more emphasis on the 'welfare' aspects of the migrants (Bilsborrow, 1984). These theories include the Ravenstein's laws of migration, Lee's theory of migration, the dual economy model of development, Sjaastad's human investment theory, and Todaro's model of rural-urban migration. Despite the fact that the welfare consideration is taken

from either a social or economic perspective, the welfare of the migrants is commonly recognized as the most important factor accounting for the migration. In fact, these theories are chiefly divided into two categories: the push-pull concept of determination and the twin economic concepts of spatial equilibrium and spatial disequilibrium theories of determination (Chan, 1988, p.77). The push-pull concept is focused on the factors leading the migrants away from their places of origin and towards their places of destination. These factors, in general, are of social, economic, and environmental factors such as congested and poor living environment, deteriorated housing, poor amenities, economic opportunities, etc. The theories of Ravenstein, Lee, and Sjaastad fall in this category. The spatial theories focus rather on the process by which the well-being gap between regions widens or narrows. The dual economy model and Todaro's model belong to this category.

In examining the new-town migration in Hong Kong, certain aspects have to be considered before applying these theories for analysis. First of all, Hong Kong is so compact that the transport and communication linkage is not that inaccessible, and cannot conceivably hinder the migration process of the migrants. People can easily travel to and from the urban areas and other areas. Secondly, Hong Kong does not have a wide disparity between the rural and urban economies. Unlike many countries, the distinction between

the rural and urban economies is not that obvious. It is especially true to say that the rural economy is predominately agricultural and the urban economy is centred manufactured and services in many countries, and these distinctions are the bases of many modelling approaches. However, the model of Todaro of rural-urban migration cannot be applied in the case of Hong Kong where disparities between urban and rural areas are scarcely evident. Similarly, the dual economy model of development cannot be applied as it is an equilibrating mechanism focusing on the shifting of the labour surplus sectors to the labour deficit sectors. On the other hand, the push-pull concept is more suitable to dealing with the situations in Hong Kong. Of the three theories of the push-pull concept, Ravenstein's law of migration and Sjaastad's human investment theory are more economic-oriented, proposing that people move in response based on greater opportunities and higher expected returns over time, respectively. The limitation of considering only the economic aspects very often means that other important factors affecting the migration are neglected; for many important factors are non-economic. In contrast, Lee's theory of migration has a wider horizon of examining both the area of origin and the area of destination. Although Lee considered the push factors away from the origin as more important than the pull factors of the place of destination, this does not however affect the analysis of new-town migration in Hong Kong since both factors are treated as equally important.

The push factors are the driving force, leading to out-migration of the residents from the built-up areas. This is not necessarily referring to all the drawbacks of living in the urban areas but, some of the forces leading to their decision to move. The housing shortage due to limited land availability for further development, crowded living environment, other environmental and social problems and long waiting time for new public rented housing in the urban areas provide enough incentives for them to move. Owing to the limited land availability for housing development, the prices of housing are normally high in the urban areas in the open market since the private sector endeavours to gain profits through any type of housing development. This negatively affects those who are unable to afford high prices or rents for housing. Social problems very often occur in the congested deteriorated urban areas. As a response to the poor living environments, the residents are more willing to move out to a new place, especially in new towns where the living spaces and environment are planned ahead. This undoubtedly provides incentives for the large-scale and rapid redeployment of people into the new towns and, hence, strengthens the development of new towns in Hong Kong.

The pull factors are concerned with the advantages and quality of living in the new towns; factors which attract residents from other areas. To a large extent, the pull

factors are the opposite of the push factors, in which the environmental quality, affordable and livable housing, and low density development are important. Public housing projects aim to construct the compact, self-contained housing with good amenities and environment. More open space for various activities is constructed for all age groups of people. The new towns provide better living conditions compared with the congested urban areas, especially those replete with private tenements. The low rent in the public housing may also be a pull factor of migration. Unless the rents in the new towns are much higher than those pertaining in the old urban areas, the people are more eager to move. In addition, the rent of private housing in the new towns is lower than that applying in the urban areas, comparatively speaking.

According to the 1976 Census, it was found that there were four major reasons affecting the people moving to the new towns. They are: better housing (28.8%), moved forced by circumstances rather than by choices (17.2%), job reasons (12.5%), and cheaper rent (10.2%). These factors significantly reflect the major features of the new-town developments in Hong Kong.

The push and pull factors together undoubtedly pose a dynamic force attracting the migrants to the new towns. Especially telling are the different living conditions between the urban areas and the new towns. However, an

element of force is also present. This factor of 'inertia', which makes much of the new-town infill appear as 'quasi-voluntary migration', leads to an increasing pace of people moving to the new towns. In fact, this massive movement strengthens the success of the decentralization strategy. Nonetheless, some of the problems in the new towns will retard the pace of migration such as the inadequate employment opportunities and lack of social facilities in the new towns. This is especially true when the new towns cannot attract many industrial entrepreneurs to locate their firms there due to expensive relocation costs and other costs. In turn, this leads to a huge amount of commuting to and from the new towns for work. The public-housing development only focuses on the achievement of housing demand and neglects other supporting programmes needed simultaneously in the new towns. In just meeting the housing goal, the new-town policy is found working.

In sum, the migration to new towns can be examined by the means of Lee's theory of migration, signifying the importance of both push and pull concepts. Despite the fact that the 'inertia' factor affects the migrants' decision, further affecting the pace of migration, the decentralization strategy remains commendable. It is expected that the urban form of Hong Kong will be changed in the future from only one major urban centre to a major urban centre with several regional centres. The linkage between

the urban centre and the regional centres will be further consolidated through time.

4.4 TSUEN WAN NEW TOWN

Tsuen Wan new town is situated in the north-west of Kowloon and is about 5 km. from the main urban areas (see Figure 1). The town had been expanded to include Tsing Yi and Sham Tseng with additional land available for residential, and commercial development and land intensive industries. It has a total designated area (including green belt) of 2,700 ha. and a total built-up (development) area of 2,000 ha. It has a target population of 900,000 and already has 700,000 people (1986) (see Appendix C).

Regarding self-containment in the town, it can be shown that there is a high interaction index[20], indicating that people travel to and from the town very often. According to Table 4, the total home-based work-force accounted to 139,000 in the town in 1980. Employment opportunities exceeded the labour force with a job ratio of 103 (1980). The interaction index increased from 47% in 1966 to 154% in 1980. This boosted index is mainly due to the increasing number of local residents who work outside the town in conjunction with the numbers of the workers who live outside and yet work in the town. These two factors lead to the increased demand for transport and the resultant heavy traffic flow between the town and the main urban areas. The

objective of self-containment is called into question since there is a large group of local residents who work outside (42.7%). This does not mean that the working opportunities are not adequate for the labour force. Rather, the convenient transport linkages among districts in the compact city and the willingness of people to remain in the same jobs even after migration accounts for this state of affairs.

TABLE 4
Employment Characteristics of Tsuen Wan New Town (1966 - 80)

Year	Working Opportunities	Labour Force	Local residents who work outside	(1)/(2) x 100	(3)/(2) x 100	Total home based workers	Workers who live outside town	Total in- and out-commuting	C Interaction index (%)
1966*	68,700	68,400	12,900	100	18.9	55,500	13,200	26,100	47
1971@	91,466	106,393	31,756	86	29.8	74,637	16,829	48,585	65
1976^	162,990	161,980	67,620	101	41.7	94,360	68,630	136,250	145
1980#	249,300	242,500	103,500	103	42.7	139,000	110,300	213,800	154

Notes: 'c' -- computed by the author using the interaction index formula (see appendix 2 for the formula).

Sources: (*) -- Commissioner for Census and Statistics, Report of By-census 1966, vol. II (Hong Kong: Government Printer), Table 104.

(@) -- Census and Statistics Department, Transport characteristics, 1971, Table 4.

(^) -- Census and Statistics Department, Hong Kong Monthly Digest of Statistics, April 1978. Special Review, Table 17.3.

(#) -- Census and Statistics Department, Report on March, 1980. Labour Force Survey, Table 153.

4.4.1 Housing Characteristics

Concerning the population distribution by housing type (1986), it is found that 64.9% of new-town population live in public rental housing, 1% in Home Ownership Scheme (HOS[21]) /Private Sector Participation Scheme (PSPS)[22], and the remaining 34.1% in private residential housing.

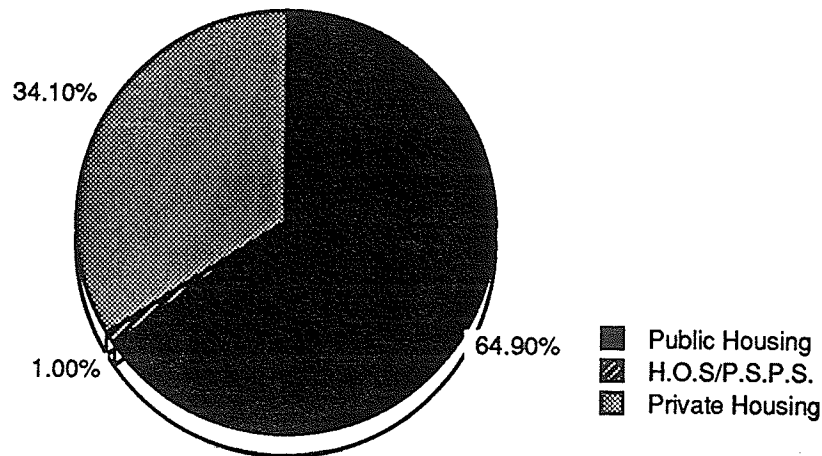


Figure 8: Tsuen Wan Population Distribution by Housing Type

Source: Tsuen Wan Development Office Facts and Figures, 1986.

While comparing the figures with those for Hong Kong as a whole, the town population in public housing is 21% higher than the Hong Kong average while the population in private housing is some 21% lower than the Hong Kong average. This signifies that the new town has a large percentage of people living in public housing and far fewer than the norm in pri-

private housing. This greatly reflects the predominant lower-income group living in the town. In addition, according to Table 5, 35.0% of domestic households belonged to public and aided rental blocks while 46.5% of households were associated with private housing blocks (1986). The figures for Hong Kong, are on average, 35.5% and 43.9% respectively. It is surprising that both figures referring in Tsuen Wan are close to the Hong Kong average, indicating that domestic households by housing type in Tsuen Wan are similar to the Hong Kong norm.

While examining the figures of both population distribution and domestic households distribution in the town, there is one great difference in terms of percentage of the two distributions. Some 65% of population living in public rental housing account for 35% of domestic households in the town. On the other hand, 34.1% of population living in private residential housing account for 46.5% of domestic households. These figures indicate that the average family sizes in the public housing must be considerably larger than those applying to the private housing, even though there are more private housing domestic households.

TABLE 5

Distribution of Domestic Households By Housing Type (Hong
Kong and the Three Major New Towns: 1976 - 86)

Type of Living Quarters	Percentage					
	1976	Hong Kong 1981	1986	Tsuen Wan 1986	Sha Tin 1986	Tuen Mun 1986
Public and aided rental blocks	34.4	33.4	35.5	35.0	48.9	57.0
Housing Authority Home Ownership Estates	-	0.6	4.0	-	13.6 ^a	17.5
Housing Authority Cottages/ Temporary Huts	1.5	2.1	2.5	-	-	-
Private Housing Blocks						
Self-contained	48.3	46.8	43.9	46.5	19.6	8.6
Whole houses/flats	(24.6)	(26.0)	(31.0)			
Rooms/Bedspaces etc.	(23.7)	(20.8)	(12.9)			
Non-self-contained	1.8	0.6	0.1			
Villas/Bungalows/Modern village houses	0.6	2.1	2.9	5.5	3.5	1.9
Simple stone structures (1)	3.5	4.7	3.5	3.6	2.4	5.6
Other permanent housing	1.6	2.6	2.5	1.2	3.9	1.2
Private temporary housing	8.3	7.1	5.1	8.2	8.0	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: (1) Other permanent housing includes boarding houses, staff quarters buildings, staff quarters in institutions and quarters in non-residential buildings.
(a) HOS/PSPS

Sources: Hong Kong 1986 By-Census.

4.4.2 Economic Characteristics

It can be elicited from Table 4 that the working opportunities exceeded the labour force (except in the year 1971) during the period of 1966-1980. The provision of employment opportunities in Tsuen Wan is adequate to meet the needs of its labour force. The surplus working opportunities in the town will attract an influx of workers from outside the town, posing a heavy burden on the transportation network.

Regarding industrial distribution of the working population of Tsuen Wan, almost one half of workers are involved in manufacturing industries, while some 40% are involved in tertiary industries (see Table 6). Yet, the trend of manufacturing employment moved continuously downwards, from 55.0% to 48.2% during the period of 1981-1986. The major reason for that is the rising number of workers in tertiary industries, accounting to almost a 9% increase by the latter year. While comparing the general trend of Hong Kong, the manufacturing employment in Tsuen Wan was above the average, almost 12.4% higher. On the other hand, the tertiary employment of that town is 12% less than the average (see Table 7). In short, the shift from manufacturing industries to tertiary industries was the major trend of employment in Hong Kong for the past decade. Tsuen Wan new town was no exception to that trend.

TABLE 6

Industrial Distribution of Working Population (The Three
Major New Towns: 1981 - 86)

Industry	Percentage					
	Tsuen Wan		Sha Tin		Tuen Mun	
	1981	1986 ^a	1981	1986 ^a	1981	1986 ^a
Manufacturing	55.0	48.2	38.6	34.6	45.6	44.8
Construction	7.8	5.8	9.9	7.4	10.8	7.4
Wholesale & retail, trade, restaurants & hotels	14.1	17.5	18.7	19.6	16.6	16.3
Transport, storage & communication	7.9	7.4	7.9	9.0	10.0	9.9
Financing, insurance, real estate and business services	2.3	4.6	3.4	5.6	1.3	2.8
Services	11.2	15.1	19.0	21.6	12.6	15.0
Others	1.7	1.5	2.5	2.1	2.2	2.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Notes: The percentages are rounded-off; working persons including unemployed persons having had
'a' -- Coverages: all land-based working persons including unemployed persons having had
a previous job.

Source: Hong Kong 1986 BY-Census Summary Results;
Hong Kong 1986 BY-Census TPU Summary Results;
Hong Kong 1986 BY-Census District Board District Tabulations.

TABLE 7
Industrial Distribution of Working Population (Hong Kong:
1961 - 86)

Industry	Percentage				
	1961	1971	1976	1981	1986
Manufacturing	43.0	47.0	44.6	41.3	35.8
Construction	4.9	5.4	5.8	7.9	6.3
Wholesale & retail, trade, restaurants & hotels	14.4	16.2	19.3	19.1	22.5
Transport, storage & communication	7.3	7.4	7.4	7.6	8.0
Financing, insurance, real estate and business services	1.6	2.7	3.3	4.7	6.4
Services	18.3	15.0	15.2	15.4	18.1
Others	10.5	6.3	4.4	4.0	2.9
Total	100.0	100.0	100.0	100.0	100.0
	(1,191)	(1,547)	(1,915) ^a	(2,487) ^a	(2,745) ^a

Notes: 'a' -- figures include unemployed persons having had previous jobs.
Figures in brackets are in thousands.

Source: Hong Kong 1986 By-Census.

The occupation distribution of the working population, which has a strong relationship with the industrial working population distribution, is also worthy of consideration. Table 8 indicates that there were more people involved in professional, administrative and related occupations (10.4%), clerical and related occupations (14.1%), and sales occupations (9.3%) by the year 1986 in the three major new towns. In contrast, less people (53.1%) were involved in the production and other related occupations. Compared with the figures for Hong Kong (see Table 9), the proportions of professional and clerical jobs are close to the colony's average. One striking point is that the rate of increase of these two categories climbed so rapidly as to reach the average in just a five-year period. Despite the fact that the figures for production workers in Tsuen Wan is higher than the average, the rate for that group decreased sharply from 66.2% to 53.1% during the period in question. The issue of self-containment and balance in Tsuen Wan again comes to a head; for the people there are predominately involved in manufacturing sectors. The opportunities of commercial or servicing jobs are chiefly found in the main urban areas, though jobs of that nature are increasingly provided in the new towns. Consequently, the residents in the new town are mainly working-class groups.

TABLE 8
Occupational Distribution of Working Population (The Three
Major New Towns: 1981 - 86)

Occupation -----	Percentage -----			
	Tsuen Wan 1981	Sha Tin 1981	Tuen Mun 1981	Tuen Mun 1986a
Professional, administrative and managerial workers	4.2	8.8	3.2	6.6
Clerical and related workers	8.4	12.0	4.7	8.9
Sales workers	7.8	8.9	8.8	8.7
Service workers	12.7	17.3	17.1	14.7
Production, and related workers, transport equipment operators and labourers	66.2	51.3	64.0	57.9
Others	0.7	1.7	2.2	3.1
Total	100.0	100.0	100.0	100.0

Notes: 'a' -- Coverages: all land-based working persons including unemployed persons having had previous jobs.
The percentages are rounded-off.

Source: Hong Kong 1986 By-Census Summary Results;
Hong Kong 1986 By-Census District Board District Tabulations.

TABLE 9
Occupational Distribution of Working Population (Hong Kong:
1961 - 86)

Occupation	Percentage			
	1961	1971	1976	1986
Professional, administrative and managerial workers	8.2	7.6	7.5	8.5
Clerical and related workers	5.8	8.3	9.6	12.0
Sales workers	13.7	10.6	11.4	10.3
Service workers	15.1	14.8	14.8	15.6
Production, and related workers, transport equipment operators and labourers	48.7	52.3	52.2	50.7
Others	8.5	6.4	4.5	2.9
Total	100.0	100.0	100.0 ^a	100.0 ^a
	(1,191)	(1,547)	(1,915)	(2,487)
				(2,745)

Notes: 'a' -- figures include unemployed persons having had previous jobs. Figures in brackets are in thousands.

Source: Hong Kong 1986 By-Census.

In addition, while considering the monthly income distribution from main employment for workers in Tsuen Wan, no less than 32% lie in the income bracket of \$2,000-2,999 whereas 23% lie in the \$1,000-1,999 level. The Hong Kong figure for these two income brackets are 29.8% and 21.8% respectively (see Table 10).

TABLE 10

Income from Main Employment (HK and The Three Major New Towns: 1986)

Monthly Income from main employment HK (\$)	Hong Kong	Tsuen Wan	Sha Tin	Tuen Mun
	1986	1986	1986	1986
Under 1,000	6.4	5.9	5.5	8.5
1,000 - 1,999	21.8	23.0	17.5	20.3
2,000 - 2,999	29.8	32.0	26.8	26.3
3,000 - 3,999	18.4	17.8	19.8	22.9
4,000 - 4,999	8.3	8.0	11.0	11.3
5,000 - 5,999	4.6	4.4	6.4	4.6
6,000 - 7,999	4.4	4.6	6.3	3.7
8,000 - 9,999	2.1	2.1	2.6	1.1
10,000 and over	4.2	2.4	4.0	1.1
Total	100.0 (2,594)	100.0	100.0	100.0

Note: (1) The figures exclude unpaid family workers and the unemployed.
 (2) The figures in brackets are in thousands.

Sources: Hong Kong 1986 By-Census Summary Results;
 Hong Kong 1986 By-Census TPU Summary Results.

4.5 SHA TIN NEW TOWN

Sha Tin new town is situated to the north-east of Kowloon, about 5 km. from the main urban areas (see Figure 1). The inclusion of Ma On Shan in 1979 as an extension of the Sha Tin new town contributes to a total designated area (including green belts) of 3,637 ha. and a total-built up (development) area of 1,900 ha. It has a target population of 750,000 and already has 394,000 people (1986) (see Appendix C).

There was a high interaction index during the period of 1971-1981, an indication that the goal of self-containment was far from being met (see Table 11). The high interaction index shows that the people commute heavily between the town and the main urban areas. The home-based workers, in total, accounted for 54% of the labour force in 1981. One interesting point making Sha Tin so different from the other two new towns is the lack of working opportunities in the town, a situation that has prevailed for the past ten years or more. In short, the labour force exceeds the working opportunities. Not surprisingly, it means that a vast number of local residents have to work outside the town, causing increasing demands for transport and resulting in heavy traffic flows. This, together with the rising number of non-residents workers in the town, leads to the increase of the total in- and out-commuting rate. The recent heavy traffic congestion between Sha Tin and Kowloon which occur

in the Lion Rock Tunnels and on the railway brings home this fact.

TABLE 11

Employment Characteristics of Sha Tin New Town (1966 - 81)

Year	Working Opportunities (1)	Labour Force (2)	Local residents who work outside (3)	(1)/(2) x 100 (4)	(3)/(2) x 100 (5)	Total home based workers (6)	Workers who live outside town work in the town (7)	Total in- and out-commuting (8)	Interaction index (%) ^C (9)
1966*a	20,420	16,900	2,000	121	12	14,900	5,520	7,520	51
1971~b	8,824	10,437	4,493	85	43	5,944	2,880	7,373	123
1976^b	10,890	11,850	7,410	92	63	4,440	6,450	13,860	313
1981#b	143,769	170,195	78,588	84	46	91,607	52,162	130,750	143

Notes: 'a' -- the figures include Tai Po, Sai Kung N. and Sha Tin;

'b' -- the figures include Sha Tin only.

'c' -- computed by the author using the interaction index formula (see appendix 2 for the formula).

Sources: (*) -- Commissioner for Census and Statistics, Report of By-census 1966, vol. II (Hong Kong: Government Printer), Table 104.

(~) -- Census and Statistics Department, Transport characteristics, 1971, Table 4.

(^) -- Census and Statistics Department, Hong Kong Monthly Digest of Statistics, April 1978. Special Review, Table 17.3.

(#) -- 1981 Special Survey of Transport Characteristics: Hong Kong Monthly Digest of Statistics (1984), pp. 102-3.

4.5.1 Housing Characteristics

Concerning the population distribution by housing type, it is found that 57% of new-town population live in public rental housing, 12% in Home Ownership Scheme/Private Sector Participation Scheme, and 31% in private residential housing (1986).

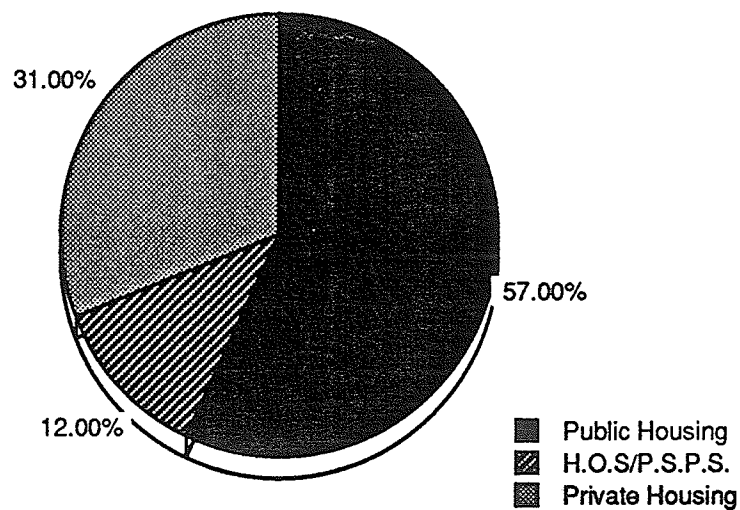


Figure 9: Sha Tin Population Distribution by Housing Type

Source: Sha Tin Development Office Facts and Figures, 1986.

When compared the figures for Hong Kong, the town population in public housing is some 12% higher, while the town population in private housing is some 20% lower. This reflects the fact that the Sha Tin new town is a public housing-led development, though it has the least public-housing population of the three major new towns. About 12% of the popula-

About 12% of the population live in the HOS/PSPS housing; a finding which signifies an increasing portion of population who are able to own their housing.

According to Table 5, 48.9% of domestic households occupy public and aided rental blocks, 13.6% are found in HOS, and 19.6% in private housing blocks in the town (1986). The last figure is far below the Hong Kong average (43.9%), indicating that only a small number of domestic householders live in private housing in the town.

4.5.2 Economic Characteristics

Regarding the industrial distribution of the working population of Sha Tin, 34.6% were involved in manufacturing industries, and some 55.8% were involved in tertiary industries (see Table 6). The proportion of those involved in manufacturing industries continually decreased from 38.6% to 34.6% during the period of 1981-1986. This reduction was due mainly to the increasing number of workers in the tertiary industries, almost 6.8% of the increased rate within the five-year period fell into this category. In comparison with Hong Kong, the figure for the workers in manufacturing industries is not significantly less. However, the proportion of the work-force in tertiary industries is very close to the Hong Kong average (55%). Thus, the industrial distribution of working population in Sha Tin is somewhat similar to that of Hong Kong (see Table 7).

The occupational distribution of the working population is also considered, in order to examine the trends in the town. During the five-year period of 1981-1986, the number of workers in certain occupations increased; namely, professional, administrative and other related workers (5.3%), clerical and related workers (3.3%), sales workers (1.8%). In contrast, the numbers of service workers and production workers diminished at rates of 8.2% and 0.9% respectively. The figures of some occupations equal or are even higher than the Hong Kong figures; for example, professional, administrative and related workers (14.1%), clerical and related workers (15.3%), sales workers (10.7%), service workers (16.1%), and production workers (43.1%). Overall, the occupational distribution in Sha Tin is similar to the Hong Kong figures in 1986. In general, of all the three major new towns, Sha Tin is the one which has the most tertiary-industries workers (56.2%), a fact likely associated with the major portion of people owning their housing (43.0%). As a rule, manufacturing workers cannot normally afford private housing in the town. With reference to self-containment and balance, Sha Tin is definitely the one new town which comes closest to the stated objectives in terms of industrial and occupational distribution (see Table 8 & 9).

In addition, several variations make Sha Tin different from the other two new towns when the income aspect is

reviewed. An obvious difference lies in the income brackets of \$5,000-5,999, \$6,000-7,999, and \$10,000 and over, which record 6.4%, 6.3%, and 4.0% respectively in Sha Tin. The former two figures are even higher than their of Hong Kong equivalents, while the last one is close to the average of Hong Kong. This signifies that there is a certain well-to-do group of people living in Sha Tin compared with the other two towns. In turn, this positively relates to some professional groups living in the town (see Table 10).

4.6 TUEN MAN NEW TOWN

Tuen Mun new town is located at the western end of the New Territories, about 32 km. from the main urban area (see Figure 1). It has a total designated area (including green belts) of 2,113 ha. and a total built-up (development area) of 1,450 ha. It has a target population of 550,000; of which 282,000 are already living in the town (1986) (see Appendix C).

Turning first to the issue of self-containment, it is evident that there was a high interaction index during the period of 1971 to 1981, with the index registering 182 in 1981 (see Table 12). The home-based workers constituted 55.8% of the labour force in 1981. Similarly, Tuen Mun new town displayed a heavy commuting pattern between the town and the main urban areas. The working opportunities in the town exceeded the size of the total labour-force as early as

1966; but the ratio for the labour-force and working opportunities remained stable, at around 113. The excess employment opportunities attract quite a number of non-residents workers from other areas. This phenomenon, together with the smaller numbers of local residents working outside, imposes a burden on the transport and traffic flow. The trend of in- and out- commuting will increase for the coming years because the Light Rail Transit System (LRTS[23]) will penetrate (parts of it are already in operation as of Oct., 1988) to all parts of the town and the two existing new towns, Yuen Long and Tin Shui Wai. The daily commuting for work is heavier than expected.

TABLE 12
Employment Characteristics of Tuen Mun New Town (1966 - 81)

Year	Working Opportunities (1)	Labour Force (2)	Local residents who work outside (3)	(1)/(2) x 100 (4)	(3)/(2) x 100 (5)	Total home based workers (6)	Workers who live outside town work in the town (7)	Total in- and out-commuting (8)	Interaction index (%) (9)
1966*a	13,300	11,800	2,000	113	17	9,800	3,500	5,500	56
1971~b	20,088	17,776	6,294	113	35	11,482	8,606	14,900	130
1981#b	116,151	102,781	45,448	113	44	57,333	58,818	104,266	182

Notes: 'c' -- computed by the author using the interaction index (see appendix 2 for the formula).

Notes: 'a' -- the figures include Tuen Mun, Ha Tsuen and Ping Shan;
'b' -- the figures include Tuen Mun only.

Sources: (*) -- Commissioner for Census and Statistics, Report of By-census 1966, vol. II (Hong Kong: Government Printer), Table 104.

(~) -- Census and Statistics Department, Transport characteristics, 1971, Table 4.

(^) -- Census and Statistics Department, Hong Kong Monthly Digest of Statistics, April 1978. Special Review, Table 17.3.

(#) -- 1981 Special Survey of Transport Characteristics: Hong Kong Monthly Digest of Statistics (1984), pp. 102-3.

4.6.1 Housing Characteristics

Regarding population distribution by housing type, it is found that 62.4% of new-town population live in public rental housing, 15.9% in Home Ownership Scheme/Private Sector Participation Scheme, and 21.7% in private residential housing.

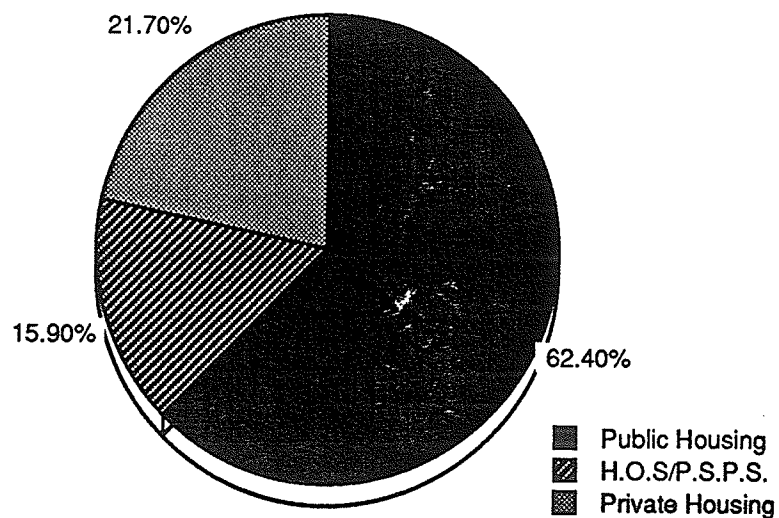


Figure 10: Tuen Mun Population Distribution by Housing Type

Source: Tuen Mun Development Office Facts and Figures, 1986.

In comparing these figures with those of Hong Kong, the public housing population in the town is about 17% higher, while the private housing there is less than a half of the Hong Kong figure. This reflects the fact that the Tuen Mun new town is public housing-led like the other two new towns. Yet, the rising importance of the HOS/PSPS cannot be neg-

neglected (15.9%). Of the three major new towns, Tuen Mun undoubtedly has the least private residential housing. This is further supported by the domestic households distribution by housing (see Table 5), which shows that 57.0% of domestic households are found in public and aided rental blocks, 17.5% in HOS, and 8.6% in private housing blocks (as of 1986). The reasons for this situations stem from the unwillingness of those who can afford private housing to live in such a remote area, well away from the major urban areas. Employment opportunities in terms of tertiary industries are inadequate. Despite the fact that the transport linkage has been improved, the inconvenience still exists. As a response to the less demand for, and unprofitability of, private housing, the private developers are reluctant to construct such housing in the private market.

4.6.2 Economic Characteristics

According to Table 6, 44.8% of the working population are involved in manufacturing industries, and about 44% are involved in tertiary industries. The number of manufacturing workers has slightly decreased, 45.6% to 44.8%, while the number of tertiary-industries workers has increased, from 40.5% to 44%, within the period of 1981-1986. The number of manufacturing workers are 9% greater than the Hong Kong average and the number of

tertiary workers are 11% lower than the Hong Kong average. This implies that the industrial distribution of working population is similar to that of Tsuen Wan, while being different from Sha Tin (see Table 7).

In considering the occupation distribution of the working population, certain occupations have experienced dramatic growth. The professional, administrative and related occupations have more than doubled within the five-year period. The clerical and related occupations have also experienced a substantial increase of 4.2%. Although the production workers declined from 64.0% to 57.9%, such distribution signifies the vitality of production industries. The occupational distribution in tertiary industries and production industries is 15.4% lower and 14.5% higher respectively in comparison with the Hong Kong average. Nonetheless, the trend of Tuen Mun follows the general trend of Hong Kong. Also, the attainability of self-containment and balance remains elusive according to both industrial and occupational distribution (see Tables 8 & 9).

Finally, the income from main employment for workers in Tuen Mun is signified by a rather high percentage of 8.5% in the under \$1,000 income bracket, and a low percentage of 1.1% in the \$10,000 and over income bracket. This stands out in comparison with the other two new towns and the Hong Kong figure and implies that a sizeable number of lower-income

people are living in the town. Conversely, the town is devoid of an extreme significant high-income group. Other than that, the trend of the remaining figures is close to the Hong Kong figure (see Table 10).

4.7 COMMUNITY FACILITIES

New towns in Hong Kong are planned to be self-contained, implying that the daily needs of their residents can be attained by the provision of community facilities in the towns. Despite the fact that needs can be divided into three types - biological[24], basic[25], and functional[26] by Benn and Peters (1959, p.87), the basic needs and functional needs are more pronounced in the context of Hong Kong. Community facilities are a tangible response to the needs and are established in the towns. These community facilities, in general, include schools, medical facilities, social services, and recreational services.

Table 12 summarizes the extent of community facilities in the three new towns. Major facilities are provided in the fields of education, medical services, social services and recreation services. Very often community facilities are criticized for falling short in terms of quality, standards and even being inadequate. However, these criticisms are biased and directed by personal feelings or impressions. This is not to say that personal feelings are unimportant, but subjective judgements will lead to faults since the

standards of one person may be so different from the standards of others. In fact, one effective way of providing community facilities is to directly tie them to the characteristics and the potential demand and needs of the in-coming population in the new towns. Armer (1976) went so far as to provide a phasing of social-services planning by examining the potential demand and needs of the migrants, viability of services, physical establishment of a facility, and growth and diversification of the services or facilities. This kind of framework undoubtedly exposes the weakness of the Government approach since it does not have any specific policy for social-services development even for the whole of Hong Kong. Besides, the timing factor for providing the community facilities or services is critically important as the services should be provided prior to the migration. This procedure attempts to eliminate the problem of dissatisfaction of the residents because of insufficient provision. For example, the recent influx of young couples moving to the Sha Tin new town necessitated more facilities for them and such as nursery services, pre-school children services and better clinical services in the future. The time-lag between inception and provision, overprovision and underprovision are also of vital import. The requirement is for a precise plan for scheduling service provision in the most effective way.

TABLE 13

Provision of Community Facilities

	Tsuen Wan	Sha Tin	Tuen Mun
Education			
Primary School	x	x	x
Secondary School	x	x	x
Medical Services			
Hospitals	x	x	x
Clinics	x	x	x
Social Services			
Community Centre	x	x	x
Nursery Centre	x	x	x
Children Centre	x	x	x
Youth Centre	x	x	x
Elderly Services	x	x	x
Disabled or Handicapped Services	x	x	x
Libraries	x	x	x
Culture Complex	x	x	-
Recreation Services			
Swimming Pool Complex	x	x	x
Recreation Centre	x	x	x
Open Spaces	x	x	x

Notes: 'x' -- the services are provided.
 '-' -- the services are not yet provided.

Sources: Tsuen Wan Development Office Facts
 and Figures 1986;
 Sha Tin Development Office Facts
 and Figures 1986;
 Tuen Mun Development Office Facts
 and Figures 1986.

4.8 FINDINGS AND ASSESSMENT

According to the empirical studies, at the macro-level the three major new towns are found to have achieved the objectives of alleviating the urbanization pressure through the decentralization strategy and the provision of housing through the development of public housing. Despite the fact that the attraction of industries is formally encouraged with the allocation of land for such purposes, the industrial incentives applied are not enough to make industrialization a successful proposition. The new towns in Hong Kong do not have the strong mission of creating a new culture or a new social-class community like their counterparts in other countries, albeit they have already achieved their own mission of providing housing. Nevertheless, the new-town developments have tangibly improved the 'welfare' of the people, by which they have a better living environment compared with those consigned to live in the tenements of urban areas. Had not the public housing led the new town developments, the pace of population movement would not have occurred so swiftly. This migration, though recognized as 'incentives with force' or 'quasi-voluntary migration', is fruitful in terms of alleviating congestion in the urban areas.

On the other hand, the three major new towns are found not achieving the objectives of self-contained and balanced development. From the viewpoint of employment

characteristics, it will be misleading if one just examines the high interaction index and implies that there are inadequate employment opportunities provided in the towns. In fact, while the three new towns have a high interaction index, both Tsuen Wan and Tuen Mun new towns have surplus working opportunities. But why should there still be a high interaction index in these two towns? It is because the excess working opportunities attract non-residents workers from other areas together with a substantial number of residents who persist in working outside the new towns. The convenient transport linkages and the proximity of other districts make the residents or non-residents of the towns travel more frequently and lead to the increase in the in-and out- commuting rate. The industrial population distribution stresses the diversification of the population. In general, the higher the proportion number of workers in the manufacturing and tertiary industries, the more balanced is the town. Similarly, the greater the proportion of workers in production and servicing occupations, the more balanced is the town. Moreover, these tendencies indicate that the towns consist of different social groups of people. Finally, the more the optimal mix of public and private housing, the more balanced is the town.

In sum, the Sha Tin new town is the most 'balanced' development of all the three major new towns, for it has the lowest interaction index, the greatest balanced mix of

public and private housing population, and the more diversified industrial population and occupational population distributions. By way of contrast, the other two new towns, Tsuen Wan and Tuen Mun, are similar to each other in terms of these characteristics. A comprehensive evaluation of the three major new towns is summarized in the Figure 11.

Figure 11: Evaluation Results of the Empirical Study

	Relative Balanced Development		
	Least -----		Most -----
1. interaction index (1980) ^a	Tuen Mun	Tsuen Wan	Sha Tin
2. industrial population distribution (1986) ^b	Tsuen Wan	Tuen Mun	Sha Tin
3. occupational population distribution (1986) ^c	Tuen Mun	Tsuen Wan	Sha Tin
4. population by housing (1986) ^d	Tsuen Wan	Tuen Mun	Sha Tin

Notes: 'a' -- the higher the interaction index, the less the balanced development or vice versa.

'b' -- the more diversified the industrial population distribution, the more balanced is the town.

'c' -- the more diversified the occupational population distribution, the more balanced is the town.

'd' -- the greater the population in public and private housing, the more balanced is the town.

Chapter V

RECOMMENDATIONS

"Faith and confidence are necessary for the continuation of the level of economic growth and urban development in and beyond the 1990s that Hong Kong has so far been enjoying (Yeh, 1985, p.266)".

Relevant and effective measures are required in response to the existing problems occurring in the new towns. These problems include the two questionable development concepts of self-containment and balance in the new-town policy. As well the over-emphasis on public housing, limited employment opportunities in the public and private sectors within the towns, and the weaknesses in the administrative bodies. The recommendations start with changes that should be made in the new-town policies. This is not to say that the new town policy needs to be changed radically. An incremental change is preferred which will reduce any uneasy feelings over the adaptation and allow a cohesive establishment of certain mechanisms accompanying such change. Hence, an integrated-policy approach is suggested after considering some specific aspects, including the redefinition of development concepts, the reconsideration of housing and industrial policies, and a suggestion of some modifications in transport policy as well. In fact, the recommendations

are based on various prevailing political, economic, social, environmental conditions, the Hong Kong Planning Standards and Guidelines (HKPSG) and the long-term Territory Development Strategy (TDS).

5.1 EXISTING PROBLEMS OF NEW-TOWN POLICY

It is easy to recognize the success of the new towns in Hong Kong in terms of population decentralization from the main urban areas. This triumph, however, cannot supersede the existing problems in the three major new towns identified in the case studies. The inappropriate development concepts of self-containment and balance are still applied by the Town Planning Division though the Division realizes how difficult it is to ever accomplish them (Town Planning in Hong Kong, 1984, p.26). The Division regards the unattainment of these concepts as a result of unforeseeable social and psychological reasons and hopes that the new towns can achieve the two objectives in the long-run. This recognition totally simplifies the real situation and neglects the compact physical characteristics of Hong Kong, to which there is a strong transport linkage between the towns and the urban areas. In fact, this loophole in planning has existed for more than a decade without much correction. According to the Town Planning in Hong Kong (1974),

"The new towns are intended to be self-sufficient in terms of employment and community facilities, but there will be good links with Kowloon, as part

of the current road construction programme" (p.60).

This statement implies that self-sufficiency is still the major emphasis in 1987.

"..... each is planned to be a balanced self-contained community..... Another highly important development has been the provision of high-speed transport links with older established population centres (Hong Kong New Towns: The Facts, 1987)".

The above statements are misleading and contradictory. On one hand, it is not to deny that the improvement of transport linkage either within the new towns or between the new towns and other areas really encourages the influx of more residents and firms in these towns. Many people would consider the accessibility through transportation before their relocation. Easy means of transportation, hence, becomes an important attractive force for their movement. Some of the industrial firms would consider the relocation in these towns only if a strong transport linkage with the main urban areas is provided. Consequently, transportation becomes a major determinant for the firms moving into the towns. On the other hand, how can a community or a town be called self-contained and balanced when there is a strong transport linkage with the main urban areas? The more the people use the transportation system for commuting, the less the community conforms to a self-contained and balanced developmental concept. The efficient and sophisticated transportation only increases the commuting to and from the two areas. Hence, as the significance of transportation

increases, the new-town concepts have to be reconsidered or redefined. Whether one needs a new or a modified concept or not, will depend on the attitude taken by the planners. With reference to the inappropriate development concepts, changes should be made in order to eliminate the limitations and wrong expectations in the new-town developments in Hong Kong. In fact, the employment of an appropriate model is directly related to the situation of Hong Kong.

Although public housing contributes greatly to the development of new towns, it gives rise to many problems such as the imbalance in classes, the worsening of the image of new towns, and the lack of private investment. These problems are mainly caused by the construction of public housing for low-income classes. However, one must not overlook the advantages brought by the public housing; it speeds up the pace of decentralization, leading to a successful alleviation of the pressure of urbanization. As a result, public housing is not only seen as one of the special features of new-town developments but an effective means for decentralization. Thus to invent some remedial policies or measures confronting the negative aspects of public housing becomes the most urgent objective in new-town planning.

The existence of limited employment opportunities is another problem for the residents in the new towns. Neither the private nor the public sectors generate enough jobs.

The insufficient employment opportunities lead to a heavy burden on traffic flow and transportation since the residents have to travel to work daily. Despite the fact that the economic success of Hong Kong stems from its 'laissez-faire' policy, this policy has to be adjusted to offset the lack of incentives for creating jobs in the new towns. Incentives should be initiated in the public sectors or the private sectors, and their cooperation should be sought in face of such problems.

Finally, the structure of certain government departments limits the execution of new-town policy. Although the Territory Development Department (TDD) takes charge of all the planning works in new towns, the lack of horizontal coordination with other departments hinders its efficiency; for example, the provision of social and community facilities by the Public Works Department does not coordinate with the Housing Department which builds houses according to its assigned quota. to it. The poor coordination among departments is a serious matter.

5.2 CHANGES OF THE NEW-TOWN POLICY

Once the problems of new towns are detected, their future planning should include some remedial measures. The Hong Kong new-town programme will be terminated in the early 1990's, whereupon the focus of development will be shifted back to the urban areas. Yet, the experience of the

new-town policy, to a certain extent, can provide valuable lessons to the subsequent programmes. Furthermore, effective development of Junk Bay and Tai Shiu Wai rests on the ability to keep these problems in mind.

In tackling the problems, changes should be made in certain aspects, as advocated below.

1. A more relevant or a more appropriate new town model could be adopted; i.e. an alternative model.
2. The development concepts of new towns need redefinition;
3. Incentives for private investors so that they will participate in the housing and industrial developments should be made available.
4. The role of public sectors in the housing and industrial developments ought to be reappraised.
5. The relationship between the housing and industrial policies and the land-use policy should be reconsidered.
6. It may be necessary to rearrange the responsibilities or to restructure the government departments so as to make the operation of the new-town policy more efficient.

Recommendations dealing with these issues warrant further elaboration.

5.3 RECOMMENDATIONS

5.3.1 Assumptions

In making these recommendations, certain assumptions must be considered since they will affect the success of new-town policy. The uppermost consideration is the uncertainties of the future and the openness of the surrounding environment. They will greatly influence the validity of certain suggestions and thus affect the effectiveness of the result. Since uncertainties always occur during the planning process, the risks brought by them have to be minimized (Hall, 1980). The uncertainties stemming from the surrounding environment of Hong Kong are very important. The development of Hong Kong is much affected by external factors such as the periodic influx of refugees and the colony's dependence on an export-oriented economy (Yeh, 1985, p.253). Recently, the decentralization of district administration and the Joint Sino-British Declaration (1984) have undoubtedly affected the complexion of urban development for the coming ten years. As the sovereignty of China over Hong Kong is getting closer, its political influence is also looming larger in various areas such as the legislature, the administration, and the structure of government departments. This influence brings Hong Kong into new era, craving for 'faith and confidence'. During the transitional period, the political, economic and social stability of Hong Kong depends on the negotiations conducted

among the Governments of Hong Kong, China and the United Kingdom. Owing to the expected massive changes in Hong Kong after 1997, the recommendations will focus on the current situation and policies. This is not to say that the author neglects the future but it seems much more practical to confine the recommendations to the current situation. The improvement in new-town policies are urgent and cannot be neglected in spite of upcoming political changes. The recommendations are important in providing a better living environment for the Hong Kong people for far longer than the next 10 years.

The assumptions of the recommendations will include political, economic, social, environmental factors, and the existing planning strategy and are listed below.

1. Political Factors - Hong Kong is now facing a series of political changes even before 1997. Certain administrative structures are changing and will be changed for the purpose of effective handling of the large urban projects in the 1990s. The ways for the public participation related to certain planning issues are being expanded.
2. Economic Factors - The economy still abides by laissez-faire principles for the Chinese Government has guaranteed that the current situation will be maintained for fifty years after 1997. The industrial policy is 'positive non-intervention' with an

increasing emphasis on high-technology industries. The property market is still booming in view of the fifty years extension. According to current statistics, Hong Kong is fourth in the office rent league in the world with a rent of US \$69 per sq. foot a year (Sunday Morning Post, Nov. 13, 1988, Money, p.10).

3. Social Factors - Despite the fact that the economic buoyancy of Hong Kong leads to a higher living standard, many social problems still exist, such as materialism, consumerism, social alienation, and income inequality. The social welfare and services are still unable to meet the demands placed on them.
4. Environmental Factors - Hong Kong is so compact that the linkage between the urban areas and the new towns is short and convenient. The sophisticated transportation system not only shortens the travelling time but also generates more economic activities either in urban areas or in the new towns. For instance, this may have a lot to do with the easy access to the shopping malls located in both areas. The importance of the urban centre is not reduced following the establishment of the new towns.

Finally, the recommendations must be compatible with the Hong Kong Planning Standards and Guidelines (HKPSG), the Territory Development Strategy (TDS) and should be

implemented in an incremental manner in phases. Thus, policies must consider different aspects including housing, industries, and transport schemes.

5.3.2 Development Concepts

The development concepts should also be redefined. To be 'self-contained' should be restricted to the provision of basic social facilities and services in the new towns. Such basic social facilities and services include commercial, social, and recreational facilities. The 'balanced' concept should continue to be reinforced by the provision of employment opportunities. Furthermore, the working area should be close to the residence, thus, reducing the time spent on commuting. The 'balanced' concept should continue to aim at providing a healthy social mix, a balance between public and private housing provision and a balance between the rented and privately-owned housing. This obviously requires the mutual support of the housing and industrial policies in the new-town developments. The development concepts also include a strong transportation network between the towns and the urban areas.

5.3.3 Industrial Policy

The industrial base of Hong Kong is progressing to a new era of high-technology in response to the keen competition afforded by the neighbouring newly-industrializing countries

(NICs). Despite a number of adverse factors such as an uncertain future, lack of systematic incentives for industrial development, society's 'short-sightedness', the 'fast returns' investment philosophy which hinders the development of high-technology industry, Hong Kong is still making advances in this area. This changing structure directly affects the plans formulated by these policy-makers in the Industry Department of Hong Kong. Recently, the Industry Department is focusing its attention on increasing industrial productivity, improving product quality and examining the risks incurred in promoting foreign investments. This recent approach seems to be supply-oriented because the emphasis is put on the production side. The demand side, especially market analysis, is relatively unimportant now. In general, industrial policies are a mixed bag, embracing the elements of both general or nonselective industrial policies (GIPs) and industry-specific policies (ISPs) according to the Adams-type[27] categories of industrial policies.

Based on the judgement of the industrial policies analysis, some instruments for boosting expansion are applied to all industries while others are applied to specific sectors such as electronics, metallic and plastic industries. Instruments like special training courses, and the provision of research laboratories are intended to be used in specific sectors. On the other hand, the inflow of

foreign investment is germane to all industries. Other instruments such as the construction of infrastructure, utilities, and transportation are aimed as support tools for industries across-the-board. In sum, the Government is more committed to the promotion of industries than it was before; especially in view of the development of high-technology industries. However, this is not to say that existing industries such as toys, textiles, and garments are overlooked. These industries still account for a large proportion of the secondary industries in Hong Kong.

The objectives of the instruments used for enhancing the development of industries are as follows:

1. to take the factors of production (land, labour, capital, entrepreneurship) into consideration and find some means for encouraging the establishment of firms in the new towns;
2. to put emphasis on the existing establishments as well as high-technology industries;
3. to encourage foreign or local investment;
4. to initiate incentives e.g. financial subsidies to private sectors for establishing or relocating their firms in the new towns;
5. to encourage private sectors involvement in different industries e.g. workers training; and
6. to resettle the squatter industrial firms in the new towns.

The industrial instruments are formulated after examining the factors of production which are used to increase the supply of products.

5.3.3.1 The Supply Side (Factors of Production)

Land

1. To study the industrial estates in the New Territories, Hong Kong and especially those in Tai Po and Tuen Long.
2. To search for the factors leading to the agglomeration of firms or factories and to use such information as guidelines for industrial development in new towns. Hence, more employment opportunities may be generated.
3. To rent the land at lower cost to the foreign or the local entrepreneurs so that they will establish their firms in the new towns.
4. To provide good infrastructure, better utilities, and easy transportation in the industrial land of the new towns.
5. To promote the benefits of establishing the firms in the new towns; e.g. the proximity of the Hong Kong's Kwai Chung Container Port to Tsuen Wan, the well-established industrial estates in Yuen Long close to Tuen Mun, etc.

Labour

1. To provide local vocational training programmes in the new towns by the government or private enterprises or their joint cooperation; e.g. the high-technology industries' training programmes in Sha Tin and Tuen Mun new town.
2. To employ qualified instructors to conduct the training programmes especially in the case of the high-technology industries.

Capital

1. To encourage foreign investment in all industries, and in research and development (R & D) through the various overseas channels of the Hong Kong Trade Development Council (HKTDC).
2. To encourage cooperation between Hong Kong and mainland China through the establishment of more joint-venture firms in the new towns.
3. To provide capital subsidies for the firms located in the new towns.

Entrepreneurship

1. To provide management and entrepreneurship courses.
2. To provide consulting services for establishing or relocating new firms in the new towns.

In short, the three major new towns can make use of the various instruments to further enhance their present

outstanding characteristics. The instruments will have influence on the form and functions of the towns in the future. For example, the proximity of Tsuen Wan to the Kwai Chung Container Port may induce Tsuen Wan to become a manufacturing-based town. Tuen Mun, for its part, can make use of the nearby Yuen Long Industrial Estates to develop into a base for high-technology industries. Finally, Sha Tin can develop into a light industrial centre or an industrial-servicing base because of its close connection with the major urban areas.

5.3.4 Housing Policy

The housing policy in Hong Kong has moved, within three decades, from a laissez-faire approach to an ad hoc approach, and later, to active intervention. The government's active intervention signifies that the public housing is a social goal and the establishment of the Housing Department for coordinating and planning of the public housing is officially sanctioned. In the past, the majority of public housing was solely for rent. Recently, many home-ownership housing (HOS) units have been sold in the market, leading to an increasing number of home owners. This is further reinforced by the Long-Term Housing Strategy as introduced by the Government in 1987, in which the ownership of home and the redevelopment of substandard public housing are emphasized. Since the ownership of home

is predominately provided by the private sectors, the role of private sector becomes more important than before in the long-run as expected. This denotes that the Government determines to focus more on home ownership rather than on public rental housing. The strategy of 'home ownership' cannot be said to have been successful without the active participation of private sector. Owing to the limited developable land in the major urban areas of Hong Kong, the bulk of public housing began to move to the New Territories. Not surprisingly, public housing act as a catalyst to the new-town developments in Hong Kong. Public housing and new town developments have a close relationship with each other, and they are interdependent. The over-emphasis on public housing leads to some unpredictable problems in the new towns. The suggested instruments of housing are aimed at remedying those existing problems.

The objectives of the housing instruments are as follows:

1. to encourage close cooperation between the public and the private sectors in providing housing in the new towns;
2. to construct more HOS/PSPS in order to balance the new town population;
3. to create more financial incentives as attraction living in the new towns;
4. to coordinate with the industrial policies to attract more people into living in the new towns especially

the professional-skilled or white collar populations;
and

5. to develop new towns as an attractive place to live in.

The housing instruments include:

1. the selling of the HOS/PSPS in the new towns at a lower price to the qualified population;
2. the continuation of the Home Purchase Loan Scheme (HPLS[28]) as a supplement to the home ownership scheme;
3. the setting of low land prices for interested private developers;
4. the setting of longer periods of repayment for interested private developers;
5. the provision of attractive amenities and better quality housing; and
6. other supporting instruments include: the need both to improve the transportation network for easy access; and to create more employment opportunities through the establishment of more firms in the new towns.

5.3.5 Transport Policy

Since much of the new-town population commutes frequently, it poses a heavy demand on transportation. The

transportation must be planned cautiously for meeting the demand. This not only includes the transport within the new towns but also the transport between the towns and other areas. The objectives of the transport instruments are to give support to the housing and industrial policies for the development of new towns. The land-use policy, to a certain extent, is related to the transport policy because they complement each other. This is especially relevant to the increasing number of in-migrants and new firms in the new towns when both of them require easy transportation. Besides, the migration of both migrants and firms will not increase without an improvement in transportation. Its absence hampers their migration directly and limits the economic activities in the towns indirectly. Hence, the transport instruments include:

1. the provision of easy means transportation in each of the new towns;
2. the provision of, or the improvement on, convenient transportation between the towns and other areas:
 - a) between new towns and new towns (e.g. the Light Rail Transit (LRT) between Tuen Mun and Yuen Long),
 - b) between new towns and major urban areas (e.g. between Tsuen Wan and urban areas - Mass Transit Railway (MTR); between Sha Tin and urban areas - Lion Rock Tunnel, railway; between Tuen Mun and urban area - Hong Kong Circular Road, etc.).

Figure 12: Industrial Policy Analysis

Instruments	Government Support				Expected Results
	Factors of Production				
	Land	Labour	Capital	Entrepreneurship	
Financial Incentives: direct subsidies direct grants	~*	~*	~*	~*	■ Increased Output
Training Courses		@*		~*	
Research Lab. Establishment			@*		■ Improved Product Quality
Consulting Services				~*	
Accreditation of lab. & product quality				@*	
Foreign Investment Encouragement	~*	~*	~*	~*	
Others: Infrastructure, utilities					
Transportation					

Notes: '*' indicates instruments applied to each factor
 '~' indicates instruments applied to general industries
 '@' indicates instruments applied to specific industries
 - compiled by the author from different sources

5.3.6 Policy Implementation

The policy implementation with respect to the new-town developments have exposed some of the weaknesses of the underlying scheme. The sole role of the Territory Development Department (TDD) is to deal with land development and processing; a situation which leads to an uncoordinated provision of housing, social facilities and services by other departments. In fact, some of these departments only have to achieve some narrowly-focused programmes. For example, the Housing Department focuses only on the building of public housing. The coordination between the TDD and other related departments, together with their interaction with the private sector, is essential for any effective planning and decision-making. Scott (1987, p.16) concluded that the policy implementation of social policies in Hong Kong is unsatisfactory in comparison with those policies related to economic development and political stability. The social policies in Hong Kong include housing, education, social welfare, and environmental control. What Scott's denigrates is the typical 'capitalistic' mentality of Hong Kong, which emphasizes the making of economic profits. Social welfare, to a certain extent, is stressed less than economic or other policies. Nonetheless, the public housing-led new-town development is the Government's unprecedented attempt to improve the welfare of the residents of Hong Kong.

The recommendations for policy implementation on new town developments take the following form.

1. To centralize the role of the TDD (include land development, housing construction, social facilities or services, and management of public housing in the new towns).
2. To develop close horizontal coordination between departments on new-town developments (e.g. the coordination of long-term development between new towns or an establishment of a committee board to bridge the gaps between departments, etc.)

Chapter VI

CONCLUSION

According to the case studies of the three major new towns, Tsuen Wan, Sha Tin, and Tuen Mun, the new towns in Hong Kong have effectively ameliorated the urbanization pressure in the major urban areas, and further provide better housing conditions and living environment. Suffice to say, the new-town policy achieves its first objective of decentralization in terms of housing provision. However, the three major new towns have confronted difficulties in developing into a self-contained and balanced communities due to the compactness of Hong Kong, and their heavy emphasis on public housing and upgrading of the transport network. Rather than adopt the mappings of model new towns, the new towns in Hong Kong lie more in the direction of 'megalopolis'. Sha Tin is the most relative one of the three major new towns which remotely approaches the stated objectives. The emphasis placed on those concepts by planners was only led to a false expectation and frustration in the minds of the public. One must seriously doubt the assertion that both development concepts of self-containment and strong transport link between new towns and urban areas can in any way complement each other since they appear contradictory, especially in the case of Hong Kong. The

difficulty in attaining the development concepts cannot be attributed to the unforeseeable social and psychological reasons. Such recourse will only worsen the complicated situation. The planners tackling the problems should adjust for the change by using his or her professional experience. The 'looseness' in conception of these development concepts only leads to further criticisms from those having to deal with the new-town policy. As a result, the planners should ameliorate the current pitfalls by redefining the concepts as guiding principles. Suitably redrafted, they would become more tenable. Thus, self-containment should refer only to the attainment of basic needs in the towns whereas balanced development should not restrict the residents to obtaining jobs in the towns since Hong Kong has good transportation linkages. On the basis of these development concepts, the new-town policy cannot be said to have been successful, nor can it ever conceivably become so without the support of other instruments or incentives. Hence, an integrated new-town policy is required and it is suggested that this should include the housing, industrial, and transport instruments in order to maximize its effectiveness. Administrative restructuring is also needed to make the implementation more efficient.

Regarding future new-town developments in Hong Kong, the planners should consider and deal with the current weaknesses by an integrated approach. Lessons learned now

can be the guiding principles of new towns in the future. Since the Hong Kong Government has determined to focus on the development of urban areas in the 1990s and beyond, the new-town developments, will likely arouse less public attention. The issue of whether a new-town policy is better than an urban-renewal project will become a 'hot' topic during this particular period of time. Much research will be done, focusing on comparisons between the two approaches. In fact, both policies are significant since they are compatible with one another in reducing the urbanization pressure by providing a livable environment in Hong Kong. No matter which policy is pursued, the objectives should lie in the direction of improving living environments and conditions for the residents. Since the political situation of Hong Kong is changing, many decisions are being influenced by the Chinese Government. The 'Basic Laws' which are the future policies for Hong Kong after 1997, are currently determined by the special board set up for that purpose. The validity of the research done on the new towns will have to be linked to the administrative mandates laid down in the Basic Laws. The degree of the autonomy existing in the so-called 'Special Administrative Region' after 1997 is still unclear. It is a great challenge to the 'faith and confidence' of the future of Hong Kong. It is difficult for planners and even for government officials to answer such a question. Hall's conception of uncertainty caused by external environment really sums up the planning

difficulties in Hong Kong (Hall, 1980). When the red flag flies in Hong Kong, the territory will enter into a new era, and many decisions will be made under strong political influence from China. Not surprisingly, urban planning will be no exception to this change in direction.

ENDNOTES

- [1] Several events led to the large influx of migrants from China. They are the ruling of China by the Communist Party in 1949, the great famine in China during the early 1960s, and later the Proletarian Cultural Revolution during the period 1967-1976.
- [2] The urban areas of Hong Kong include the areas of the Hong Kong Island, Kowloon, and New Kowloon. The remaining areas of Hong Kong will be called rural areas; that is, the New Territories, the Lantau Island and the other off-shore islands. (see Figure 1).
- [3] Balance, here, does not mean an exact equal amount or portion.
- [4] The horizontal city which was first introduced as Ecumenopolis by C.A. Doxiadis and his research team in 1962 was an "urban concept of the long-range future development of traditional metropolitan aggregates". This city refers as a continuous system of constructions, creating a universal settlement later. Ecumenopolis is defined as "a future, universal urban settlement proposed to establish an orderly growth within continuous megalopolitan development, and to accommodate the major portion of the world's future population. Ecumenopolis will consist of aggregated, hierarchical town units small enough to create a community identity. Transportation will consist of underground network systems, making all ground surfaces available for other land use" (Golany, 1976, pp. 46-47).
- [5] The vertical city was first introduced by Paolo Soleri in 1969 based on the concept of arcology. It is defined as "a super-dense, large-scale settlement which will lead to the total elimination of automobiles and to the preservation of land for open spaces. It will be self-contained and self-sustaining, and should, therefore, have all conventional land uses. It should also be a balanced, community, including all population groups and providing job opportunities" (Golany, 1976, p.48).
- [6] Lord Reith's New Towns Committee was formed in 1945. Its brief was "to consider the general questions of the establishment, development, organization and administration that will arise in the promotion of New Towns in furtherance of a policy of planned decentralization from congested urban areas; and in accordance therewith to suggest guiding principles on which such towns should be established and developed as self-contained and balanced communities for working and living" (New Towns committee, 1946, p.2).

- [7] Social balance and social mix are interchangeable here. The words, 'social balance', are preferred by the planners in new-town planning.
- [8] The general lines of and principles for urban development include the future development of the port and urban area of Hong Kong, the general plans for this purpose, what plans would involve and in particular, what planning organization would be required.
- [9] The Abercrombie Report was published in September, 1948. It outlined various physical planning proposals including the provision of a cross-harbour tunnel, reclamations, railways relocation, removal of military establishments, creation of industrial and residential zones and development of new towns in the rural New Territories. He also recommended the establishment of an office to draw up detailed plans and to administer them. In fact, a small Town Planning Unit was established within the Public Works Department headquarters in 1947 to facilitate the work of Sir Patrick.
- [10] The Shek Kip Mei fire occurred on Christmas day in 1953. The fire created a great problem of rehousing and resettlement work for the homeless people in 1954. This started the stage of providing government public housing. The fire had two important consequences. The first was to accord a high priority to resettlement work and the second was to make available more valuable land since the fire had freed the squatters.
- [11] The Town Planning Ordinance, first enacted in 1939, decrees the set-up of a Town Planning Board and outlines the procedure to be adopted in preparing and approving statutory town plans. These plans, outline zoning plans, are prepared for existing and potential urban areas. They show areas zoned for Residential, Commercial, Industrial, Government, Institution and other purposes. Once a draft outline zoning plan is gazetted for public inspection, it has statutory effect (Town Planning in Hong Kong, 1984).
- [12] The Colony Outline Plan consisted of two parts. The first part recommended a long-term development strategy for the territory and the second part stipulated the planning standards and the guidelines for the provision of infrastructural facilities and services. The Colony Outline Planning Division was established in the Planning Branch to prepare the Colony Outline Plan under the direction of the Land Development Planning Committee (now known as the Land Development Policy Committee) (Pun, 1984, p.62; Town Planning in Hong Kong, 1984, p.13).
- [13] The New Territories Development Department (NTDD),

set-up in 1973, was charged with the responsibility for planning the New Towns and providing building land, roads, drainage, community and recreation facilities and a full range of supporting services. In 1986, NTDD amalgamated with the Urban Area Development office to form the Territory Development Department (TDD) which now has some additional development responsibilities in the urban areas of Hong Kong and Kowloon.

- [14] Typical examples of the high-speed transport linking with the old established population centres include the electrification and the double-tracking of the Kowloon Canton Railway (finished), the extension of the Mass Transit underground railway (MTR) to Tsuen Wan (finished), the completion of the highway between Tsuen Wan and Tuen Mun (finished), the provision of hovercraft services to Tsuen Wan and Tuen Mun and the opening of the Second Lion Rock Tunnel (under construction now) (Hong Kong: The Facts of New Towns, 1987).
- [15] The organization structure of the NTDD is shown in Appendix B.
- [16] The Hong Kong Planning Standards and Guidelines (HKPSG) was originally the first part (Planning Standards) of the Hong Kong Outline Plan. It was separated as a document on its own in 1980, focusing on a more comprehensive long-term spatial development. It is a government manual of current land planning standards and guidelines, which is mainly concerned with district and local criteria for site reservation, location factors and site requirements. It includes the full range of local, district and sub-regional facilities essential to community well-being such as 'residential densities', 'community facilities', 'recreation and open space', 'industry', 'commerce', 'utility service', and 'internal transport facilities' (Town Planning in Hong Kong, 1984, p.17).
- [17] The structure of the UADO is shown in Appendix B.
- [18] The plans in Hong Kong are divided into three levels based on a 'general-strategic to site-specific' approach. The three levels are known as territorial plans, sub-regional plans and district/local plans. Under the territorial level, both the Hong Kong Planning Standards and Guidelines (HKPSG) and the Territorial Development Strategy (TDS) are found. The structure plans act as a linkage between the territorial level and the district/local level on a sub-regional level. Finally, regarding the district/local plans, the statutory outline zoning plans, the outline development plans and the layout plans are found as well (see Appendix B).

- [19] Net gain is the difference between the in-movement rate and the out-movement rate.
- [20] Interaction index refers to the number of in-commuters and out-commuters over the home-based workers (see Appendix A).
- [21] The Home Ownership Scheme (HOS) was introduced by the Hong Kong Government in 1978. It denotes a newer form of public housing, by which the sites are developed and managed by the Housing Authority. Its objectives are firstly, to encourage the ownership of more flats by the public housing tenants so as to release their heavily subsidized accommodation for families in greater housing need, and secondly, to assist the lower-middle income families in the private sector who cannot afford private housing to become home-owners. The flats in these schemes are sold to members of the public who do not already own any residential properties and who also qualify in terms of their maximum income and size of family (Tsuen Wan Development Office Pamphlets, 1987, p.2; Lim, 1988).
- [22] The Private Sector Participation Scheme (PSPS) was introduced in by the Hong Kong Government in 1979. It is another recent form of public housing, by which a suitable site is offered by tender to private developers who contract to design and build a specified type and size of flat for a predetermined price. These flats are also sold to eligible members of the public, through the Housing Authority (Tsuen Wan Development Office Pamphlets, 1987, p.2).
- [23] The Light Rail Transit System (LRTS), similar to a modern fast tram, has been designed to ensure minimal interference with road and pedestrian traffic and should therefore provide speedy and safe access to all parts of the Tuen Mun new town and the new towns of Yuen Long and Tin Shui Wai. The whole system should be complete by the early 1990s when it will be fully integrated with other forms of public transport such as buses and the ferry service (Tuen Mun Development Office Pamphlets, 1986, p.7).
- [24] Biological needs are mainly concerned with food, water provision and is regarded as the primary need.
- [25] Basic needs which are secondary concerned with living in a particular manner such as the living conditions and environment.
- [26] Functional needs are needs which must be satisfied if a person wants to do a particular job.
- [27] Adams has analyzed industrial policies and classed them

into seven types; namely, industrial policies in general, general or nonselective industrial policies (GIPs), activity-specific policies (ASPs), region-specific policies (RSPs), sector-specific policies (SSPs), industry-specific policies (ISPs), firm-specific policies (FSPs) or project-specific policies (PSPs) (Adams, 1983, p.14)

- [28] The Home Purchase Loan scheme (HPLS) is an integral part of the Long-Term Housing Strategy adopted by the Government in 1987. It is an extension to HOS/PSPS and offers families who already meet the requirements and criteria for the purchase of HOS/PSPS the alternative of an interest-free loan to a private sector flat.

Appendix A
MEASURING PARAMETERS USED IN THIS STUDY

Measuring Parameters of Self-Containment

(1) Job Index (Job ratio)

The job index is the number of new jobs in the new town divided by the number of employed residents in the new town and expressed as a percentage (Robinson, 1973, p.13). The ideal index is 100 which indicates a balance between the jobs and the employed residents. When there is a surplus of jobs, the index is over 100. On the other hand, when there is a deficit of jobs, the index is less than 100. Hence, a commuting or dormitory town would have a low index, while an industrial town and the central city of a metropolitan area would have a high index. Nevertheless, the job index does not consider the characteristics of the workers in detail. From it, one cannot deduce whether the workers in the new towns live there or not. Where the new jobs are filled by the local workers, the index will be more reliable and precise. Otherwise, even though the index shows balance i.e. 100, it is misleading because it includes the outside workers as well. Hence, the two factors - jobs and working people must be interrelated; i.e. the index must be reset to gauge whether the people who live in the town are those who work in it.

$$\text{Job Index} = \frac{\text{Number of new jobs in new town}}{\text{Number of employed residents in new town}} \times 100$$

(Robinson, 1973, p.15)..... (1)

OR

$$\text{Job Ratio} = \frac{\text{The employment level in a town}}{\text{Number of residents in employment in the area}} \times 100$$

(Thomas & Cresswell, 1973, p.30)..... (2)

OR

$$\text{Job Ratio} = \text{Number of jobs per 100 employed residents}$$

(Ogilvy, 1968, p.41)..... (3)

(2) Independence Index (Index of commuting independence)

The independence index is the ratio between the local journeys and the crossing journeys. The local journeys are journeys within the town and the crossing journeys are the sum of journeys by which the residents in a town travel to work outside and those undertaken by people who are employed in a town but live outside it. This index helps to measure the extent to which a town is self-contained regarding

journeys to work. The higher index indicates that there are more local journeys to crossing journeys. The lower index indicates that there are more crossing journeys. More local journeys imply that the residents can easily find jobs available in the town. In other words, the town is said to be self-contained with such a high index. Generally, the result of the independence index provides a valid indicator of the independence in the town. Yet, the characteristics of each town will vary even if they are said to be self-contained. Some are self-contained because of their isolation, others are self-contained because of longstanding establishment and yet others are so because of the equality between employment and population. Thus, the independence index cannot depict fully the special characteristics of each self-contained town.

$$\text{Independence Index} = \frac{\text{Local journeys}}{\text{Crossing journeys}}$$

(Thomas & Cresswell, 1973, p.59)..... (4)

(3) Self-sufficiency index (Interaction index)

The self-sufficiency index is the total number of in- and out- commuters divided by the total number of employed residents of a new town who work in the new town and is expressed as a percentage (Robinson, 1973, p.15). The lower the index, the greater the degree of self-sufficiency. In contrast, the higher the index, the lower the degree of self-sufficiency. The higher index implies two meanings: those who live in new towns extensively commute outside to work or those who live outside extensively commute to the new town for work. Either the first or the second meaning denotes a heavy flow of in- and out- commuting.

The interaction index is constructed in an identical manner for measuring the self-sufficiency (Phillips and Yeh, 1987, p.73). The interaction index is a measure of the total amount of in- and out- commuting workers over home-based workers. In fact, the mobility of the residents is chiefly affected by the availability of jobs in the towns, the transportation and communication network, and enhanced mobility, which shatters the concept of self-containment.

$$\text{Self-sufficiency index} = \frac{\text{Total number of in- and out- commuters}}{\text{Total number of employed residents of new town who work in new town}} \times 100$$

(Robinson, 1973, p.15)..... (5)

$$\text{Interaction index} = \frac{\text{Total in-commuting workers} + \text{total out-commuting workers}}{\text{Total home-based workers}} \times 100$$

(Phillips & Yeh, 1987, p.73)..... (6)

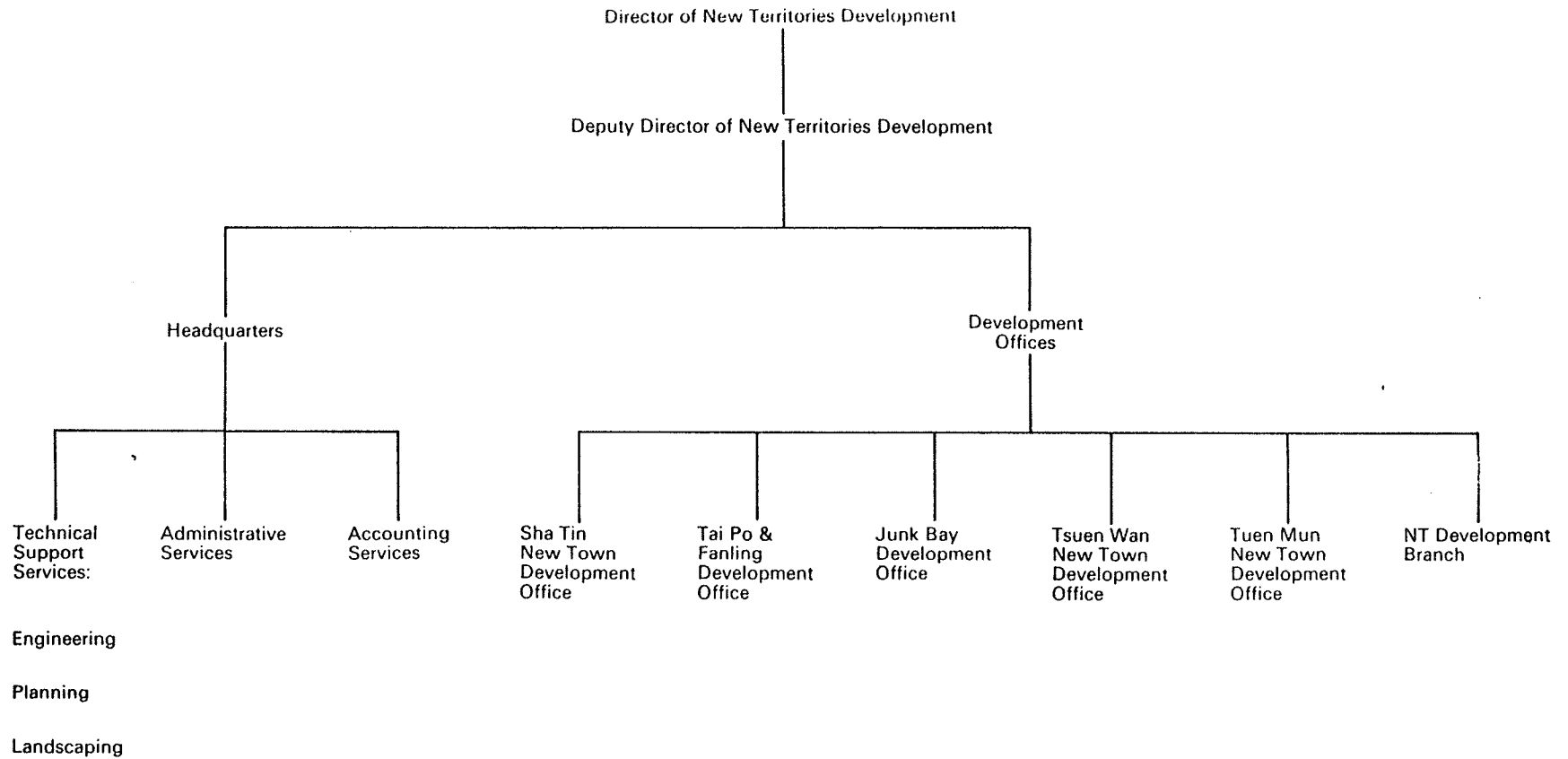
Different emphases are put on the three measuring parameters of self-containment. The job index does not consider whether the jobs are filled by the local residents. The interpretation of this index, hence, will be misleading since residency and place of occupation are often widely dispersed. It does, however, provide for new jobs information. The independence index provides information on the two types of journeys: local and crossing. Finally, the self-sufficiency index (interaction index) does not have the weakness of the first measurement since it provides details on both in-and-out commuting information separately. Thus, the independence index, the self-sufficiency index, and the interaction index are preferred over the job index because they consider more information about the residents and have the fewer shortcomings while examining the self-containment of the new towns.

Appendix B

**HONG KONG'S NEW TOWNS: IMPORTANT EVENTS AND
ORGANIZATIONAL STRUCTURES**

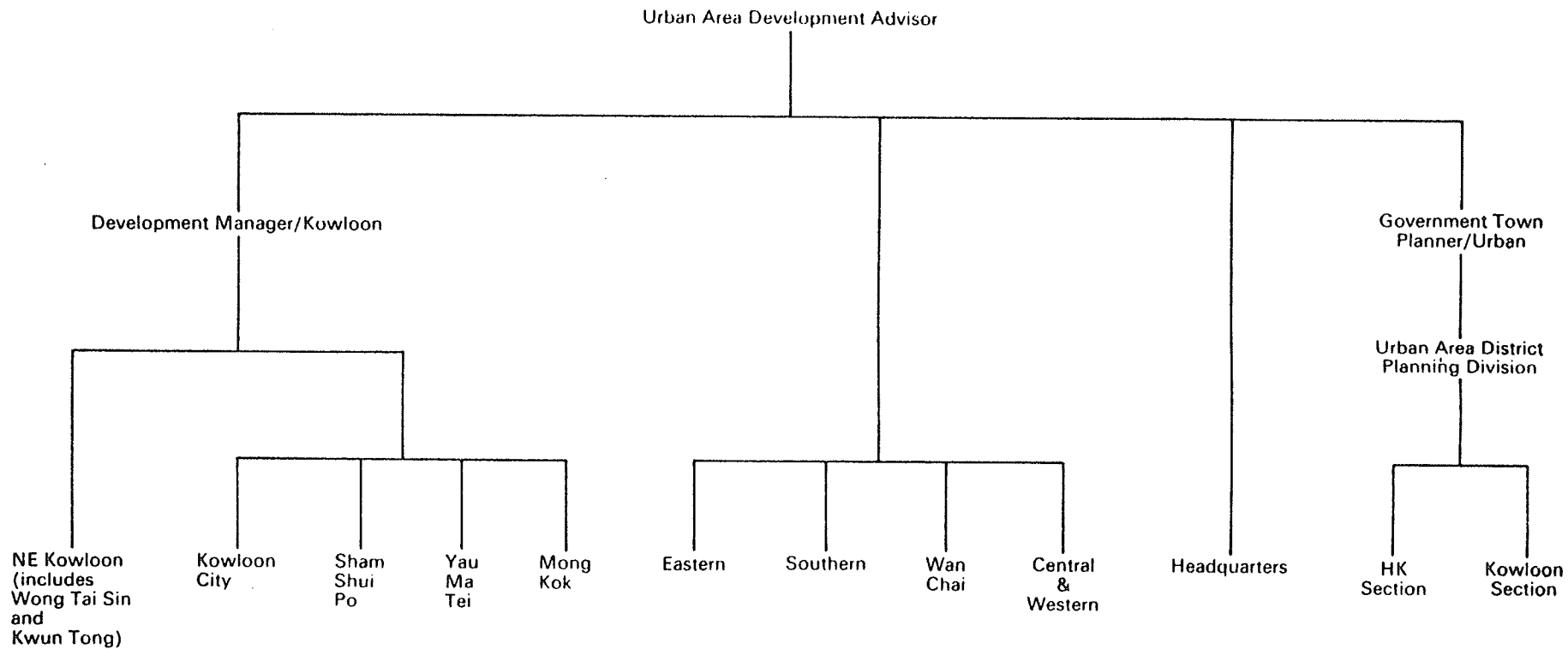
Important Events in New-Town Developments

- 1953 -- a new industrial satellite, Kwun Tong, was established;
-- the Town Planning Branch was formed;
-- Tsuen Wan was proposed to be another industrial satellite;
- 1954 -- a Resettlement Department was formed to consider the matters of squatter population and squatter industries;
- 1957 -- engineering feasibility studies for several new-town sites were started;
- 1960 -- Tsuen Wan was officially developed as a new town;
- 1965 -- the 'Colony Outline Plan' was initiated and begun its preparation;
- 1967 -- Sha Tin and Tuen Mun were designated as new towns;
- 1972 -- the 'Colony Outline Plan' was finally approved.
-- the 'Ten-Year Housing Target Programme' was announced;
- 1973 -- the New Territories Development Department was established;
- 1979 -- Three former market towns, Tai Po, Yuen Long and Fanling, were designated as new towns;
-- the extension of Ma On Shan to Sha Tin new town was proposed;
-- the 'Colony Outline Plan' was renamed the 'Hong Kong Outline Plan';
- 1982 -- Junk Bay and Tin Shui Wai were designated as new towns;
- 1986 -- New Territories Development Department was renamed Territory Development Department.



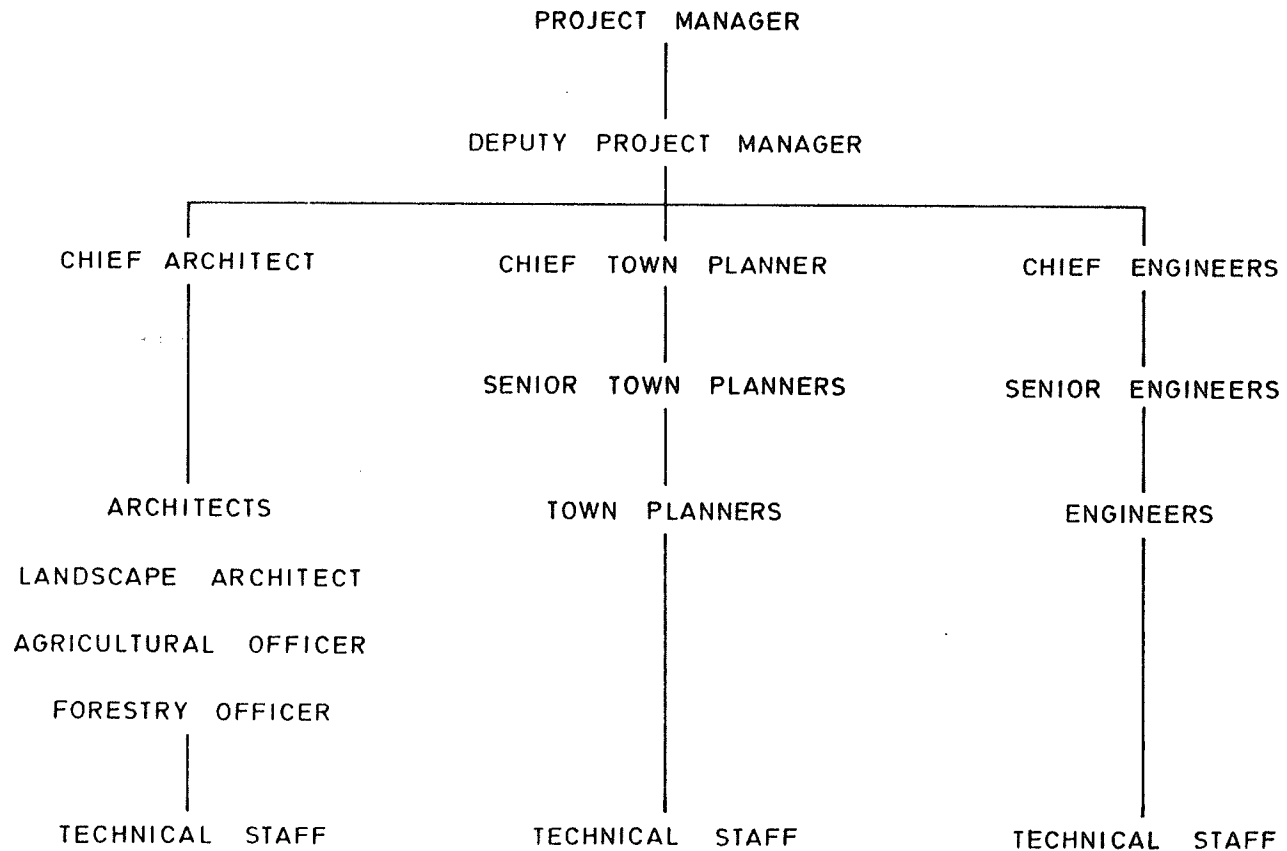
**NEW TERRITORIES DEVELOPMENT DEPARTMENT
ORGANIZATION CHART**

Source: Town Planning in Hong Kong (1984).



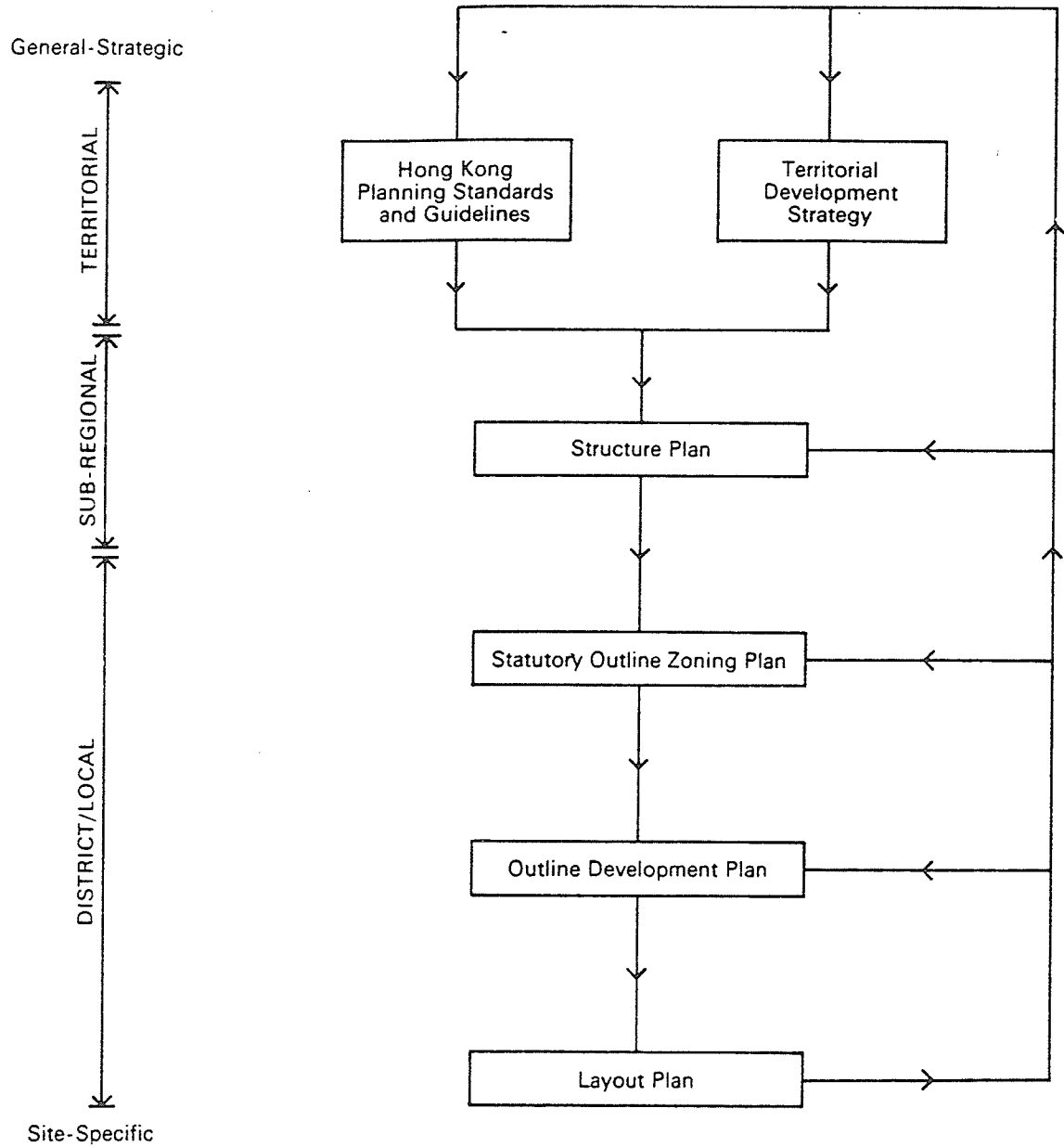
**URBAN AREA DEVELOPMENT ORGANIZATION
ORGANIZATION CHART**

Source: Town Planning in Hong Kong, 1984.



NEW TOWN DEVELOPMENT OFFICE (ORGANIZATION CHART)

Source: Town Planning in Hong Kong (1984).



THE HIERARCHY OF PLAN IN HONG KONG

Source: Town Planning in Hong Kong (1984).

Appendix C

HONG KONG'S MAJOR NEW TOWNS: DEMOGRAPHICS,
SOCIO-ECONOMIC CHARACTERISTICS AND LAND USE
PLANS

SHA TIN NEW TOWN FACT SHEET

TDD

<u>NEW TOWN AREA (Hectares)</u>	<u>Sha Tin Proper</u>	<u>Ma On Shan</u>	<u>Total</u>
Land Area	2,809	828	3,637
Development Area			
Existing and Committed (1)	1,657	243	1,900
Potential (2)	-	200	200
Total	1,657	443	2,100
Green Belt	1,150	385	1,535

- (1) Area with definite development programme.
 (2) Area with no definite development programme which depends on the optimisation of existing and planned infrastructures.

<u>POPULATION</u>	<u>Up to 31.3.86</u>	<u>Up to 31.3.96</u>
Total	394,000	750,000
% by housing type		
Private residential	31	34
HOS/PSPS	12	18
Public rental housing	57	48

EDUCATION

Primary school	25	47
Secondary school	20	53
Post-secondary school	4	5
Special school	2	3

COMMUNITY FACILITIES

Children and Youth Centre	14	25
Community Centre	7	14
Fire Station	1	5
Ambulance Depot	1	5
Hospital beds	1,330	2,985
Polyclinic/Specialist Clinic	1	2
General Clinic/Health Centre	2	7
Police Station	3	7
Cultural Complex	0	2
Library	1	3
Magistracy	0	1
Sports Stadium/Complex	2	4
Swimming Pool Complex	1	3
Indoor Recreation Centre	0	7
Hostel for the Elderly	9	17
Post Office	5	12
Market	16	22

OPEN SPACE (Hectares)

Local Open Space	37	88
District Open Space	19	99

LAND PRODUCTION (Hectares)

Total Land Formed	1,182	1,602
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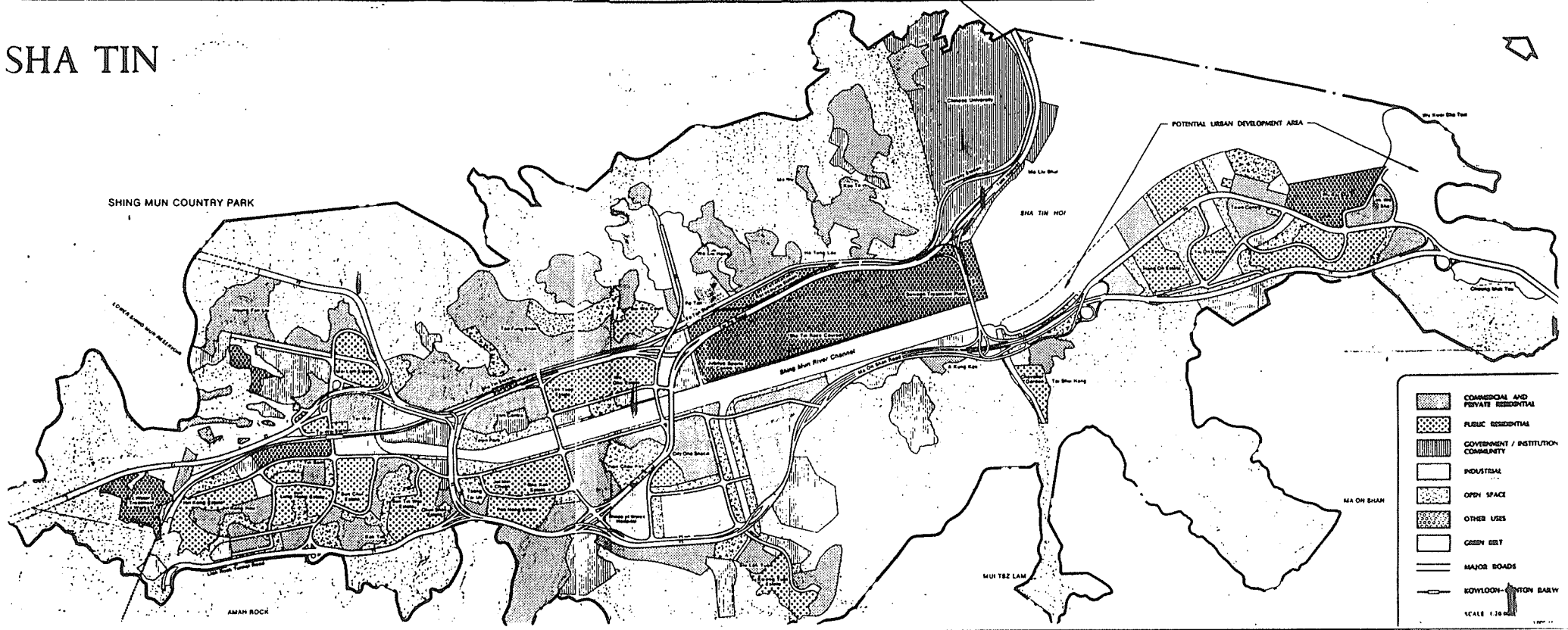
EXPENDITURE (in \$ Millions)

Engineering	3,415	5,789
Community Facilities	1,669	3,213
Housing Authority Expenditure	2,893	5,647

For further information, please contact:

Sha Tin Development Office, Sha Tin Government Offices, 6 Tung Lo Wan Hill Road, Sha Tin. Tel: 0-622261

SHA TIN



Source: Sha Tin Development Office Facts & Figures, 1986.

FACTS & FIGURES

Public Housing

ESTATE	COMPLETION DATE	POPULATION	
		1986	1996
TSUEN WAN			
PUBLIC RENTAL ESTATES			
<u>Existing</u>			
Fok Lei	1967	15000	14200
Lai Muk Shue	1975	44200	41800
Cheung Shan	1980	8700	8800
Shak Wai Kok	1982	30500	30300
Sub-total		98400	95100
HOUSING SOCIETY ESTATES			
<u>Existing</u>			
Four Seasons	1959	2000	0
Bo Shek	1964	900	800
Moon Lok	1965	4300	4200
Sub-total		7200	5000
<u>Under Construction</u>			
Tsuen Wan Bay	1989	-	5900
Sub-total		-	5900
TOTAL TSUEN WAN		105600	106000
KWAI CHUNG			
PUBLIC RENTAL ESTATES			
<u>Existing</u>			
Kwai Chung I & II	1965	27300	25600
Shak Yee Est.	1969	22200	21600
Kwai Hing	1971	13000	4600
Shak Lei	1971	44000	34800
Estate I & II			
Kwai Shing E & W	1975	52800	47100
Lai King	1976	20600	20200
Lai Yiu	1977	13300	13400
Shak Lei Est.	1986	9600	12200
Sub-total		202800	179500
<u>Being Redeveloped</u>			
Kwai Fong	1991	21200	21800
Converted	1993	25600	31500
Tai Wo Hau			
Sub-total		46800	53300
<u>Under Construction</u>			
Shak Lei Est. Ph 3	1989	-	2000
Sub-total		-	2000
<u>Proposed</u>			
Estate in KC Area 10B	1989	-	2600
Estate in KC Area 9H	1992	-	12300
Sub-total		-	14900
HOUSING SOCIETY ESTATES			
<u>Existing</u>			
Cho Yiu	1983	12100	11800
Sub-total		12100	11800
HOS & PSPS ESTATES			
<u>Existing</u>			
Tsui Yiu Court	1981	1100	1200
Yuet Lai Court	1982	2700	2800
Sub-total		3800	4000
<u>Proposed</u>			
HOS in KC Area 11F	1992	-	2300
Sub-total		-	2300
TOTAL KWAI CHUNG		265500	267800

ESTATE	COMPLETION DATE	POPULATION	
		1986	1996
TSING YI			
PUBLIC RENTAL ESTATES			
<u>Existing</u>			
Cheung Hong	1982	29100	27600
Cheung Ching	1983	24800	24700
Sub-total		53900	52300
<u>Under Construction</u>			
Cheung Hong Ph 5	1987	-	8900
Cheung On	1989	-	27400
Tsing Yi Est. I & II	1989	-	12400
Cheung Fat Estate in IY Area 10 (Ph 1 & 2)	1990	-	12500
	1991	-	10700
Sub-total		-	71900
<u>Proposed</u>			
Estate in IY Area 10 (Ph 3)	1994	-	4700
Sub-total		-	4700
HOUSING SOCIETY ESTATES			
HS in IY Area 1	1990	-	7500
HS in IY Area 2	1994	-	4500
Sub-total		-	12000
HOS & PSPS ESTATES			
<u>Existing</u>			
Ming Shing Ct.	1985	3100	3200
Ching Wah Ct. (Ph 1)	1986	-	4100
Sub-total		3100	7300
<u>Under Construction</u>			
Ching Wah Ct. (Ph 2)	1988	-	4900
Ming Tai Ct.	1988	-	7700
Sub-total		-	12600
<u>Proposed</u>			
PSPS in IY Area 1	1994	-	2700
Sub-total		-	2700
TOTAL TSING YI		57000	163500

SUMMARY OF ALL DISTRICTS

PUBLIC RENTAL ESTATES		
Existing	155100	326900
Being Redeveloped	46800	53300
Under Construction	-	73900
Proposed	-	19600
Sub-total	401900	473700
HOUSING SOCIETY ESTATES		
Existing	19300	16800
Under Construction	-	5900
Proposed	-	12000
Sub-total	19300	321700
HOS & PSPS ESTATES		
Existing	6900	11300
Under Construction	-	12600
Proposed	-	5000
Sub-total	-	28900
TOTAL ALL AREAS	428100	537700

FACTS &
FIGURES

LAND USE

	Area (ha net)	
	1986	1996
Planned Uses		
Industrial	230	288
Commercial	2	2
Private Housing	153	169
high density	69	81
med-low density	22	22
village	62	66
Public Housing	168	205
Rental Estates	143	171
HOS/PSPS	10	17
Housing Society	15	16
Government, Institutions and Community Facilities	176	230
Open Space	74	137
Roads and railways	174	210
Special uses	149	185
Others	3	25
TOTAL NET SITES	1128	1450

POPULATION

Estimates of Population 1986-1996

	1986	1996
Private Housing		
High Density		
CR	122900	164300
R1	33100	35400
Medium Density		
R2	2900	2200
R3	4000	13800
Low Density		
R4	50	100
Village	25500	24600
Institutional	13800	17500
Temporary	29500	14800
Sub-total	231800	272700
Public Housing		
Rental Estates	402000	473500
Housing Society	21300	36700
HOS/PSPS	7000	28900
Temporary	17700	5600
Sub-total	447900	544700
Total all Housing	679700	817000

EMPLOYMENT

Persons Employed in Tsuen Wan 1981-1985

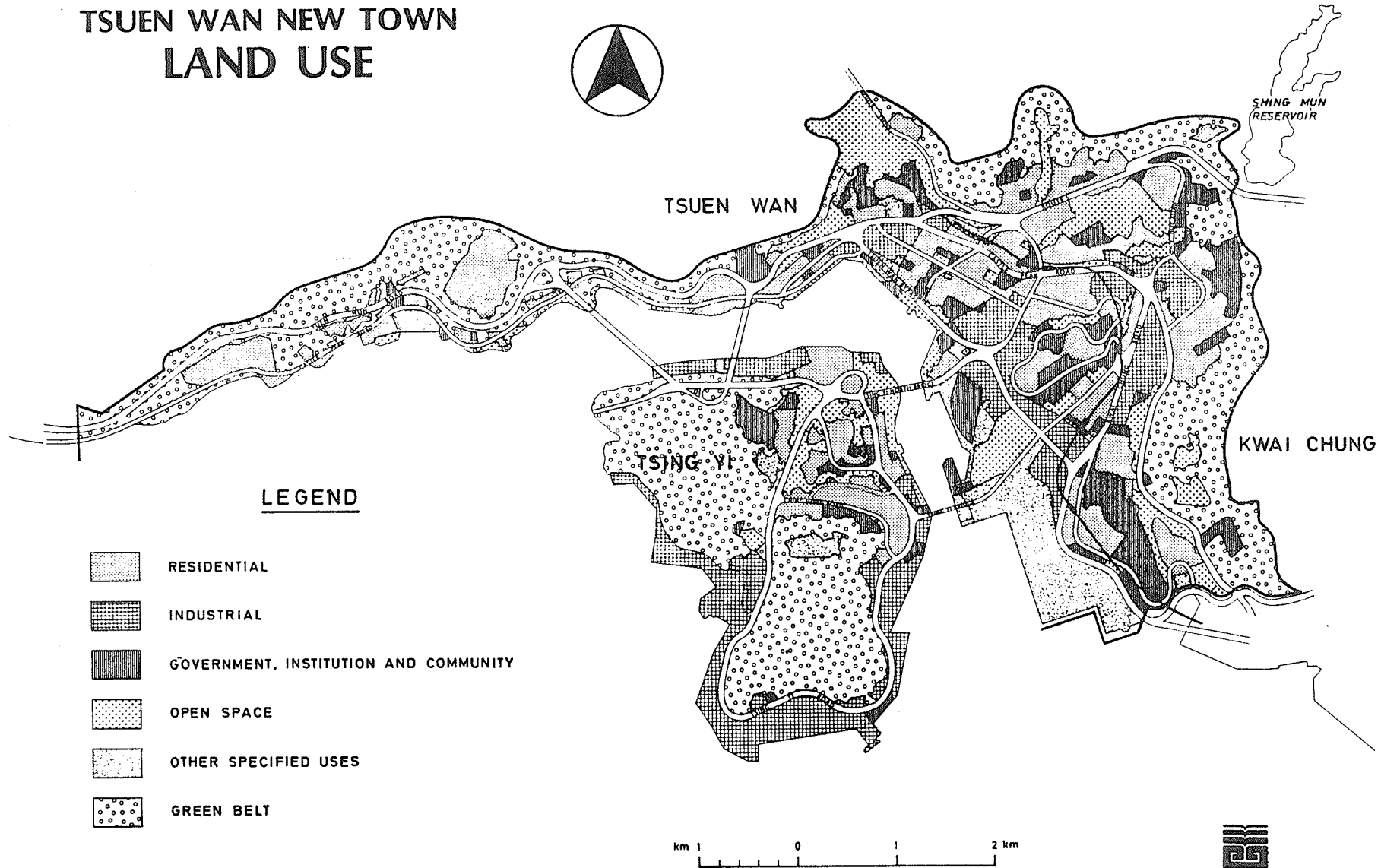
	1981	1982	1983	1984	1985
Manufacturing	189000	192000	204000	217000	201000
Wholesale/Retail, Import/Export, Restaurants/Hotels	24000	32000	34000	40000	43000
Transport/Storage Communications	14000	15000	15000	16000	17000
Finance, Insurance Business Services	10000	40000	52000	54000	65000
Community, Social and Personal Services	12000	14000	15000	15000	16000

Source: CASO

COMMUNITY FACILITIES

Community facility	Provision	
	Existing	Planned
Primary Schools	70	12
Secondary Schools	44	11
Fire Stations	4	1
Ambulance Depots	2	1
Hospital Beds	2980	3023
Clinics	8	2
Police Stations	5	4
Post Offices	10	2
Community Centres	14	5
Children Centres	27	12
Youth Centres	24	11
Cultural Complex	1	4
Libraries	4	1
Sports Stadium/Complex	3	2
Swimming Pool Complex	2	2
Indoor Recreation Centres	5	15
Open Space (ha)	58.1	96.5

TSUEN WAN NEW TOWN LAND USE



TUEN MUN - FACTS AND FIGURES

Land

Total area of the New Town (hectares)..... 2,113
 Total area of the Extension Areas (hectares)..... 1,163

Net area of land available for each land use (hectares):

	March 86	Ultimate
Commercial/Residential.....	8.40	13.94
High Density Private Residential (R1+R2)..	31.42	60.44
Low Density Private Residential (R3+R4)..	28.47	44.02
Village Housing.....	52.91	55.20
Housing Authority Rental (RS).....	93.28	98.36
HOS and PSPS.....	32.47	45.71
Industrial.....	107.57	128.28

Population

Population of the New Town (March 86)..... 282,000
 Population forecast for 1996..... 528,000

Percentage of population in each age group (March 86):

Age Group	Percentage
0 - 5	14.89
6 - 11	16.89
12 - 18	9.14
19 - 29	17.87
30 - 39	23.07
40 - 49	7.10
50 - 59	4.94
60+	6.18

Housing

Percentage of population by housing type:

	March 86	March 96
Commercial/Residential.....	2.26	7.71
High Density Private Housing.....	5.48	15.92
Low Density Private Housing.....	0.78	1.17
Village Housing.....	4.87	2.95
Housing Authority Rental.....	62.41	46.65
HOS + PSPS.....	15.89	19.10
Temporary and Other Housing.....	8.32	6.50

Education

Number of children of school age (March 86):

Kindergarten.....	41,119
Primary Shools.....	46,432
Secondary Schools.....	25,251

Number of each type of Institution (March 86):

Kindergarten.....	45
Primary Schools.....	34
Secondary Schools.....	16

Social and Community Facilities

The following facilities already exist within the Tuen Mun:

2	District Community Centres
1	Area Community Centre
2	Neighbourhood Community Centres
17	Day Nurseries for pre-school children
2	Residential Care Centres
6	Family Social Services Centres
14	Children and Youth Centres
7	Service Centres for the Elderly
7	Homes and Hostels for the Elderly

Medical Facilities

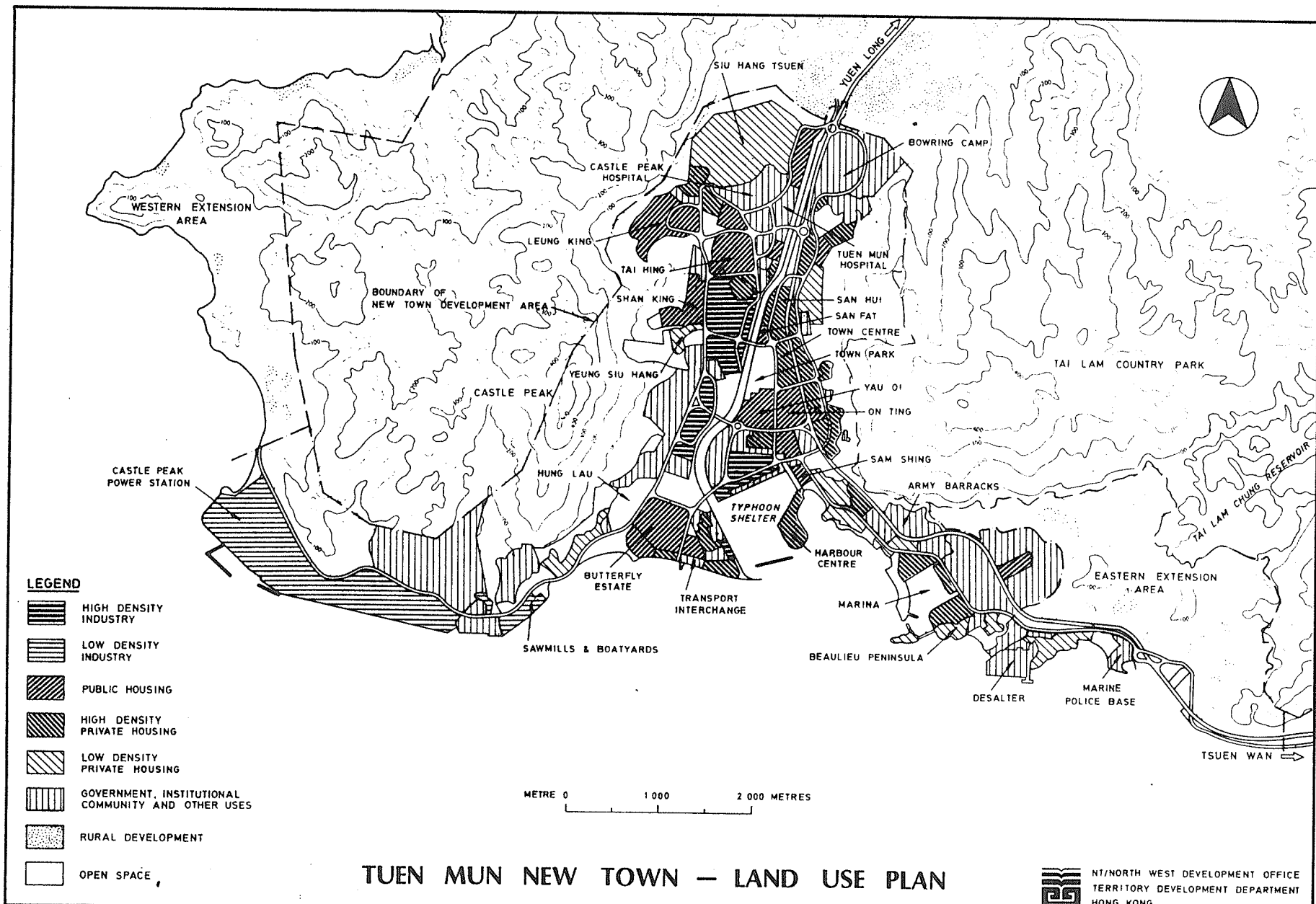
Existing facilities include:

The Castle Peak (Psychiatric) Hospital
 The Siu Lam Hospital for the Mentally Handicapped
 The Tuen Mun Urban Clinic
 The Yan Oi Tong Polyclinic

Planned facilities include:

The Tuen Mun District Hospital (under construction)
 A second District Hospital (tentative)
 Two additional Urban Clinics
 A school children's Dental Clinic (under construction)

If you require further information about the Tuen Mun New Town please phone the Senior Town Planner on New Territories 4513247.



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